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Mountains in a flat world: why proximity still matters for the location of economic activity

[AQ1]

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10 Thomas Friedman (2005, *The World Is Flat: A Brief History of the Twenty-First Century*. New York: Farrar, Straus, and Giroux) argues that the expansion of trade, the internationalization of firms, the galloping process of outsourcing and the possibility of networking are creating a ‘flat world’: a level playing field where individuals are empowered and better off. This paper challenges this view of the world by arguing that not all territories have the same capacity to maximize the benefits and opportunities and minimize the risks linked to globalization. Numerous forces are coalescing in order to provoke the emergence of urban ‘mountains’ where wealth, economic activity and innovative capacity agglomerate. The interactions of these forces in the close geographical proximity of large urban areas give shape to a much more complex geography of the world economy.

Introduction

20 People’s thoughts in a golf course are sometimes peculiar. While most of us would use the occasion to try, somewhat clumsily, to emulate Tiger Woods in the approach to the famous 12 hole at the Augusta National Golf Club, to bond with our bosses and business partners or to simply enjoy a relaxing Sunday afternoon with our friends and family, Thomas Friedman (2005) spent his time on the course in Bangalore (or Bengaluru, as it has officially been renamed since 2006) to ponder about the implications of having to aim his ball at either Microsoft or IBM (p. 3). And by managing to squeeze his ball right onto the flat Hindustani green, he reached the conclusion that the ‘world is flat’, i.e. ‘that the global competitive playing field is being levelled’ (Friedman, 2005, 8).

Friedman’s personal eureka is, alas for him, in itself not particularly new. A string of researchers

and commentators have been for now almost two decades arguing that the expansion of trade, the internationalization of firms, the galloping process of outsourcing and the possibility to get networked at increasingly low prices herald the ‘end of geography’ (O’Brien, 1992), the ‘death of distance’ (Cairncross, 1997) or the emergence of a ‘space of flows’ (Castells, 1998) or of a ‘weightless economy’ (Quah, 1999). As Ohmae underlines, in a ‘flat world’ the real map of the world is no longer a political map, but a map of capital, financial and industrial flows, where political ‘boundaries have largely disappeared’ (Ohmae, 1991, 28). Yet, despite not putting forward a completely new message, Friedman deserves credit on two counts. First, he manages to turn a well-established idea into the spinal chord of an entertaining and well-written book, contributing to popularize a concept that, while well known in academic and

policy-making circles, has been fuzzy and somewhat overlooked or manipulated by managers, trade unionists, civil servants and the general public. 60 Second, he takes the idea of the flat world further than his predecessors by claiming that ‘Globalization 3.0’, as he calls it, does not only flatten the playing field and represent the end of geography as we know it but also that the evening of the playing field 65 empowers individuals (Friedman, 2005, 11). ‘People all over the world started waking up and realizing that they had more power than ever to go global *as individuals*, they needed more than ever to think of themselves as individuals competing against other 70 individuals all over the planet’ (Friedman, 2005, 11).

However, Friedman’s views of the flattening world and of the empowerment of individuals through Globalization 3.0 may simply be the result of him deciding to play golf with educated Indians and expatriates on perfectly manicured courses on 75 the high but relatively flat plateau that surrounds Bangalore. Had he played cricket with barefoot children and with cardboard boxes as wickets in the North-West Frontier Province of Pakistan or, 80 for that sake, dominoes with middle-aged blue-collar workers in a bar in the Italian Piedmont or *boules* or *petanque* with their French equivalent in Grenoble, his vision of the impact of globalization could have been very different. There, the sight of 85 the Hindu Kush or of the Alps would have made him realize that, although this globalization wave does indeed represent a tectonic shift of perhaps unprecedented scale, it does not necessarily imply the erosion of previous mountains into a flat and 90 uniform world. In contrast—as with any crash of tectonic plates—it seems to signal the emergence of mountains ranges of similar height, if not higher, than previously existing ones, although not necessarily in the same place. Globalization implies 95 changes, opportunities and threats and not all territories across the world have the same capacity and tools to make the world and even playing field. We would therefore argue that Friedman’s flat world is indeed full of mountains and that some of these 100 mountains are as high as the Everest.

And by mingling with children and their parents in not-so-remote areas of the Asian subcontinent or

factory workers from Novara or Grenoble, rather than with the chairman of Infosys, with graduates 105 from the elite Indian Institute of Technology or the Indian Institute of Management or with foreign expats and interns at Infosys and other similar firms, he would have realized that the large majority of the population of the world, far from being empowered 110 to climb and conquer these mountains, is ill-prepared to face the challenges that the tectonic shift known as Globalization 3.0 offers. In fact, we will argue that when Friedman says that Globalization 3.0 empowers individuals, he really means 115 it empowers large firms, regardless of whether they are North American, European, Indian or Chinese large firms.

In this essay, we will challenge Friedman’s (2005) account of the impact of globalization across the world on these two counts. After a brief presentation of Friedman’s main arguments in ‘The flat world’ of the paper, in the ‘Mountains in the flat world’ we will look at the evidence of economic concentration and agglomeration that make the 125 world much more mountainous than what Friedman would like to believe. ‘Mountain tectonics in the flat world’ then dwells on the forces that are shaping the emergence of mountains in Friedman’s flat world. The main conclusions are presented in the final section. 130

The flat world

Friedman (2005) puts together an engaging and appealing story about globalization and its impact. The first section of his book aims at identifying the causes of the process of globalization (the ‘ten flatteners’). He describes how these processes have 135 evolved in recent years, levelling the competitive playing field in favour of initially more disadvantaged countries and individuals (the ‘triple convergence’ process). The evidence to support his thesis is based on extracts from interviews and discussion 140 with relevant people in different parts of the world and references to numerous cases. This amiable validation of the flat world thesis allows Friedman to proceed almost seamlessly to the implications of globalization for the existing world political and 145

socio-economic order, placing special emphasis on the US competitive position and internal welfare. This ‘brief history of the twenty-first century’ is completed by the analysis of the potential obstacles (from absolute poverty and deprivations to international terrorism) preventing the flat world from delivering its expected benefits to all.

In order to gain a better understanding of Friedman’s flat world thesis, let us briefly assess his conceptualization of the process of globalization. Friedman puts together ‘ten forces that flattened the world’ aseptic enough to make them attractive to virtually everyone. Flattener 1 is the Fall of the Berlin Wall in 1989, which allowed more connections across different societies, reinforcing globalization’s capacity to enhance all types of freedom: the freedom of movement of goods, capital, services and individuals; the freedom to adopt best practices and common standards (p. 54)—whatever this means—regardless of where you are based and the freedom for creativity to flow. By engaging in greater exchange not only individuals and territories become more innovative or creative, they also achieve a significant leap with the adoption of best practices. Flatteners 2 (Netscape), 3 (Workflow software) and 4 (Uploading material) refer to the capacity of new technology to bring about greater interaction through enhanced connectivity and the creation of what Friedman calls a ‘global supply chain of software’, which allows the combination of different platforms, such as PC and email, as well as the increasing generation of community-developed software (p. 94). However, globalization is also about outsourcing (Flattener 5)—‘taking some specific, but limited, function that your company was doing in-house [...] and having another company perform that exact same function for you’ (p. 137)—offshoring (6)—recreating a company in a different place (p. 137)—supply chaining (7) and in-sourcing (8)—something akin to synchronizing global supply chains [what apparently UPS now does (p. 168)]. Taken together, the process allows for better ‘in-forming’ (9) or the ‘ability to build and deploy your own personal supply chains’ (p. 179). And all this is done at lightening speed by the use of what Friedman calls ‘steroids’

(Flattener 10), which allow engines to talk to computers, people to talk to people, computers to computers and people to computers ‘farther, faster, more cheaply and more easily than ever before’ (p. 200).

The 10 flatteners are the basic ingredients of the process of triple convergence evening out the world. Convergence I implies that the powerful flatteners that coexisted independently of each other for a number of years, started to converge in 2003, emphasizing their self-reinforcing nature and their intrinsic complementary. Convergence II or ‘horizontalization’ means that the interaction of the 10 flatteners has brought about a radical revision of the predominant business model, forcing the conversion of pre-existing vertical relationships (within and between firms) into horizontal forms of cooperation. Finally, convergence III or ‘new actors entering the scene’ represents the enlargement of the world’s boundaries, as a corollary of the horizontalization of power and economic relations. Progressively more countries and territories—from China and India to Russia, Eastern Europe and Latin America—are becoming able to play a prominent role in the global market place.

