PART II

CONCEPTUAL FOUNDATIONS
CHAPTER 7

ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT: GEOGRAPHICAL DIMENSIONS, DEFINITION, AND DISPARITIES

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Bringing Geography and Economics to the Same Table

Economists have asked why certain places grow, prosper, and attain a higher standard of living as early as Adam Smith’s The Wealth of Nations in 1776. Smith was motivated to understand the reasons why England had become wealthier than continental Europe. While Smith is widely considered the father of modern economics, his most important theorems originated in geography. When he said, ‘the division of labor is limited by the extent of the market’, he was referring to the geographical extension of market areas in Scotland as transport costs declined, which, in turn, allowed larger-scale and more geographically concentrated production, organized in the form of the factory system. The transition from artisanal production to a modern industrial economy, with a 4800 per cent increase in productivity, was intrinsically geographic.

The transition that Smith analysed was profound: artisans disappeared; production became more centralized in large factories and towns, creating a geography of winning and losing places; industrial capitalists saw their incomes increase, while a new industrial working class faced lower incomes than artisans and more difficult working conditions. Still, there was a long-term take-off of per capita income that ended centuries of economic stagnation in the West (Maddison, 2007). Critically, Smith (and others) showed that the division of labour inside the new factories was not only key to the astonishing productivity gains of the factory system, but that it also picked winners and losers in terms of individual and social relationships, and geographical places. Smith was not only concerned with the positive
aggregate economic effects of the new system, but also the more complex picture of human and geographical development (Phillipson, 2010).

The processes of change that motivated Adam Smith are still at work and are no less complex or profound. Like in the industrial revolution, the much-heralded growth of the knowledge economy is creating significant wealth, but the distribution of benefits is highly skewed. Indeed, there are elements of a winner-take-all tournament that favours the lucky and highly skilled, which serves to only further increase income disparities. Many individuals who have invested in high levels of human capital face unprecedented economic insecurity and diminished career perspectives. These dilemmas are not new: from the time that Smith wrote in the mid-eighteenth century, through Marx’s reflections of the mid-nineteenth century, income disparities were so great that the viability of the whole industrial market (or, for Marx, ‘capitalist’) system was called into question. In the twentieth century, these conditions spawned political instability witnessed by unrest, and the rise of nationalism, fascism, and communism. Yet, considering the long sweep of history, capitalism has generated increases in standards of living never before imaginable for the majority of the world’s population.

Even in the worst of times, there were very wealthy local economies; just as in the best of times, there were pockets of stagnation and poverty. The objective of this chapter is to provide a review of the intellectual history of economic geography as it relates to economic growth and economic development. We show economic development always has a complex interplay of winners and losers. The progress of the modern capitalist economy always begins in specific places; it does not emerge uniformly across space, but instead diffuses across the economic landscape. Less-successful people and places represent underutilized capacities. Yet this pattern is not immutable: the relevant question is what advice scholars can give policymakers to enhance economic prosperity.

After investigating the geographical dynamics of economic growth, this chapter defines some new approaches to mitigate the downsides of these dynamics. To do so, we will challenge some of the sacred cows of economic theory and policy to make a new meal—or even a feast—of future possibilities. Conventional wisdom tinkers at the margins of the growth process but does little to address the ways that the economy picks winning people and places, and underutilizes the capacities of other people and places. By contrast, it will be shown that with a deeper understanding of the geographical wellsprings of innovation and entrepreneurship in capitalism, there are opportunities for higher growth and, most importantly, better development for both people and places.

**The Interrelationship of Growth, Development, and Geography**

The relationship between the quantity of growth and the quality of economic development is complex (Feldman et al., 2016). In policy circles, however, growth and development are frequently conflated and incorrectly interchanged. Economic growth is a primary focus of macroeconomists, who rely on quantifiable metrics, such as gross national product or aggregate income. Economic development was relegated to the
domain of practitioners, often focusing on infrastructure, public health, or education in poorer places. For much of the twentieth century, economic development relied on specific outcome measures like number of jobs that, while relevant to policy, could not convincingly reflect any broader picture or reveal any longer-term pathways of qualitative improvement.