The net result of this transformation is simply a better world. A world where individuals are empowered and better off. As Friedman underlines, ‘more people in more places, now have the power to access the flat world platform’ (p. 206), even if this only means the opportunity to challenge someone giving a conference by accessing more accurate information in real time (p. 189) or to pay ‘South West Airlines to be their employee’ (p. 202). But empowerment is only the tip of the iceberg. As a consequence of globalization, consumers benefit from cheaper and more efficient goods, from cheaper and better quality access to their friends and family living abroad or from the possibility of assimilating innovation ‘without having to emigrate’ (p. 217). But, even if this process seems—from Friedman’s perspective—a natural evolution of modern capitalism, there are still some obstacles that have been slowing the triple convergence and its impact. Habits and institutions often act as sand grains in this powerful mechanism, requiring

a ‘massive world wide change in habits’ (p. 217). This ‘great sorting out’ calls into question the role of the nation state [‘Can it be preserved in a flat world?’ (p. 23)], world-level exploitation relationships [‘Who is exploiting and who is exploited in this horizontally organised world?’ (p. 241)], the role of multinational corporations (and their impact on nation–states) and power relations within the firm (from control to collaboration and connection). In this framework, Friedman argues that the main force likely to remove these residual obstacles to a perfectly flat world is the dear old ‘free trade’ recipe. Free trade is the milestone of Friedman’s argumentation: ‘flat’ is in fact synonymous with free trade (p. 264). As a consequence, Friedman’s discussion of the patterns of winners and losers in the flat world and the corresponding remedies brings to mind the vast literature on the economic effects of the free movement of capital, goods and labour.

In particular, Friedman’s thesis (and his rhetoric) is reminiscent of the literature on the death of distance (Cairncross, 1997; Castells, 1996; O’Brien, 1992; Ohmae, 1995). In this literature, it is claimed that technological progress and innovation are rapidly reducing the importance of distance in the location of economic activity. The great achievement of globalization has been to lower the barriers that prevented the mobility of capital, goods, labour and, increasingly, services. As location matters ‘while physical barriers exist, while travel takes time, and while cultural and other social differences persist’ (O’Brien, 1992, 2), the rapid erosion of the obstacles that prevented the exchange of information, knowledge, goods and other production factors has meant an even faster convergence towards a ‘spaceless’ digital world and towards more homogenous and global cultural models (Cairncross, 1997; Castells, 1996). As in Friedman’s thinking, the main engine behind the death of distance notion is the ‘communications revolution’, technological progress and the emergence of advanced telecommunications and computing technologies allows for an enhanced mobility of economic factors, for an homogenization of habits and activities and for the removal of resource bottlenecks (Castells, 1996). Technological progress, thus, detaches economic

activity from its territorial and socio-economic context, permitting growth and development to occur virtually everywhere, even in areas where poor endowments had prevented development to take root (O’Brien, 1992). Hence, thanks to computers and communication technology, economic activity can flourish now almost everywhere in the world, generating ‘something that will, in the main, benefit humanity: the global diffusion of knowledge. Information once available only to the few will be available to the many, instantly and (in terms of distribution costs) inexpensively’ (Cairncross, 1997, 4).

The concept of the nation–state both as not only a barrier but also as an increasing irrelevance in this ‘world of flows’ is also present across previous death of distance arguments. No one focuses more on this point than Ohmae (1991, 1995), who posits that economic actors have seized the opportunities afforded to them by this wave of globalization and have become extremely mobile, increasingly disregarding national or legal borders (Ohmae, 1991, 1995). More often than not, the hitherto almighty Westphalian nation-state is finding itself powerless to counter these trends. As economic activity and ownership become more and more international and global, economic actors become increasingly ‘divorced from national definitions’ (O’Brien, 1992, 100). As Friedman (2005) puts it, ‘the more the flattening forces reduce friction and barriers, the sharper the challenge they will pose to the national-state and to the particular cultures, values, national identities, democratic traditions, and bonds of restraint that have historically provided some protection and cushioning for workers and communities’ (p. 237–8). As a consequence, the powers of the state are reportedly being ‘hollowed out’ through the emergence of other actors, such as regions and international organizations, on the one hand, and multinational enterprises, on the other (Jessop, 1995), limiting the state’s capacity to influence economic processes that take place on its territory.

The best thing of the flat world proposed by Friedman (2005) is that all its benefits come at very little cost. It is true that Americans and countries in

330 the developing world would have to workout in the
gym in order to get themselves into shape for the
challenges the flat world brings about. But nothing
too hard. The recipe for Americans is nothing they
have not experienced before: more education, espe-
335 cially in science and engineering (p. 300), and bet-
ter parenting through ‘tough love’, in order to make
American children as driven as the brethren of
immigrants in the US and their counterparts in
China and India. With those ingredients, the US
340 will be able to address the ambition gap with the
emerging economies that is at the root of the current
US problems to adapt to a globalized economy. For
the developing world, the recipe is not more daunt-
ing: more accessibility to the Internet, more educa-
345 tion and better governance (p. 398).

Hence, taken to its limits, the flat world argument
implies that ‘location no longer matters’ (O’Brien,
1992, 73), that activity can flourish virtually any-
where in the world at little cost, as advances in
350 technology and telecommunications would have
allowed a much greater mobility of information
and knowledge, progressively eroding the tradi-
tional benefits of economies of scale, of scope or
of communication. From this perspective, thanks to
355 advances in connectivity, in global supply chain
software and of outsourcing, in-sourcing, offshor-
ing and supply chaining, every territory, no matter
how remote, has the potential to become a global
player. Traders in the London stock exchange can
360 move to the Seychelles and perform their work
from there while not only sipping Pimm’s lying
on their hammocks on an idyllic beach but also
saving thousands on rent as a result of not having
to worry about having an office in the City. Prob-
365 ably this shift may allow them to be as productive
because, despite possibly spending more time lying
around, traders in the Seychelles will lose less time
to commuting and congestion and will be happier,
and happiness is associated with greater productiv-
370 ity (Layard, 2005). Real-time and low-cost connec-
tivity will make this possible. In a similar way,
global production chains would generate millions
of industrial and service jobs across the world, re-
gardless of whether the workers are located in
375 Bangalore, in Shanghai, in Djakarta or in Sao Paulo.

These jobs would not only raise the standard of
living of those getting them—as they generally
pay much higher salaries than local jobs—but also
generate multiplier effects that will improve the
380 quality of life of individuals all over the world at
no cost for the developed world. As Friedman
underlines in his India versus Indiana story, if an
Indiana company starts operating in India, using
both its Indian employees and local hires from Indi-
385 ana ‘the deal would greatly benefit the American
arm of the Indian consultancy; it would benefit
some Indiana tech workers and it would save Indi-
ana state residents precious tax dollars that could be
deployed to hire more state workers somewhere
390 else of build new schools that would permanently
shrink its role of unemployed’ (p. 241). Globaliza-
tion hence does not entail winners and losers from
a territorial perspective. It creates the conditions for
a win–win situation: both the global north and the
395 global south win.

Mountains in the flat world

Yet, unfortunately, the evidence that the world is
being flattened out by the eroding forces of global-
ization and that this is empowering people across
the globe is less forthcoming than Friedman would
400 have wished. While it may be true that global
conditions have improved and contributed to raise mil-
lions out of poverty, in relative terms the positive
evidence is less forthcoming. For every Bangalore,
Hyderabad or Chandigarh, there are many other
405 similar-sized cities in India—not to mention a whole
swathe of rural areas—that are virtually untouched,
if not negatively affected, by the whole globaliza-
tion process. Bangalores are conspicuously absent
from most eastern Indian states, including Assam,
410 Bihar, Chhattisgarh, Jharkhand, Orissa and even the
largest state in India, Uttar Pradesh. Similarly in
China, for every Shanghai, Guandong, Wenzhou
or Bohai rim, there are large territories in inland
415 China that have been unable to shake their depen-
dence on declining and often decrepit old commu-
nist heavy industries or on agriculture, to attract
foreign direct investment or to significantly raise
the standard of living of its citizens. Bangalores

are also noticeably absent from most of Africa, most of the Arab World—with the possible exception of Dubai—and most of Latin America. And for every Indian, Chinese, Brazilian, Malay or Arab engineer playing golf in Bangalore, watching the Rugby World Cup Sevens in Hong Kong or attending the Formula 1 Grand Prix in Sao Paulo, Kuala Lumpur or Bahrein, there are thousands, if not millions, of individuals having to play cricket in improvised street pitches with cardboard wickets in India, Pakistan or Bangladesh, or playing football barefoot in the streets of most African or many South American cities. Not all citizens of the world and, for that sake, all Indians have what Friedman (2005) calls the ‘great advantage in having a pool of educated, low-wage English speakers with a strong service etiquette in their DNA and an enterprising spirit’ (p. 221) or even ‘the tools or the skills or the infrastructure to participate in any meaningful or sustained way’ (p. 470) in Globalization 3.0.