Investments in education have not always led countries to long-term growth, and in some countries economic growth led to significant increases in education. This leads back to the core debates about directions of causality and the need for systemic understanding of these relationships. The strong correlation, in the range of 0.95, between per capita income and the Human Development Index, suggests that development and growth are interrelated (McGillivray and White, 1993). Taking one extreme, some argue that the same ingredients that generate aggregate growth deliver improvements in human welfare. Professional practice and policy tends to emphasize kick-starting growth, based on the implicit assumption that aggregate growth can be counted on to deliver qualitative improvements in human welfare (Easterly, 2012). Others argue that the sequence of improving income—in time and across space—must first start with improving human welfare (Dasgupta and Ray, 1986; Barro, 1991) that will, in turn, deliver improvements in per capita income, and subsequently increase human welfare. The hubris that once existed in the economic development field—which assumed that the path of economic development was linear, increasing, and always positive—is gone (Dasgupta, 1993).

With larger samples of growth and development experiences to study, the lesson is that growth does not automatically occur and continuously improve human welfare. Moreover, even when processes of economic growth and development appear relatively robust, there is an uneven geographical distribution of the benefits. All places do not rise, or fall, at the same time; indeed, there are frequently contrasting processes at the same time across contiguous neighbourhoods, cities, regions, and countries.

This realization led to an explosion of interest in the microeconomic foundations of development, which considers the economies of places as products of history and local institutions and as differently structured environments where people live, work, and invest. This opens up a completely original line of inquiry into the relationship of growth and development. It is not only any set of contributing ‘factors’ that enable growth or development, nor how these factors flow or ‘sort’ into countries and regions, but rather how these factors come together to interact in intricate ways that differ across space and time because of the variation in human rules, institutions, habits, norms, and conventions.

**Geography as a Fundamental Ingredient in Economics**

The relationship of geography and economic development presents itself in different ways in different places. In very poor places, development cannot start without basic institutions such as property rights, a solid legal system, and an infrastructure that make commerce possible (World Bank, 2009). In the majority of the world market economies, these basic
conditions are already in place, yet significant disparities in income and human development persist. The rest of this chapter is addressed to the middle- and upper-income regions of the world, as a very different discussion is required to address policy in the poorest places (Collier, 2007).

There was a time not too long ago when economists were preoccupied with models that rendered spatial disparities as uninteresting temporary disequilibrium, while geographers focused on complex phenomena described in detailed case studies. There were also notable differences in the normative perspectives of these disciplines. Many economists were not fundamentally worried about geographical disparities in development, while geographers tended to be more radical, with a focus on social concerns and left-behind places. Data were a limitation, as were empirical methods and visualizations. Yet, as frequently happens in scientific disciplines, fields converge and recombine to form new fields of inquiry. This has happened over the last thirty years with economics and geography. Paul Krugman (1991a, 1991b), unsatisfied with the observation that per capita income had not converged between places—a prediction that was at odds with neoclassical growth theory—launched a new research trajectory, declaring that ‘I have spent my whole professional life as an international economist thinking and writing about economic geography, without being aware of it’ (Krugman, 1991b, p. 1). Geographical differences in development, Krugman observed, had been of secondary importance because existing economic models could not address them as a central component of the market economy. Instead, economists tended to use models that assumed away distance or relegated economic disparities to temporary disequilibrium from frictions due to factor mobility (Krugman, 1991b). The founders of the new geographical economics in the early 1990s—Krugman, Fujita, Thisse, and Venables—showed that by incorporating economies of scale, product differentiation, and trade costs into models of firm location, it would be perfectly natural for a market economy to concentrate firms together. Following this, it would be perfectly natural for people—in their dual roles as both workers in firms and consumers—to concentrate as well (Fujita et al., 1999; Fujita and Thisse, 2002).

Agglomeration economies, clustering, and urbanization are not temporary imperfections of the modern capitalist economy, but are rather part of its essence. This is not a new insight, but a more rigorous formulation of long-standing wisdom. Examining Britain at the height of its industrial power, Alfred Marshall (1919) referred to localization as a phenomenon that can be observed throughout human history—the right place at the right time. At any given moment, the most developed regions or countries specialize in the most advanced industries, which, in turn, take the form of their spatial concentration.

The recognition that agglomeration is hard-wired into capitalism gave rise to a problem for the pre-existing conventional wisdom about spatial equilibrium. Rather than factor mobility leading to an even distribution of production and incomes across the economic landscape, powerful agglomerative forces would actually increase discrepancies. Thus, agglomeration goes against the grain of contemporary general spatial equilibrium models (see Glaeser, 2008). It also opens up a major normative debate in economic geography: while aggregate efficiency may come from strong agglomeration, it may possibly also come at the price of inequity. In this way, the geography of development entered the very heart of the economics of development.
The Process of Development: The Nouvelle Cuisine of Economics and Geography

The closer relationship between geography and economics does not stop with the observation that there is a deep tension between development and territorial equity or convergence. Most importantly, the unexplored mechanisms for creating wealth in more places and for increasing its diffusion or spreading the benefits has moved to centre stage. The core of all this is the economics of knowledge (Stephan, 1996) and the geography of innovation (Feldman, 1994).

In the classical definitions of growth, from David Ricardo (1891) to Robert Solow (1956), the economy is conceptualized as a machine that produces economic output as a function of various inputs (including capital, labour, and technology). Solow showed that the different factors considered in growth models—such as augmented capital and labour, and the inclusion of more education, better infrastructure, and better health—only explained a relatively small part of the observed economic growth since the Industrial Revolution. He concluded that technological innovation was generating more output per unit of input over time, and that this was leading to greater total factor productivity. Yet even if innovation were a possible cause of greater efficiency in certain industries, it would still be very costly to the overall economy, owing to the diminishing marginal returns of augmenting the traditional inputs of labour and capital needed to realize innovation.

Robert Lucas (1988) and Paul Romer (1986) solved this paradox by: challenging the classic assumption of constant or decreasing returns, and observing that knowledge is different from other inputs to the economy. True knowledge, they argued, has increasing returns to scale because of the externalities inherent in its creation and application. Rather than diminishing over time, the value of knowledge actually increases with use due to network effects, cumulative reapplication, path dependencies, non-exclusivity, and spillovers (the recombination through leakage). This all leads to more knowledge over time and better uses of that knowledge. This insight explains why, from the year 1820 onward, capitalism has been able to spring the Malthusian trap of the stagnation in worldwide per capita income that existed from the year 1000 until the Industrial Revolution (Maddison, 2007). Moreover, since 1820, global per capita income has steadily increased against a world population boom.

However, the modern era’s astonishing growth has distributed unevenly across people and places. There are periods of retrenchment, as well as economic booms. The agglomeration models of the New Economic Geography imply a fundamental trade-off between efficiency and inter-place convergence. However, the new economics of growth, which centre on innovation, suggest that there are alternative possibilities. The forces that create innovation also create far-flung production chains that spread knowledge, diffusing it away from the places where it was initially created (Grossman and Helpman, 2005; Iammarino and McCann, 2013). If some places are better at innovating than others—and are, hence, wealthier—why not think about a new type of development policy, based on spreading innovation capacities or creating them in more places? This approach might offer hope for income convergence, which is not offered by factor mobility between places (the core recipe of traditional models in regional and urban economics), or simple liberalization of trade (the core recipe of international development economics).
We will show that the investments in capacity that generate innovation have increasing returns for the regions, firms, and workers who exercise them. Virtuous self-reinforcing cycles of economic development that are also widely spread in geographical terms can more widely share the desired social and economic outcomes of prosperity and more sustainable economic growth. An innovative, place-based development policy approach counters the potentially negative spiral of geographically restricted development in three ways: firstly, it starts with investment in basic capacities that are essential to a dignified and creative life (as argued by Amartya Sen in Feldman et al., 2016); secondly, it expands the sources of creativity and satisfaction that are good, in and of themselves, on human grounds; thirdly, it works towards the overall goal of having non-routine (innovative) functions in the economic mix of more and more economies.