In fact the evidence about the economic implications of globalization is rather mixed. Whether convergence at country level exists is much discussed.¹ Most analyses using countries across the world tend to find either divergence, or the emergence of a ‘twin-peaked’ evolution in the distribution of world income (Jones, 1997; Quah, 1997), that is the emergence of convergence clubs at high and low levels of income leading to increasing polarization across the world. However, that is not always the case (e.g. Dollar and Kraay, 2002) and, when population weights are introduced in the equation, the picture changes radically and divergence or twin-peaked distributions disappear, leading to convergence (Sala-i-Martin, 2006; Schultz, 1998). Finally, when data for individuals are used, the results indicate that inequality is very high, and that either there is uncertainty—mainly as a consequence of lack of adequate time series of data—about the direction of change (Milanovic, 2005), or inequality has indeed increased (Dowrick and Akmal, 2001; Wade, 2004).

At sub-national level, the evidence tends to be less controversial. The general consensus is that, despite the fact that poverty levels have tended to decrease, within countries income inequalities have tended to grow, regardless of whether the analysis

includes data for regions or individuals (Milanovic, 2005; UNDP, 2001, 2003). Regional disparities in India, for example, grew by more than 23% in the 1990s (Rodríguez-Pose and Gill, 2006, 1209). In China, the increase was in excess of 20%, while in Mexico disparities rose by more than 11% in the same period (Rodríguez-Pose and Gill, 2006).

Economic activity and wealth seem thus to be increasingly concentrated, if not in specific countries in the world in specific spaces within these countries. Large metropoli and urban agglomerations seem to be, by and large, the main beneficiaries of this trend. As Scott puts it, although it is true that the combination of technical progress and deregulation have greatly enhanced the mobility of goods, labour, capital and knowledge, this has neither implied the ubiquity of economic activity nor undermined the need for urban concentration (Scott et al., 2001, 15). There is clear evidence across the world that large urban areas are attracting increasing shares of wealth, economic activity and skilled workers. This is certainly the case in the developed world, where the protagonism of cities such as New York, London, Tokyo or Paris at a global scale has been significantly enhanced (Sassen, 2001; Taylor et al., 2001) or of Mumbai in India, Shanghai in China, Mexico City in Mexico or Sao Paulo in Brazil. Economic command and control functions have been significantly increased in these so-called ‘alpha’ cities (Taylor and Hoyler, 2000; Taylor and Walker, 2001; Taylor et al., 2001).

But below this top level, many second-tier ‘beta’ and third-tier ‘gamma’ cities are also doing particularly well. In Europe, cities like Brussels, Amsterdam and the Randstad, Madrid, Copenhagen, Helsinki, Stockholm or Rome have witnessed growth levels well above their national average. Cities such as Sydney, Singapore, Kuala Lumpur, Bangkok, Djakarta, Santiago de Chile, Cape Town or even, within poorer countries, Accra or Maputo have also performed well. The concentration—rather than the more even territorial spread—of wealth and economic activity in these cities tells a very different story from that of the flat world. Other factors determining the creation of wealth are also increasingly agglomerated in and around large

urban metropoli. This is, for example, the case of innovation and research spillovers that have become concentrated in large urban areas in recent decades. This is evident in Europe, where knowledge spillovers have been calculated not to exceed radius of around 200 km from the largest and most dynamic cities (Crescenzi et al. 2007; Moreno et al., 2005; Rodríguez-Pose and Crescenzi, 2008), but more so in the USA, where knowledge spillovers barely exceed the boundaries of metropolitan areas (Anselin et al., 1997; Sonn and Storper, 2008; Varga, 2000). These global, sub-global and lower rank cities, which are becoming interrelated in an emerging 'world city network' (Taylor, 2001) and where the functional links between cities are strengthened beyond physical contiguity (Castells, 1996), are the mountains (or, if you want, the islands) in this flat world. In fact the world these days resembles much more what Veltz (1996, 2000) has called an 'archipelago economy', that is, a world where the connections between cities with relatively similar functions and powers in a world economy are greatly developed, regardless of distance, as they become increasingly detached from their regional and national contexts. As Castells (1996) indicates, in this space of flows generated by globalization, large metropolitan areas become the nodes within the global network of financial and business firms. Hence, although advances in technology and deregulation may allow for economic activity to take place virtually everywhere, the reality is that this 'everywhere' is represented by a relatively limited number of places in different areas of the world, where global corporations locate engendering an ever greater urbanization of capital and decision-making structures (Castells, 1998; Hall, 1993; O'Brien, 1992; Sassen, 1990), a greater agglomeration of company headquarters (Bosman and De Schmidt, 1993) and an even closer relationship between economic and political power (Rodríguez-Pose, 1998, 81).

Mountain tectonics in a flat world

What are the reasons behind the fact that in a world where technical progress allows for the delocalization

of economic activity at relatively little cost, economic activity and wealth remain so stubbornly concentrated in large urban areas? Why is the economic importance and role of large metropoli across the world waxing rather than waning? What are the tectonic forces that explain the reinforcement of these mountains in a flat world?

The emergence of mountains in a flat world is related to the role played by proximity in determining the location of economic activity. As O'Brien (1992), Cairncross (1997) and Friedman (2005) posit, there is little doubt that, in theory, progress in telecommunications and in the capacity to store and diffuse massive amounts of information online has greatly reduced the role of physical proximity for the development of economic activity. However, physical or geographical proximity is only one dimension of proximity. Boschma (2005, 62) identifies four other dimensions: cognitive, organizational, social and institutional. Cognitive proximity is related to the fact that 'knowledge and innovations are often cumulative and localized outcomes of search processes within firms with a high degree of tacit knowledge' (Boschma, 2005, 63). Organizational proximity refers to the organizational practices and interdependencies that facilitate interactive learning, while social proximity highlights the fact that economic activity is embedded in a social context (Grabher, 1993; Granovetter, 1985). Finally, institutional proximity refers to the presence of similar institutions, such as 'a common language, shared habits, a law system securing ownership and intellectual property rights, etc' (Boschma, 2005, 68) that provide the support for economic coordination. While Boschma (2005) is careful to state that these different types of proximity do not necessarily relate to geographical proximity, we will argue that the reason behind the emergence of mountains in a flat world is precisely the interdependence of all the different types of proximity and how these different proximities coalesce in large metropolitan areas (and hence in relatively reduced geographical scales from a world perspective). Our tenet is that large urban agglomerations provide the setting where economic and social actors benefit from proximity to other

600 economic and social actors with whom they can
 relate from a cognitive, organizational, social and
 institutional dimension, creating the adequate envi-
 605 ronment for exchanges of ideas, Jacobs' type exter-
 nalities, innovation and, ultimately, economic
 activity and growth (Duranton and Puga, 2001).
 In a globalized world, large urban agglomerations
 provide the anchor for the flows generated by the
 information and knowledge society to take hold,
 610 making the idea of the death of distance or of the
 emergence of a flat world, at best, only a half truth:
 it is true that advanced economic activity can now
 happen in more areas of the world than before, but,
 even in these places, it will tend to increasingly
 615 concentrate in a series of urban relational nodes that
 will become the mountains in a flat world.

The tectonic forces behind the emergence of
 these urban mountains are varied, but include fac-
 tors such as innovation, spillovers, backward and
 forward linkages, specialization versus diversifica-
 620 tion forces, community and social capital and, last
 but not least, the buzz of the city. Let us now briefly
 review some of these factors in order to discuss how
 their interaction shapes a much more complex ge-
 ography of the world economy than that underlying
 625 Friedman's flat world metaphor.