Back to Fundamentals: The States and Markets Debate

The relationship between government—or the State—and development requires greater theoretical development. Mainstream economic theory is wary of government intervention in markets, only justifying public policy to correct market failures (Laffont and Tirole, 1993). Market failure takes many forms: externalities, market power that inhibits competition, information asymmetries that prevent efficient transactions, and incomplete provision of certain kinds of goods and services. In the specific field of industrial policy, the most widely accepted rationale for public action are the positive social externalities in R & D and knowledge creation. Firms cannot fully appropriate all the benefits of their investment in knowledge because some of the benefits accrue to other firms or sectors. Thus, the social return on investment in R & D and knowledge creation is larger than the private return. As a result, the private R & D effort will be lower than that which is socially optimal. Consequently, the public sector has a role to fund R & D, or to enhance the incentives of private firms to invest in knowledge creation.

While market failure leads some economists to admit a theoretical role for a mix of regulatory and investment policies, others claim that these measures lead to government failure, where the medicine is worse than the ailment. In their view, government is intrinsically beset by rigid bureaucracy, entrenched interest groups and inadequate information, such that interventions become ineffective or actively harmful. The empirical evidence is much more nuanced, with cases of public stimulus of firms resulting in subsequent private success (Mazzucato, 2013). Reality certainly lies with detailed empirical analysis of markets to determine what is required and when to withdraw public supports (Avnimelech and Teubal, 2006). High-quality public administration is necessary so that government policies and programmes are well executed.

The real policy world, however, often does not respect the fine points of what theory and evidence say about dealing with market failures. Starting in the 1980s, the Reagan–Thatcher agenda was blindly hostile to regulation and public goods. This economic realm is sometimes referred to as ‘neo-liberal’, a pejorative label for an extreme laissez-faire political philosophy (Fawcett, 2014). For decades, it has failed to protect the public from predatory economic
behaviour in the form of monopolies, crony capitalism, and rent-seeking behaviour. The private provision of certain goods is lower quality and more costly than public provision. There is an inherent tension between private firms’ incentive to generate profits by reducing costs and the public need for high-quality, universally available, and reliable services. Of course, the highest profits are made in essential services for which demand is inelastic and there is no functioning market. Yet, as of now, there is little agreement on the need for government intervention, and the specific policies to implement, and investments for the government to make. In the USA, there is still a strong contest between proponents of austerity and minimalist government (this is supposedly a way to stimulate entrepreneurial energy at the local level), and traditional macroeconomic Keynesianism (as a way to stimulate development via demand). However, neither of these perspectives responds to the issues that are specific to the ongoing process of economic development, nor to its geography. Hence, we now turn to some new microeconomic foundations of innovation and production, and their geography.

**An Alternative Definition of Economic Development**

Inspired by Sen (1990), Feldman et al. (2016) argue to define economic development as the development of capacities that expand economic actors’ capabilities. This new definition of development involves a twofold difference with standard models in economics. On the one hand, this definition departs from the strict Benthamite utilitarianism, which is interested in simply maximizing the sum of so-called ‘utilities’ in the form of income and consumption possibilities. This definition goes beyond this hard side of the economy, explicitly incorporating a humanistic vision of the economy as a source of human fulfilment, where people create, explore possibilities, earn self-respect, and create a good life for themselves through well-distributed opportunities (Phelps, 2013). Once this perspective is adopted, then the mechanics of a desirable growth process itself are also different from standard models, going beyond factor augmentation to better production through innovation (the theme that is threaded throughout every section of this chapter).

Thus, development can be regarded as fortifying autonomy and substantive freedom, which promotes individuals’ participation in economic life (Sen, 1999). Economic development occurs when individuals have the opportunity to actively engage and contribute to society, and are likely to realize their potential. This promotes the advancement of the whole society. Why is this the case? Part of today’s malaise is due to the increasingly unequal distribution of income causing large parts of society to see stagnating material welfare in the midst of overall plenty (Katz, 1999; Piketty and Saez, 2001). This is, however, only part of the problem. There have been other periods, as for example the height of American mass production in the 1950s, when incomes were advancing rapidly for much of the population, but with a sense of frustration due to the deadening and hierarchical character of work. Even the sense that the ‘next generation’ was expected to be wealthier did not entirely compensate for the constraining industrialized lifestyle, leading to the social unrest of the 1960s, and to sociological critiques with titles such as ‘The Joyless Economy’ (Scitovsky, 1976). Today’s temptation is to think that all we need to do is restore high-enough wages and low-enough
unemployment to have a good-enough economy. However, it is important not to miss the currently difficult conjuncture of high inequality, low employment creation, and stagnating median wages, when thoroughly re-thinking development, and how to best generate it. A broader perspective on development suggests that we need a better geographical and social distribution of the capacity to realize opportunity.

In this sense, the expansion of capacities provides the basis for the realization of individual, firm, and community potential, which, in turn, contributes to the ability of the economy to prosper—materially, through innovation, and non-materially, through widespread improvements in human experience, striving, and creativity. The latter may be called ‘entrepreneurialism’, rather than the frequently reductionist notion today of ‘starting up a firm’. As Edmund Phelps (2013, p. 14) noted in *Mass Flourishing*, development occurs not just through spectacular inventions, but when ‘people of ordinary ability can have innovative ideas’. In nineteenth-century America, ‘even people with few and modest talents … were given the experience of using their minds: to seize an opportunity, to solve a problem, and think of a new way or a new thing’ (Phelps, 2013, p. 15).

Rather than simple counts of jobs or rates of output growth, economic development is concerned with the quality of any such growth. There are many ways to measure the quality of growth. Often, the starting point is the rate of change in per capita personal income and convergence towards the wealthiest places. But, if per capita income is very unequally distributed, the majority of people do not benefit. The quality of employment, which is, in turn, a manifestation of the skills of those employed and hence the wages those skills command, is another consideration. Even this, however, does not fully capture development as the overall dynamic is about an economy in relationship to its principals—the people who work and live in an area. True development includes increasing: the calibre of business practices, the distribution and density of social capital, and many other things that fortify the ability of the economy to improve economic welfare continually over time. These are themes that we need to explore in more detail.

This notion of development does not accord easily with classical economics, but there are bridges that can easily be built. According to Schumpeter (1934), economic development involves relocating capital from already established methods to new and innovative methods, which further enhance productivity. For instance, not only did mass production drive the textiles industry in the industrial revolution, but it also influenced other complementary sectors and, in turn, diffused widely, thus increasing quality of life. While economic growth is measured by returns to inputs or factor augmentation, in reality sustained economic growth changes the dominant forms of organization, work, market coordination, skills needed, attitudes and beliefs, and norms for how things get done. Throughout all this, there is immense learning-by-doing on the part of individuals and organizations (Arrow, 1962), and a cumulative process of technological change through incremental tweaking and continuous improvement (Meisenzahl and Mokyr, 2011). It is through this complex process of change that activities that have become simple and repetitive are replaced with higher value-added, non-routine activities (Levy and Murnane, 2005; Aghion, 2006).

In this updated Schumpeterian view, economic development entails a fundamental systemic transformation of an economy, including the industrial structure, the educational and occupational characteristics of the population, and the entire social and institutional framework. This point has been revived in the idea that an economy of widespread creativity and innovation requires institutions that facilitate its reorganization (Rodrik et al.,"
Institutions, following North and Thomas (1973), promote productive activities, capital accumulation, skill acquisition, invention, and technology transfer. Effective institutions help individuals and businesses make investment decisions by reducing certain forms of uncertainty through stable and predictable rules that encourage risk-taking. Thus, to further build the definition, economic development requires institutions that promote norms of openness, tolerance for risk, appreciation of diversity, and confidence in the realization of mutual gain for the public and private sectors (Feldman et al., 2016). These institutions do not come easily; they are socially constructed and painstakingly generated over time. However, these institutions provide the foundation for building basic capabilities for sustainable economic development. These institutions have often been ignored because they have been evasive to study, but the time for detailed research on the role of institutions in entrepreneurship and economic development is now ripe (Feldman and Lowe, 2015). Among institutions, the public sector is arguably the only current actor in the economy with the required long-term perspective and sufficient command of resources to make large-scale investments in infrastructure and education, and to coordinate effectively economic systems. Moreover, government—as the agent for its citizen—has the mandate to ensure that the resulting benefits are fairly and widely distributed.