Tectonic plate movements 1: innovation and economic performance

When, in contrast to neoclassical assumptions,
 technology and human capital accumulation are
 630 fully recognized as the result of explicit decisions
 of economic agents, economic growth becomes 'an
 endogenous outcome of an economic system, [and]
 not the result of forces that impinge from outside'
 (Romer, 1994, 3). Technology, technological pro-
 635 gress and human resources—considered as the main
 forces 'behind perpetually rising standards of liv-
 ing' (Grossman and Helpman, 1994, 24)—become
 endogenous and change differently in different ter-
 ritories according to the quality of human resources
 640 and to the amount of human and physical capital
 devoted to research and development (Lucas, 1988;
 Rebelo, 1991; Romer, 1986). Innovation takes
 place where the adequate endowments of human
 and physical capital are located and, vice versa, in-

novation generates economic dynamism that 645
 attracts more human resources and more capital.
 Hence—and although technology has, in theory,
 the potential of weakening these agglomeration
 forces—under an endogenous growth framework,
 650 innovation and human capital will tend to co-locate
 in relatively compact geographical areas.

The potential for the concentration of economic
 activity and for divergence becomes more evident
 when issues such as the minimum thresholds of
 R&D and of appropriability of technology— 655
 highlighted by the neo-Schumpeterian strand of
 the endogenous growth approach—are considered.
 For R&D investment to be effective, a minimum
 threshold of investment is necessary, making the
 relationship between investment in R&D and eco- 660
 nomic growth not linear. Furthermore, there are
 strong threshold effects and external economies as-
 sociated with R&D investment and returns from
 R&D rely heavily on the quality of the workforce
 conducting research, on the concentration of R&D 665
 centres in limited spaces, on the quality of the local
 human capital (Audretsch and Feldman, 1996; De
 Bondt, 1996; Engelbrecht, 1997) and, above all, on
 the amount of investment (Dosi, 1988; Scherer,
 1983). Hence, limited and/or dispersed investment 670
 in R&D in lagging areas may not yield the expected
 returns, as most R&D projects may lack the ade-
 quate dimension to conduct competitive research
 and local scientists and researchers are likely to
 be more isolated than in advanced technological 675
 centres. In addition, as will be discussed in further
 detail below, the local economic issue may lack the
 capacity to successfully achieve the passage from
 technological progress to innovation and to eco-
 nomic growth (Rodríguez-Pose, 1999). Most 680
 spaces in the flat world will thus be unable to in-
 novate and can only hope to increase their innova-
 tion absorptive capacity. The net result will be the
 agglomeration of innovative forces in urban 'moun-
 685 tains', with innovation being generally related to
 the size of the urban agglomeration.

The impact of knowledge spillovers

New knowledge, the ultimate engine of growth
 in the theories sketched above, is neither fully

690 appropriable by its producers nor exhausted after
 use. It is cumulative and can be diffused. Conse-
 quently, the process of knowledge accumulation
 gives rise to spillovers that could benefit a whole
 695 set of potential (intended or unintended) beneficia-
 ries. The degree and extent of the diffusion of
 knowledge spillovers has thus important implica-
 tions for the possibility of considering innovation
 as a ‘flattening’ force. If spillovers were to be dif-
 fused globally without costs or frictions—making
 700 innovation instantly available to everybody as
 manna from heaven—innovation and technological
 change could benefit all countries, regions and indi-
 viduals regardless of their actual location [as sun-
 light in a flat landscape or, using Friedman’s (2005)
 705 terms, as a powerful steroid fuelling globalization].
 However, an increasing amount of empirical evi-
 dence seems to point in a different direction stress-
 ing, on the one hand, the place boundedness of
 spillovers and, on the other, the complex mecha-
 nisms underlying their diffusion across distance.
 According to Audretsch and Feldman, ‘knowledge
 spillovers do not [...] transmit costlessly with
 respect to geographical distance’ (1996, 256).
 Numerous empirical studies have shown that the
 710 returns linked to the transmission of knowledge
 are geographically bounded and suffer from impor-
 tant distance–decay effects (Howells, 2002; Jaffe
 et al., 1993; Narin et al., 1997). Knowledge and
 innovation tend to agglomerate geographically,
 720 with spillovers from research leading to the creation
 of self-reinforcing virtuous circles of accumulation
 and to the genesis of significant multiplier effects in
 technologically advanced areas (Verspagen, 1997).
 Technological improvements in communication
 725 infrastructures have not affected all kinds of infor-
 mation in the same way, while ‘codified informa-
 tion’ can be transmitted over increasingly large
 distances, ‘tacit’ knowledge is geographically
 bounded—or in Morgan’s (2004) words ‘location-
 730 ally sticky’—and is also related to context and
 culture (Gertler, 2003), contributing to the increas-
 ing concentration of innovation (Audretsch and
 Feldman, 2004; Cantwell and Iammarino, 2003).
 ‘Codifiable information [...] is cheap to transfer
 735 because its underlying symbol systems can be

widely disseminated through information infra-
 structure’ (Leamer and Storper, 2001, 650). How-
 ever, information is not completely codifiable due
 to some specific features that, in some cases, make
 740 codification impossible or too expensive. ‘If the in-
 formation is not codifiable, merely acquiring the
 symbol system or having the physical infrastructure
 is not enough for the successful transmission of
 a message’ (Storper and Venables, 2004, 354).
 Thus, in this latter case information is transmitted
 745 by face-to-face contacts, an intrinsically spatial
 communication technology. Furthermore, even if the
 transmission of formally codified knowledge is less
 sensitive to proximity relationships for its diffusion
 and more dependent on local absorptive capacity for
 750 its impact (Cohen and Levinthal, 1990), research on
 patent citations suggests that proximity facilitates
 a faster diffusion of the latter kind of knowledge
 as well (Sonn and Storper, 2008).

At least three mechanisms make knowledge and
 755 its transmission powerful forces for the genesis
 of mountains and valleys in the world economy
 landscape:

- 1) Local innovative activities are crucial for the
 760 production of new knowledge and the economic
 exploitation of existing knowledge given the
 presence of a minimum threshold. Such activi-
 ties are not evenly distributed geographically
 and thus become a localized source of compet-
 itive advantage for some areas rather than for
 765 others;
- 2) Information is not automatically equivalent to
 economically useful knowledge (Sonn and
 Storper, 2008). A successful process of innova-
 770 tion depends on ‘localized structural and institu-
 tional factors that not only shape the innovative
 capacity of specific geographical contexts’
 (Iammarino, 2005, 499)—as highlighted by the
 systems of innovation approach (Lundvall,
 2001), regional systems of innovation (Cooke
 775 et al., 1997) and learning regions (Gregersen
 and Johnson, 1996; Morgan, 1997)—but that
 also influence the capability of every territory
 to absorb and productively employ exogenous
 knowledge spillovers; 780

3) The evidence of the spatial boundedness of knowledge spillovers not only contradicts the idea of ubiquitous knowledge evenly available everywhere but also helps explain how peripherality can persistently hamper regional innovative capacity after controlling for indigenous innovative efforts: the smaller the spatial extent of knowledge spillovers, the lower the exposition of peripheral areas to externally produced knowledge. While highly accessible core regions can benefit from innovative activities pursued in their proximity, the spatial boundedness of spillovers prevents them from reaching peripheral remote regions. As a consequence, the stronger the spatial decay of the spillovers the more accentuated their tendency to develop localized pools of knowledge in central locations.

The processes that seem to be shaping this mountainous world economy are complemented and maximized by, but not limited to, geographical proximity. Boschma's (2005) cognitive, organizational, social and institutional distances also play an important role. In conjunction with geographical proximity, they all provide alternative means to reduce uncertainty and solve the problem of coordination, facilitating learning and innovation. This perspective on the process of innovation (and its diffusion) makes the picture even more complex: a country's, a region's or an individuals' potential of becoming part of Friedman's level playing field depends on their capacity to develop a number of other proximity relations with other relevant actors. Not only the cognitive base of individuals and firms needs to be close enough to the sources of new knowledge, in order to allow its successful absorption and processing (cognitive proximity), but also the way in which relations between (and within) actors are shared in an organizational arrangement becomes crucial (organizational proximity). Furthermore, the exchange of tacit knowledge requires—at the micro level—trust 'based on friendship, kinship and experience' (Boschma, 2005, 66) (social proximity) and—at the macro level—actors

sharing 'the same institutional rules of the game as well as a set of cultural values and habits' (p. 68) (institutional proximity).

The set of proximities needed to generate a virtuous circle of innovation—by allowing the emergence of complex innovative network relationships, operating between and across different scales (from local to transnational)—further contributes to the emergence of mountains in Friedman's flat world. From this perspective, 'innovation systems are a combination of intra-local, extra-local and transnational network connections' that 'are not just intra or inter-corporate in nature [as highlighted in Faulconbridge, 2006], but may also encompass other forms of social networks' (Coe and Bunnell, 2003, 454). These networks generate a multifaceted geography of relations in the world economy that may systematically favour some actors (those enjoying the best balance of the various proximities with the most innovative actors), while further marginalizing those at the geographical, cognitive, organizational, social and/or institutional periphery.

Backward and forward linkages and the 'new economic geography'

A third tectonic force are the backward and forward linkages of the 'New Economic Geography' (NEG). The NEG has tended to highlight the increasing concentration of economic activity based on factors such as the interplay of agglomeration economies, backward and forward linkages, critical threshold and market size (Krugman, 1991), and, above all, falling transport costs (Krugman, 1991). The equilibrium depends on the interactions between agglomeration (economies of scale, home market effect, backward and forward linkages, labour pool) and dispersion (prices for intermediates, wages, competition) forces. Changes in transaction and transport costs (due to economic integration and globalization) modify the balance between these forces, eventually generating new core-periphery patterns.

Under a new economic geography framework, assuming a two region, two sector model—with cities specialized in manufacturing and services and rural areas in agriculture—as trade in

manufacturing increases, cities will grow, often at the expense of their rural hinterlands (Paluzie, 2001), reinforcing a core-periphery pattern. Hence, when a country opens to trade, imports and exports to and from the core areas contribute to expand their hinterlands at the expense of less developed areas. No longer are firms and industries subject to the maximum size constraint imposed by the limited demand of domestic rural markets—they can sustain growth, and agglomeration, by servicing foreign demand and making use of cheaper foreign inputs. The incentive to agglomerate therefore increases alongside the increased market potential that cities, as the mountains in the flat world, have access to through the opening of export and import markets (Paluzie, 2001; Puga, 1999). As a result, opening to manufacturing trade tends to increase the incentives for firms, and workers, to concentrate in core areas, and in larger rather than in smaller cities, thereby fostering greater within-country disparities.

Specialization versus diversification

The analysis of the impact of specialization versus diversification on innovation and economic performance sheds additional new light on the increasing success of cities and agglomerations in the era of Globalization 3.0. While increasing specialization is likely to foster Marshall–Arrow–Romer (MAR) externalities within the same industry, the diversity of economic activities pursued locally allows local actors to benefit from knowledge base complementarities and across-industry exchange of ideas (Jacobian externalities). The empirical literature suggests that both MAR (Glaeser et al., 1992; Henderson, 1999) and Jacobian externalities (Andersson et al., 2005; Carlino et al., 2001; Feldman and Audretsch, 1999) may play an important role in fostering innovation either in different industrial contexts² or at different phases of a product life cycle.³ A crucial issue for the prosperity and success of cities stems from the capability to efficiently exploit MAR and Jacobian externalities. When other forces (historical, institutional, political) prevent the evolution of the cluster from reaching its most efficient equilibrium at any moment in time

between both types of external economies, overall economic performance could be hampered. Diversified cities tend to be larger while specialized cities are generally smaller in size. Whereas both diversified and specialized cities can in principle perform equally well, the potential risks for specialized cities are greater.⁴ These risks are related to their lower innovative capacity and their greater exposure to rise and fall patterns of specific sectors of specialized cities (Duranton and Puga, 2000). In the long run, intervention in the form of policies that encourage labour mobility (mainly to larger diversified cities) in order to address the decline of specialized cities may be needed. Hence it is fundamentally the unique mix of social, institutional, cognitive and organizational proximities found in large metropolitan areas that once again allows for the adequate linkages to be developed and for the right mix of specialization versus diversification to emerge.

Community, social capital and the creative class

Formal and informal institutions also play an important role in shaping the mountains of the uneven world we are depicting. Many of the agglomeration effects of the endogenous growth and new economic geography theories are reinforced by the predictions of numerous institutional theories that underline the role of institutions and institutional factors on economic activity. These theories, despite their different origins, coincide on the role played by institutions in fostering economic concentration.

Many studies have unearthed a close link between ‘good’ institutional conditions or the presence of strong communities and the clustering of economic activities. Qualitative work on clusters and industrial districts (e.g. Burroni, 2001; Kristensen, 1992; Piore and Sabel, 1984; Semlinger, 1993), ‘learning regions’ (Bathelt, 2001; Gertler et al., 2000; Henry and Pinch, 2000) and regional systems of innovation (Cooke and Morgan, 1998) stresses how complex institutional and governance arrangements create the conditions for economic activity to thrive and ultimately—as good institutional

conditions are hard to replicate—to agglomerate. Factors such as the close interaction among local political actors, the presence of a functioning civil society, regional administrations, employers organizations and trade unions—in what Trigilia (1992) calls an ‘institutionalized market’—favour economic development and agglomeration. Well-developed traditions, strong trade unions cooperating with employers and nation-wide institutions work in a similar direction. Conversely, the absence of poles of collective action often leads to the formation of vicious circles of low growth. The lack or relatively little importance in social life of collective organizations, the presence of clientelistic practices or the governing of social activity by simple social structures (often characteristic of relatively remote and backward spaces) facilitate migration and discourage economic activity.

Many quantitative analyses reach similar results. Putnam’s (1993) work on Italian social capital shows how differences in levels of community institutions between Northern and Southern Italy are at the base of their sizeable income inequalities. Other research has found that different institutional proxies of community, such as group participation, help explain higher economic performance (Beugelsdijk et al., 2004; Guiso et al., 2004; Knack and Keefer, 1997; Zak and Knack, 2001), or that, conversely, excessive divisions within societies limit their growth potential (Easterly and Levine, 1997; Rodríguez-Pose and Storper, 2006).

Taken to its limits, some analysts indicate how having a high density of closely-knit institutional networks in close physical proximity—called ‘institutional thickness’ by Amin and Thrift (1995) and ‘institutional capital’ by Healey (1998)—is a key condition for economic development. Combinations of ‘intellectual capital’ (i.e. knowledge resources), ‘social capital’ (trust, reciprocity, cooperative spirit and other social relations) and ‘political capital’ (capacity of collective action) within these institutional networks determine the potential for development. The greater the density of complex institutional networks within a given territory, the greater the potential for higher growth and

development (Amin and Thomas, 1996; Cooke and Morgan, 1998; Morgan, 1997).

These structural sources of competitive advantage are far from vanishing in response to the process of globalization (let alone the 10 ‘world flatteners’ singled out by Friedman). On the contrary, they are further reinforced by the increasingly important role played in today’s world by ‘creative’ people. For Florida (2002), the future of local economies relies on attracting and retaining members of the ‘creative class’, comprising those who work in sectors such as technology, media and entertainment and finance and whose activities embody creativity, individuality and difference. And there is no better place to achieve this than in open and cosmopolitan cities that provide all what the creative class are looking for in terms of alternative lifestyles, relaxed dress codes, flexible working arrangements, leisure activities focused on exercise and extreme sports and their preference for ‘indigenous street level culture’ (Florida, 2002). The interaction between the enormous capability of the members of this creative class to generate economic value and its unprecedented mobility gives cities able to develop adequate conditions (thanks to their endogenous socio-institutional capabilities) an enormous advantage over other areas and territories.