**Place-based Innovation Capacities: A New Vision of the Geography of Development**

At a time when market fundamentalism has come to guide US policy debates, the public sector has actually become more and more immersed in the economy through policies related to technology and, more particularly, to innovation (Block and Keller, 2009). When we move from generic capacities to the specific precursors of innovation, there is also evidence of a growing role for public institutions and investments (Block and Keller, 2009; Mazzucato, 2013). This is partially because the nature of scientific research has changed, increasingly taking the form of decentralized industrial networks or open innovation (Nelson and Winter, 1982; Lundvall and Johnson, 1994). R & D and innovation are thus no longer confined to the laboratories of large corporations or government, but are now collaborative activities, embedded in networks between both public and private institutions, and large and small firms. This degree of decentralization fosters a greater dependence on government programs to coordinate the operations of these networks and limit moral hazards (Schrank and Whitford, 2009).

In more technical terms, knowledge spillovers among firms are a conduit for innovation, but such spillovers are a capacity that must be built and sustained over time and are not an automatic dimension of rational economic behaviour. Regional economists have long asked whether such spillovers are better encouraged by a regional economy focused on a few similar industries (‘specialized’), or one with many different industries (‘diversified’). This is sometimes captured, in our view quite imprecisely, as the difference between Marshallian externalities, defined as spillovers between firms in the same sector, and Jacobs externalities, defined as spillovers between firms in seemingly unrelated sectors. There is, however, no convincing evidence that either specialization or diversity is key to better long-term
economic performance (Kemeny and Storper, 2015). The deeper issue is figuring out how to create a local context where there is a dynamic exchange of knowledge, widespread experimentation, and minimal penalties for failure, and where there are institutions that facilitate recombination into new and better products and processes. Regardless of the level of specialization or diversification in the local economic base, what counts most is the local context for these processes. So what can policy do to strengthen these desirable aspects of local context?

This is where the policy debates engender another significant controversy. Many economists are sceptical of place-based economic development strategies (Einio and Overman, 2012; Cheshire et al., 2013). If economic development policy is place-based, in the sense of redistributing resources to specific places, then it might reduce the optimal level of agglomeration by dissipating activity, which results in a reduction in total productivity and output growth of the national economy. Standard urban economics widely defines place-based to include such things as land-use housing regulations and environmental regulations, individual stimulus, or any place-based payments to people or place-based worker training.

This framework leads the World Bank (2009), for example, to advocate a spatially blind or people-based approach as the most effective way of generating efficiency, guaranteeing equal opportunities, and improving the lives of individuals where they live and work. A key to this approach is the assumption that geographical factor mobility will lead to the best aggregate outcome and to income convergence across places: human mobility increases individual income and productivity, while depleting unproductive regions of their surplus populations, and hence leads to a smoother geographical distribution of wealth, also known as general spatial equilibrium (Glaeser, 2008). This is a powerful argument, but it is nonetheless incomplete in two ways: it overestimates the potential for factor mobility to achieve the ends of aggregate economic growth and geographical convergence, and it underestimates the importance and potential of widely spread capacities for innovative, creative mass economic flourishing. It seems unlikely that substantially higher levels of migration of skilled labour, reductions in the basic agglomerative tendencies of the economy, and substantially more even economic development can be achieved simply by de-regulating housing markets (Kemeny and Storper, 2012). This is, to us, like the ‘tail wagging the dog’ of economic development.