Buzz: the ultimate tectonic force

So far we have discussed the origins and mechanics of the forces responsible for the emergence of urban mountains in today’s world economic landscape.⁵ We now need to take a closer look at the ultimate driver behind all these tectonic movements: the ‘buzz’ of the cities. By innovatively combining economic and institutional approaches to economic agglomeration, Storper and Venables (2004) have proposed the theory of ‘buzz’ or of ‘buzz cities’: ‘Buzz’ is eminently about face-to-face contact. They argue that backward and forward linkages, access to markets, the clustering of workers and technological interactions are not the only factors determining agglomeration. Any explanation of why economic activity is agglomerating more and more is incomplete without what they call the ‘most fundamental’ aspect of proximity: namely

face-to-face contact (Storper and Venables, 2004, 352). In this approach, face-to-face interaction is economically efficient, as it helps solve incentive
1055 problems, facilitates socialization and learning and provides psychological motivation. And nowhere is face-to-face contact more likely to take place than in large and diversified cities. These cities—that
1060 Storper and Venables (2004) define as buzz cities—put highly skilled and motivated individuals in contact with one another, contributing to making people in a buzz environment highly productive and encouraging cross-fertilization between sectorally
1065 specialized networks. New activities are, thus, more likely to be developed in the buzz centres where agglomeration forces are not only dependent on classical economic agglomeration economies but also institutional and buzz factors are regarded as
1070 playing an increasingly prominent role in this direction. Buzz is cognitive, organizational, social and institutional proximity brought together in a reduced geographical environment and acts as the ultimate tectonic force for the emergence of mountains in Friedman’s flat world.

1075 What might be misleading at a first glance is that the most important buzz cities (e.g. London, New York, Los Angeles) are also the most globalized: they are nodes of international business, financial and cultural networks, locations of the headquarters
1080 of many multinational corporations; they are at the very centre of ‘global’ travel-and-meeting activities. However, ‘the highest levels of international business require insertion into locally-grounded government and political networks in order to function
1085 efficiently’ and although ‘the precise mix of activities involving face-to-face contacts and collocation will change, they (...) will continue to generate agglomeration of highly skilled individuals, firms and bureaucracy in high-cost urban centres’
1090 (Storper and Venables, 2004, 366 and 368). This is reflected in ‘local buzz, global pipeline’ model of Bathelt et al. (2004), which explicitly brings extra-regional dynamics to light: extra-agglomeration
1095 knowledge flows complement local buzz by means of investments in channels of communication (pipelines). If learning is ‘increasingly inserted into various forms of networks and innovation systems

(at regional, national and international levels)’ (Asheim and Coenen, 2006, 171), cities are likely
1100 to become the centres of the knowledge-based economy thanks to their capacity to act both as buzz environments and major nodes of immaterial/aspatial/temporary networks. This process is not about a few major world centres, but has produced a complex roster
1105 of cities where leading world cities in the major ‘globalization arenas’ are functionally interconnected by an uneven world city system (Beaverstock et al., 1999). Furthermore, the increasing importance of
1110 cities is likely to be complemented by the emergence and reinforcement of a number of highly specialized high-tech centres of excellence where the importance of global interconnections may complement and even exceed that of local buzz
(Moodysson et al., 2005).

1115 By enabling face-to-face contacts and the transmission of uncodified/tacit (or uncodifiable) knowledge—often in conjunction with their role of major nodes of (material and immaterial) global network
1120 relations—buzz cities benefit from an enduring competitive advantage over other territories that reinforces other agglomeration forces in a process of cumulative causation. Local innovative activities not only allow better local economic performance
1125 but also produce localized knowledge spillovers whose beneficial effects depend not only on proximity relationships but also on the presence of local institutions (or social filters) enabling their absorption and translation into further economic growth. However, the appearance of new mountains in the
1130 economic landscape or the surge of existing ones also depends on other localized factors such as a favourable balance between specialization and diversification and an efficient equilibrium between agglomeration and dispersion forces. The unprecedented
1135 pace of the shifts of the technological frontier in a large number of sectors has also brought the role of a class of ‘creative people’ continuously involved in the generation of new ideas to the fore. Innovation and ideas are exchanged, diffused and
1140 cross-fertilized in the urban areas able to develop the adequate environment in terms of its capacity to attract and retain creative people and, last but not least, maximize face-to-face contacts. Once this

1145 process is activated, it has an enormous cumulative
potential: the productivity of local innovative activ-
ities is significantly enhanced when the conditions
mentioned above are met, generating the economic
incentive for further investment. New investments
in innovation, in their turn, not only produce localized
1150 spillovers but also directly and indirectly increase local
absorptive capabilities and stimulate the continuous
updating of the local socio-institutional environ-
ment. A favourable socio-institutional environment
is, in its turn, prone to the development of outward
1155 connections, extra-regional interdependencies and
global network relations.

This process creates progressively higher moun-
tains in the world economic geography. However,
the whole system is highly dynamic and big radical
1160 shifts in the technological frontier may allow—as in
any active tectonic period—new windows of op-
portunity to be opened (and others to be closed)
thus allowing new cities and agglomerations to
emerge in the global landscape but, at the same
1165 time, condemning other areas to economic decline.

Conclusions

Friedman has created a powerful metaphor to de-
scribe the effects of the ongoing change of the
world economy. According to him, technological
change, in general, and the advances in information
1170 and communications technology, in particular,
have, over the past three decades, radically flattened
our world. Technological change has not only been
the single most important force behind the process
of economic growth but has also enabled the ‘wid-
1175 ening, deepening and speeding up of worldwide
interconnectedness in all aspects of contemporary
social life, from the cultural to the criminal, the
financial to the spiritual’ (Held et al., 1999, 2) that
may be referred to as globalization. The progressive
1180 liberalization of the movements of capital and labour,
the sharp reduction in the cost of international
and intercontinental travel, as well as the purport-
edly progressive convergence towards global cul-
tural models and, above all, the frictionless
1185 availability of information and knowledge deter-
mine an ever-decreasing influence of both physical

distance and the underlying contextual conditions
upon economic interactions. Faster and cheaper ac-
cess to information and technology has also led to
a restructuring of how we conduct business all over
1190 the world and contributed to dismantle the barriers
that anchored economic activity to specific loca-
tions. The consequence of all these changes is a bet-
ter world: a world where neither the distance
between the economic actors—be it cognitive, or-
ganizational, social, institutional or geographi-
1195 cal—nor the contextual condition in which their
interactions take place would matter any longer;
a world where information ‘once available only to
the few would be available to the many, instantly
1200 and (in terms of distribution costs) inexpensively’
(Cairncross, 1997, 4) and a world where every
economy has a similar chance of exploiting and
maximizing the opportunities of global interaction,
regardless of its geographical location and its in-
1205 digenous conditions. In brief, a world where more
and more people are empowered by this access to
information and become more conscious of the
need to engage and compete as individuals in an
integrated world. For Friedman, the world is flat
1210 and, as a result, we are all better off.

As Friedman himself acknowledges, the empiri-
cal evidence available does nevertheless not sup-
port his vision of the world. ‘The bad news in
Africa today, as well as rural India, China, Latina
1215 America and plenty of dark corners of the devel-
oped world, is that there are hundreds of millions of
people who have no hope and therefore no chance
of making it to the middle class’ (Friedman, 2005,
462). Yet, despite acknowledging this in his ‘Unflat
1220 world’ chapter (one chapter out of 15), Friedman
still falls victim of his own metaphor.

However, the sheer evidence that not all people
and territories can benefit equally from the changes
that Globalization 3.0 brings about ends by forcing
1225 him to describe the geography of the world in
a more nuanced and perhaps more realistic way:
‘there’s not just the flat world and the unflat world.
Many people live in the twilight zone between the
two’ (Friedman, 2005, 470). And the reality is pre-
1230 cisely that, the world is not flat. The powerful tec-
tonic forces linked to globalization are shaping

a world where there are winners and losers; where the winners are precisely those that can maximize the opportunities for innovation, economic activity and growth that real-time access to information offers. The information revolution has opened new windows of opportunity so that new actors may emerge in the global arena while others have been closed, provoking the relative decline of some previously leading regions. In addition, some economies have remained marginal in the world economic panorama. The new technological regime is producing a thoroughgoing reorganization of the world economy, rather than a global trend towards similar development levels made possible by ubiquitous economically productive knowledge. In this new geography of the world, large cities emerge as the real winners, as they provide the right environment to allow economic agents to thrive. So the irony is that the flat world is full of high peaks.

And not everyone is capable of climbing these high peaks. Just as the average citizen of the world would not even dream of climbing the Everest, only professional mountaineers—those who are really being empowered—dare to venture into the peaks created by globalization. As in any elite sport discipline, the real players, the real mountaineers, are just a chosen few, mainly made of multinational firms and high-flying executives. Most of the rest of us just have to be content with watching the mountains from a distance and hope that we would eventually benefit from their ascent.

Endnotes

¹ See Milanovic (2005) for a useful discussion of the evolution of inequality in recent decades.

² Henderson et al. (1995) find that Jacobs-type externalities prevail in high tech and MAR in capital goods industries.

³ Duranton and Puga (2001) suggest that firms develop new products in diversified creative urban contexts, subsequently, relocating to specialized cities in the mass production phase in order to exploit cost advantage.

⁴ Although many specialized cities are doing rather well in this flat world.

⁵ In many ways, there is nothing new under the sun. The forces of agglomeration and urbanization described so far

have been among the leading drivers of capitalism since, at least, the 16th and 17th centuries: well outside the scope of the 21st century history presented by Friedman. The logic of the process of territorial differentiation of the world economy seems to transcend historical shifts, even if the scale of this process is nowadays undoubtedly global.

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References

- Amin A, Thrift N. Institutional issues for the European regions: from markets and plans to socioeconomics and powers of association. *Economy and Society* 1995; **24**: 41–66.
- Amin A, Thomas D. The negotiated economy: state and civic institutions in Denmark. *Economy and Society* 1996; **25**: 255–281.
- Andersson R, Quigley JM, Wilhehnsson M. Agglomeration and the spatial distribution of creativity. *Papers in Regional Science* 2005; **84**: 445–464.
- Anselin L, Varga A, Acs Z. Local geographic spillovers between university research and high technology innovations. *Journal of Urban Economics* 1997; **42**: 422–448.
- Asheim BT, Coenen L. Contextualising regional innovation systems in a globalising learning economy on knowledge bases and institutional frameworks. *Journal of Technology Transfer* 2006; **31**: 163–173.
- Audretsch DB, Feldman MP. Innovative clusters and the industry life cycle. *Review of Industrial Organization* 1996; **11**: 253–273.
- Audretsch DB, Feldman M. Knowledge spillovers and the geography of innovation. In: Henderson JV, Thisse JF (eds). *Handbook of Urban and Regional Economics*. Amsterdam, The Netherlands: Elsevier, 2004; Vol. 4, pp. 2713–2739.
- Bathelt H. Regional competence and economic recovery: divergent growth paths in Boston's high technology economy. *Entrepreneurship and Regional Development* 2001; **13**: 287–314.
- Bathelt H, Malmberg A, Maskell P. Clusters and knowledge: local buzz, global pipelines and the process of

- knowledge creation. *Progress in Human Geography* 2004; **28**: 31–56.
- Beaverstock JV, Smith RG, Taylor PJ. A roster of world cities. *Cities* 1999; **16**: 445–458.
- Beugelsdijk S, de Groot H, van Schaik T. Trust and economic growth, a robustness analysis. *Oxford Economic Papers* 2004; **56**: 118–134.
- Boschma RA. Proximity and innovation: a critical assessment. *Regional Studies* 2005; **39**: 61–74.
- Bosman M, De Schmidt M. The geographical formation of international management centres in Europe. *Urban Studies* 1993; **30**: 967–980.
- Burroni L. *Allontanarsi crescendo: Politica e sviluppo locale in Veneto e Toscana*. Turin, Italy: Rosenberg & Sellier, 2001.
- Cairncross F. *The Death of Distance*. Cambridge, MA: Harvard Business School Press, 1997.
- Cantwell J, Iammarino S. *Multinational Corporations and European Regional Systems of Innovation*. London: Routledge, 2003.
- Carlino G, Chatterjee S, Hunt R. *Knowledge spillovers and the new economy of cities*. Mimeo: Federal Reserve Bank of Philadelphia, 2001. Working Paper no. 01–14
- [AQ3] Castells M. *The Rise of the Network Society*. Malden, MA: Blackwell, 1996.
- Castells M. *End of Millennium*. Oxford: Basil Blackwell, 1998.
- Coe NM, Bunnell TG. ‘Spatialising’ knowledge communities: towards a conceptualisation of transnational innovation networks. *Global Networks* 2003; **3**: 437–456.
- Cohen W, Levinthal D. Absorptive capacity: a new perspective on learning and innovation. *Administration Science Quarterly* 1990; **35**: 128–152.
- Cooke P, Gómez Uranga M, Etxeberria G. Regional innovation systems: Institutional and organizational dimensions. *Research Policy* 1997; **26**: 475–491.
- Cooke P, Morgan K. *The Associational Economy: Firms, Regions and Innovation*. Oxford, UK: Oxford University Press, 1998.
- Crescenzi R, Rodríguez-Pose A, Storper M. The territorial dynamics of innovation: a Europe–United States comparative analysis. *Journal of Economic Geography* 2007; **7**: 673–709.
- De Bondt R. Spillovers and innovation activities. *International Journal of Industrial Organization* 1996; **15**: 1–28.
- Dollar D, Kraay A. Spreading the wealth. *Foreign Affairs* 2002, 120–133.
- [AQ4] Dosi G. Sources, procedures, and microeconomic effects of innovation. *Journal of Economic Literature* 1988; **26**: 1120–1171.
- Dowrick S, Akmal M. *Explaining Contradictory Trends in Global Income Inequality: A Tale of Two Biases*. Faculty of Economics and Commerce, Australian National University, 2001.
- Duranton G, Puga D. From sectoral to functional urban specialisation. *Journal of Urban Economics* 2000; **57**: 343–370.
- Duranton G, Puga D. Nursery cities: urban diversity, process innovation, and the life cycle of products. *American Economic Review* 2001; **91**: 1454–1477.
- Easterly W, Levine R. Africa’s growth tragedy: politics and ethnic divisions. *Quarterly Journal of Economics* 1997; **112**: 1203–1250.
- Engelbrecht H-J. International R&D spillovers, human capital and productivity in OECD economies: an empirical investigation. *European Economic Review* 1997; **41**: 1479–1488.
- Faulconbridge JR. Stretching tacit knowledge beyond a local fix? Global spaces of learning in advertising professional service firms. *Journal of Economic Geography* 2006; **6**: 517–540.
- Feldman M, Audretsch DB. Innovation in cities: science-based diversity, specialisation and localised competition. *European Economic Review* 1999; **43**: 409–429.
- Florida R. *The Rise of the Creative Class, and How It’s Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books, 2002.
- Friedman T. *The World Is Flat: A Brief History of the Twenty-First Century*. New York: Farrar, Straus, and Giroux, 2005.
- Gertler MS. Tacit knowledge and the economic geography of context, or the undefinable tacitness of being (there). *Journal of Economic Geography* 2003; **3**: 75–99.
- Gertler MS, Wolfe DA, Garkut D. No place like home? The embeddedness of innovation in a regional economy. *Review of International Political Economy* 2000; **7**: 688–718.
- Glaeser E, Kallal H, Scheinkman J *et al.* Growth in cities. *Journal of Political Economy* 1992; **100**: 1126–1152.
- Grabher G. The weakness of strong ties: the lock-in of regional development in the Ruhr area. In: Grabher G (ed.). *The Embedded Firm: On the Socioeconomics of Industrial Networks*. London: Routledge, 1993, 227–252.
- Granovetter M. Economic action and social structure: the problem of embeddedness. *American Journal of Sociology* 1985; **91**: 481–510.
- Gregersen B, Johnson B. Learning economies, innovation systems and European integration. *Regional Studies* 1996; **31**: 479–490.
- Grossman GM, Helpman E. Endogenous innovation in the theory of growth. *Journal of Economic Perspectives* 1994; **8**: 23–44.
- Guiso L, Sapienza P, Zingales L. The role of social capital in financial development. *American Economic Review* 2004; **94**: 526–556.