In this light, the scepticism expressed about place-based approaches can be turned on its head. The major contribution of the new growth theories is to recognize that knowledge benefits from increasing returns to scale rather than the constant or decreasing returns associated with physical commodities (Romer, 1986). Activities that create knowledge—and encourage the sharing of knowledge—support increasing returns that lead to improved national welfare. Agglomeration, with its various forms of returns to scale, is key to this process. However, there is no evidence that such agglomeration must take a particular national distribution—such as a highly hierarchical national urban system, with a small number of Silicon Valley-type supernova agglomerations and the rest of the nation left behind—which would result in steep territorial inequalities. Indeed, the benefits of agglomeration may be achieved through a more even distribution of middle-sized agglomerations, that is, on the exact spatial layout and distribution of agglomeration benefits (Crescenzi et al., 2007, 2012). The notion that any attempt to widely distribute innovation capacities is going to somehow kill the benefits of agglomeration is not sustained by theory, nor by any robust empirical evidence at this point.
Indeed, economic development policy should be sensitive to the need for agglomeration to occur in as many places as possible (Duranton and Puga, 2001). The reason is owing to the inherent uncertainty of creativity—to the what and where of future innovation. Economic development officials and government planners dream of being able to define long-term strategies, but they typically fail at this task. It is impossible to predict scientific discoveries, important new technologies, and the ongoing tweaks that transform our lives. Few predicted the potential of the Internet and how it would change the way we communicate and access information. Even private firms, such as IBM (once the industry leader), underestimated the potential of the computer, creating an opportunity for new firms to enter the market and form new industries. Moreover, successful entrepreneurs make their own luck, adjusting and adapting to survive. Instead of wisely considered, far-sighted solutions, entrepreneurial activity is by necessity messy, adaptive, and unpredictable. The biggest problem is that it is impossible to predict which technologies are going to yield any pay-off and when. By the time a new industry—for example, biotechnology or nanotechnology—is on its way to becoming a household name, it is probably too late for other places to participate as major centres (Storper, 2013). The best economic development strategy is therefore to enable as many actors as possible to participate productively in the economy to the fullest of their ability. This prioritizes improving quality of life and well-being by enhancing capabilities and ensuring that agents have the capacities and freedom to achieve their potential (Feldman et al., 2015). Hence, economic development strategies need to be adaptive and need to maximize the diversity of the people, firms, and places involved (Feldman and Lowe, unpublished). Diversity is the most powerful tool of success in the open probability game of innovation and economic creativity (Kemeny, 2017).

Effective policy is intricate to design because regional economies are complex systems, which are notoriously difficult to model and influence. There is no reason to believe that optimizing the performance of any one component of a complex system will optimize or even necessarily improve the performance of the system overall. Current thinking is that economic development is not brought about by discrete projects or programmes, but rather emerges from the development of interactive and dynamically adaptive ecosystems (Hwang and Horowitt, 2012). Ecosystems have many different parts and many redundancies. Ecosystems also evolve in unpredictable ways, with multiple positive unexpected outcomes. The knowledge spillovers discussed earlier are the key internal flows and connective tissue of economic ecosystems, while institutions are its organic structure.

The problem in most existing policies is that they use economic impact studies that do not fully capture the returns to a wide range of public economic development investments. Moreover, the amount of funding provided for economic development initiatives, while important to recipients, is miniscule in relation to the size of a regional economy. Claims that attribute positive outcomes to any specific programmes or projects are probably more about good luck, publicity, and hype, and are oftentimes not supported by sound economic analysis. There simply is no magic recipe. Moreover, external shocks to wider economic conditions (e.g. major technological changes and macroeconomic policies or cycles) may wipe out any hard-earned local gains. In this light, policymakers cannot afford to wait for perfect predictability and a world free of error. As Kline and Moretti (2013, p. 34) conclude, ‘Second best may, in practice, be very attractive relative to the status quo’. And, second-best may be first-best in the long-run, if it promotes widespread capacities that are the basis for flourishing in ways that cannot be predicted in the short run.
Throughout this chapter, we have attempted to slay some sacred cows, that is, received conventional ideas about economics, growth, development, and geography. Economic development occupies our collective imagination, but the term is often not well defined, or defined in a limited manner that does not accommodate the situation of the full range of places faced with restructuring and economic uncertainty. All too often, the emphasis is on innovation as an end in itself rather than as a means to the end of widely shared prosperity and human fulfilment. Alternatively, there are mechanical policy frameworks that focus rigidly on generating income convergence between places through redistribution, and others with rigid emphases on generating more employment and output, while ignoring their highly unequal social and geographical distributions.

The starting points are different in the different parts of the world and even between regions within nations. In the US, for example, basic infrastructure and public goods are lacking in many states and regions, leading to large parts of the population with limited capacities, even when the culture of risk and openness is present. In the high-income areas of Western Europe, infrastructure and basic goods are well distributed, but cultures of openness and risk-taking are—in many regions—not present. In the eastern regions of the European Union (EU), educational levels tend to be high, but the basic infrastructure of connectedness is still being put into place, and old cultures of cronyism and corruption must be dismantled. In many southern parts of the European Union, low educational levels and stagnant demography are combined with rules that are inimical to risk taking and open sharing of information. The needs that government must address are thus different in these areas, but in all cases, the quality of government is an overriding concern, especially as government must evolve along with the changing regional context. Indeed, as the regional context moves forward, government is often left behind doing the same old thing. The question then becomes how to develop institutions and systems appropriate for different places and how to motivate ongoing innovation and adaptation to changing external conditions in the public sector.

Cutting across a wide variety of different contexts, a set of universally important tasks can be identified, although they must be addressed in context-specific ways. The first is entrepreneurship, a staple of discourse about economic development. There is, however, a difference between entrepreneurship that leads to development (through sustained build up of innovative productive capacity in a region), and mere firm creation. Industry-building entrepreneurship leads to the creation of a regional agglomeration, networks of producers, knowledge exchange, the growth of new types of dealmakers and intermediaries, and ongoing waves of creativity (Feldman, 2001, 2014). A second element is the existence of networks of all kinds: between producers, producers and workers, government and industry, among leaders, between leaders and community groups. These networks are what creates what Granovetter (1973) called the ‘strength of weak ties’, reducing transaction costs and increasing confidence without creating cronyism and clubs. They are the key untraded interdependencies of a dynamic regional economy (Storper, 1995), and when they fail through predatory and rent-seeking behaviours, or failures in communication, there are negative consequences (Whitford and Schrank, 2011; Storper
et al., 2015). A third, closely related focus for policy is to help the region’s actors create the informal conventions that enable coordination under uncertainty. Rules are valuable in creating broad and stable framework conditions for orderly development, and they are the province of an active government. The successful use of rules, however, under changing circumstances takes place at the level of informal norms and conventions, yet sometimes these are the wrong ones for a dynamic process of growth (Storper and Salais, 1997). Linked to this is a fourth actionable domain of policy: beliefs and goals. Nobel Prize-winning economist Douglass North argues that ‘the dominant beliefs—those of political and economic entrepreneurs in a position to make policies—over time result in the accretion of an elaborate structure of institutions that determine economic and political performance’ (North, 2006, p. 2). Beliefs and goals can only be changed through a broadly based regional ‘conversation’ that is inclusive and confidence-building, effectively changing perceptions of who we are and what is possible, and that we are in the process together (Lowe and Feldman, 2008; Storper et al., 2015). And, finally, for every newly supplied capacity created in a regional economy, there must be demand. Steve Casper (2009) showed, for example, that Los Angeles was similar to the San Francisco Bay Area in the production of university-based scientific outputs related to information technology, but that the market for such outputs was much greater in the Bay Area, where there is a community of IT commercial start-ups creating effective regional demand for university-based inventions.

To summarize a wide body of theory and evidence, economic development can be enhanced via a longer-term and more expansive perspective that continuously works towards measureable increases in regional capacity. The best policies to harness the natural tendency of innovative activity to cluster may be policies and investments that allow economic agents—in as many places as possible, and across as many types of people as possible—the capacity to be creative and fully engaged in the economy and society. This expansive view of economic development necessitates important participation of the public sector as the agent of collective investment in capacity and suggests that businesses that benefit from knowledge spillovers and local capacity are key partners in building such public institutions (Feldman, 2014). The geography of this perspective is also more inclusive than winner-take-all agglomeration geography, although it builds on the essential microeconomics of geographical concentration as a fundamental source of innovation and development. Thus, our emphasis on creating the capacities for humanly fulfilling and widely distributed innovation is motivated by both humanism and good economics.

At regional, national, and world scales, this way of thinking offers a different programme for economic development policy, and a different set of aspirations, from the conventional ones. To implement such policies, much hard work lies ahead. We will have to abandon the existing sacred cows, in the forms of the standard metrics of growth, innovation, convergence, and well-being. We will have to operationalize new metrics for development as the broad process defined here (Bartik, 2012). And, finally, we will have to abandon and redefine many of the politically expedient practices that shape the field of economic development policy and the local politics of development. The hopeful news is that the economics and geography of development now provide ingredients in order to better understand these process, and hence to create this new feast.
References


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