[AQ5]

- Hall P. Forces shaping urban Europe. *Urban Studies* 1993; **30**: 883–898.
- Healey P. Building institutional capacity through collaborative approaches to urban planning. *Environment and Planning A* 1998; **30**: 1531–1546.
- Held D, McGrew A, Goldblatt D et al. *Global Transformations: Politics, Economics and Culture*. Stanford, CA: Stanford University Press, 1999.
- [AQ6] Henderson JV. *Marshall's economics National Bureau of Economic Research* 1999. Working Paper 7358
- Henderson V, Kuncoro A, Turner M. Industrial development in cities. *Journal of Political Economy* 1995; **103**: 1067–1090.
- Henry N, Pinch S. Spatialising knowledge: placing the knowledge community of Motor Sport Valley. *Geoforum* 2000; **31**: 191–208.
- Howells J. Tacit knowledge, innovation and economic geography. *Urban Studies* 2002; **39**: 871–884.
- Iammarino S. An evolutionary integrated view of regional systems of innovation: concepts, measures and historical perspectives. *European Planning Studies* 2005; **13**: 497–519.
- Jaffe A, Trajtenberg M, Henderson R. Geographic localization of knowledge spillovers as evidenced by patent citations. *Quarterly Journal of Economics* 1993; **108**: 577–598.
- Jessop B. 'The Future of the Nation State in Europe: Erosion or Reorganization?', WP50, *Political Economy of Local Governance Series*. Lancaster, UK: Department of Sociology, University of Lancaster, 1995.
- Jones C. On the evolution of the world income distribution. *Journal of Economic Perspectives* 1997; **XI**: 19–36.
- Knack S, Keefer P. Does social capital have an economic impact? A cross-country investigation. *Quarterly Journal of Economics* 1997; **112**: 1252–1288.
- Kristensen PH. Industrial districts in West Jutland, Denmark. In: Pyke F, Sengenberger W (eds). *Industrial Districts and Local Economic Regeneration*. Geneva, Switzerland: International Institute for Labour Studies, International Labour Organization, 1992, 122–173.
- Krugman P. Increasing returns and economic geography. *Journal of Political Economy* 1991; **99**: 484–499.
- Layard R. *Happiness: Lessons from a New Science*. New York: Penguin, 2005.
- Leamer EE, Storper S. The economic geography of the Internet age. *Journal of International Business Studies* 2001; **32**: 641–665.
- Lucas R. On the mechanics of economic development. *Journal of Monetary Economics* 1988; **22**: 3–42.
- Lundvall BÅ. Innovation policy in the globalising learning economy. In: Archibugi D, Lundvall BÅ (eds). *The Globalising Learning Economy*. Oxford: Oxford University Press, 2001.
- Milanovic B. *Worlds Apart: Measuring International and Global Inequality*. Princeton, NJ: Princeton University Press, 2005.
- Moodysson J, Nilsson M, Svennsson Henning M. *Contextualizing clusters in time and space: long-term dynamics, systems of regions, and extra-regional interdependencies* 2005. Paper presented at the DRUID Tenth Anniversary Summer Conference on Dynamics of Industry and Innovation: Organizations, Networks and Systems, Copenhagen, June 27–29, 2005
- [AQ7] Moreno R, Paci R, Usai S. Spatial spillovers and innovation activity in European regions. *Environment and Planning A* 2005; **37**: 1793–1812.
- Morgan K. The learning region: institutions, innovation and regional renewal. *Regional Studies* 1997; **31**: 491–503.
- Morgan K. The exaggerated death of geography: learning, proximity and territorial innovation systems. *Journal of Economic Geography* 2004; **4**: 3–21.
- Narin F, Hamilton KS, Olivastro D. The increasing linkage between U.S. technology and public science. *Research Policy* 1997; **26**: 317–330.
- O'Brien R. *Global Financial Integration: The End of Geography*. London: Royal Institute of International Affairs, 1992.
- Ohmae K. *The Borderless World: Power and Strategy in the Interlinked Economy*. New York: Harper Perennial, 1991.
- Ohmae K. *The End of the Nation State: The Rise of Regional Economies*. London: HarperCollins, 1995.
- Paluzie E. Trade policy and regional inequalities. *Papers in Regional Science* 2001; **80**: 67–85.
- Piore M, Sabel C. *The Second Industrial Divide*. New York: Basic Books, 1984.
- Puga D. The rise and fall of regional inequalities. *European Economic Review* 1999; **43**: 303–334.
- Putnam R. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press, 1993.
- Quah D. Empirics for growth and distribution: polarization, stratification, and convergence clubs. *Journal of Economic Growth*, 1997; 227–59.
- Quah D. *The weightless economy in economic development* 1999. WIDER Working Paper 155
- [AQ8] Rebelo ST. Long-run policy analysis and long-run growth. *Journal of Political Economy* 1991; **99**: 500–521.
- Rodríguez-Pose A. *The Dynamics of Regional Growth in Europe: Social and Political Factors*. New York: Oxford University Press, 1998.
- Rodríguez-Pose A. Innovation prone and innovation averse societies. Economic performance in Europe. *Growth and Change* 1999; **30**: 75–105.
- Rodríguez-Pose A, Crescenzi R. R&D, spillovers, innovation systems and the genesis of regional growth in Europe. *Regional Studies* 2008; **41**: (in press).
- [AQ9]

- Rodríguez-Pose A, Gill N. How does trade affect regional disparities? *World Development* 2006; **34**: 1201–1222.
- Rodríguez-Pose A, Storper M. Better rules or stronger communities? On the social foundations of institutional change and its economic effects. *Economic Geography* 2006; **82**: 1–25.
- Romer PM. Increasing returns and long-run growth. *Journal of Political Economy* 1986; **94**: 1002–1037.
- Romer PM. The origins of endogenous growth. *The Journal of Economic Perspectives*, 1994; **8**: 3–22.
- Sala-i-Martin X. The world distribution of income: falling poverty and ... convergence, period. *Quarterly Journal of Economics* 2006; **121**: 351–397.
- Sassen S. Economic restructuring and the American City. *Annual Review of Sociology* 1990; **16**: 465–490.
- Sassen S. *The Global City*, 2nd. Princeton, NJ: Princeton University Press, 2001.
- Scherer FM. The propensity to patent. *International Journal of Industrial Organization* 1983; **1**: 107–128.
- Schultz TP. Inequality and the distribution of personal income in the world: how it is changing and why. *Journal of Population Economics* 1998; **11**: 307–344.
- Scott AJ, Agnew J, Soja EW *et al.* Global city-regions. In: Scott AJ (ed.). *Global City-Regions: Trends, Theory, Policy*. Oxford: Oxford University Press, 2001, 11–32.
- Semlinger K. Economic development and industrial policy in Baden-Württemberg: small firms in a benevolent environment. *European Planning Studies* 1993; **1**: 435–463.
- Sonn JW, Storper M. The increasing importance of geographical proximity in technological innovation: an analysis of U.S. patent citations, 1975–1997. *Environment and Planning A* 2008. (in press)
- [AQ10] Storper M, Venables AJ. Buzz: face-to-face contact and the urban economy. *Journal of Economic Geography* 2004; **4**: 351–370.
- Taylor PJ. Specification of the world city network. *Geographical Analysis* 2001; **33**: 181–194.
- Taylor PJ, Hoyler M. The spatial order of European cities under conditions of contemporary globalization. *Tijdschrift voor Economische en Sociale Geografie* 2000; **91**: 176–189.
- Taylor PJ, Hoyler M, Walker DRF *et al.* A new mapping of the world for the new millennium. *The Geographical Journal* 2001; **167**: 213–222.
- Taylor PJ, Walker DRF. World cities: a first multivariate analysis of their service complexes. *Urban Studies* 2001; **38**: 23–47.
- Triglia C. *Sviluppo senza autonomia. Effetti perversi delle politiche nel Mezzogiorno*. Bologna, Italy: Il Mulino, 1992.
- United Nations Development Program (UNDP). *Human Development Report*. . New York, 2001.
- [AQ11] United Nations Development Program (UNDP). *Human Development Report*. . New York, 2003.
- Varga A. Local academic knowledge spillovers and the concentration of economic activity. *Journal of Regional Science* 2000; **40**: 289–309.
- Veltz P. *Mondialisation, villes et territoires: l'économie d'Archipel*. PUF, 1996.
- Veltz P. *Le nouveau monde industriel*. Paris: Gallimard, 2000.
- Verspagen B. Measuring intersectoral technology spillovers: estimates from the European and US patent office databases. *Economic Systems Research* 1997; **9**: 47–65.
- Wade R. Is globalization reducing poverty and inequality? *World Development* 2004; **32**: 567–589.
- Zak P, Knack S. Trust and growth. *Economic Journal* 2001; **111**: 295–321.

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