

Cities and Economic Growth: A Review

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Abstract

Presently, there is no single, coherent theory on the causality between cities and economic growth, only a fragmented set of theories. Current patterns and trends for the relationship between cities and economic growth, however, suggest that a full understanding of contemporary processes will not be achieved by relying on the tools of one discipline alone, or by focusing on a single level of analysis. The aim of this literature review is to examine the leading contemporary theories on the relationship between cities and economic growth. The relationship can work in several ways by focusing on: the impact of economic growth on cities, the impact of cities on economic growth, and cities as an intermediate link to economic growth. Most theories however focus on the impact cities have on economic growth. One conclusion is that economic activities and economic diversification occur before cities are formed; without them, cities are not needed and hence cannot promote economic growth. The paper also discusses the various policies and policy designs used to promote cities as well as economic growth.

Key words: Cities, urbanisation, economic growth, economic diversification, policies

I. Introduction

Historically, urbanisation has gone hand in hand with economic growth and transformation. Cities have long played a primary function as locations where new forms of economic activities and economic organisation have evolved and gained higher value. Cities were not merely places where commodities were traded and new markets explored but they have also been centres of change in the social division of labour (Dillard, 1967; Pollard, 1981). Almost five thousand years ago in Asia, the major urban settlements in the Indus valley such as Harappa, Mohenjadaro and Kalibangan became flourishing commercial centres. Local trade networks led to economic growth while the expansion of trade and commerce became an essential feature of this urban culture with the 'consequent growth of a strong and prosperous Indus merchant community' engaged in external trade, establishing strong trade relations with the cities of Mesopotamia in the proto-historic period between 2800 BC – 1800 BC (Banerjee, 2012).

In Europe, ancient Greek city-states were places where trade and commerce prospered; cities were the centres of administration and education. The urbanisation of ancient Athens created highly specialised labourers and craftsmen. This division and specialisation of labour contributed to the growth and economic success of the city-states (Thomsen, 1985).

During the medieval period small scale manufacturing and industrial activities emerged in cities in Flanders and in Northern Italy leading to economic development and prosperity (Cipolla, 1980). The trade and commerce flows created by the Hanseatic network of cities brought them wealth and prosperity. The fairs in Champagne and subsequently those in cities such as Frankfurt, Genève, Lyon, Paris, Antwerp, Winchester and Westminster performed a similar function (Dillard, 1967). Innovation and technological developments as well as organisational and institutional changes during the Renaissance paved the way for the Industrial Revolution in the late 18th century (Rosenberg & Birdzell, 1986; North & Thomas, 1973).

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The Industrial Revolution took off in cities, causing urbanisation and, in the late 19th century, the first wave of economic globalisation occurred (Pollard, 1981; Dillard, 1967). New centres for industry, transport, trade and other services grew rapidly, which generated a massive wave of urbanisation. Between 1850 and 1910 the population of the cities of Europe and North America increased from about 40 million to almost 190 million. This change occurred as a direct consequence of many of the changes that promoted the concentration of industry and services to cities. The 1800s saw several technical, infrastructural and *institutional* changes which delivered new advantages to cities. It was thus not simply a matter of the movement of people from agricultural to industrial employment but also the fact that the new industries and services began to move into the cities (Schön, 2010).

Smith (1776) was one of the first social scientists to consider the role of cities in relation to economic growth and wealth. The inhabitants of the countryside exchanged primary products for the manufactured commodities of the towns. A large part of the capital of a growing society is first directed towards agriculture, then towards manufactures, and only lastly towards foreign commerce. The town is where primary products, manufactured commodities, foreign trade and capital meet.

Another pioneer in this field was Marshall (1890), who argued that industrial districts were innovative and growth-promoting places. Cities create local scale effects and facilitate knowledge transfer, increasing industrial specialisation.¹ Transaction costs are hence lowered and matching at the labour market will be more efficient. The result is an increase in wealth and a reduction of poverty (Olsson, 2005). In the early 20th century a location-production model was developed by Weber (1909). Central-place theory (Christaller, 1933) built on this framework and was later refined by August Lösch (1939). These theories managed to reveal the causality between urbanisation and economic growth by looking at the location of economic activity.

Renewed interest in the causality between cities and economic growth emerged in the 1980s. In the theoretical literature, resource sharing, quicker and better matching, more learning and innovative activities have each been advanced as the drivers of higher productivity, employment and economic growth in bigger cities (Duranton, 2014) and Jacobs (1984) argued that cities were an important driver behind economic growth. The urban environment stimulates economic diversification and cross-pollination between people and various economic activities. Jacobs termed these entities urbanisation economies. During the 1980s, the New Theory of Economic Growth and the New Economic Geography emerged, focusing on the endogenous factors of economic growth. According to these theories, cities played an important role in economic growth (Romer, 1986, 1994; Lucas, 1988; Krugman, 1991a, 1993). The growth of cities is not determined by economic factors alone, but also by a multifaceted interaction between local stakeholders and government interests (Leitner, 1990). Cities are thus primarily political constructs, not economic. Industrialisation ‘uses’ cities and make them grow but industrialisation was a function of governance centralisation long before the modern concepts of urbanisation and economic utility emerged.

Interest in the relationship between cities and economic growth was, again, renewed around the turn of the Millennium. Porter (1990), Castells (1997), Sassen (1991), Florida (2002) and Dickens (2003) all argued for the central role played by cities in economic growth, but from different perspectives and scientific disciplines. The common denominator here is the post-industrial society, globalisation and the ICT revolution.

As European economies struggle with the effects of austerity in the wake of the financial crisis 2008-2009, the fact that cities seemed to display a higher level of resilience was often

¹ The concept of industrial district is often viewed as synonymous with agglomeration, localisation and clustering. But, according to the original meaning given by Marshall, these processes of industry ‘territorialisation’ are quite different from the process of ‘compound localisation’ that typifies the Marshallian industrial district.

highlighted. The economic crisis hit different parts of Europe and even different regions in single countries unevenly (Hadjimichalis, 2011, Christophers, 2015). Economic diversification, the quality of production factors hosted, the density of external linkages and cooperation networks and the quality of urban infrastructure give greater economic resilience to cities, and to the regions hosting them (Capello et al., 2015). Presently, there is no single, coherent theory on the causality between cities and economic growth, only a fragmented set of theories. Current patterns and trends in respect of the relationship between cities and economic growth, however, suggest that a fuller understanding of contemporary processes will not be attained by relying on the tools of one discipline alone, or by focusing on a single level of analysis.

This paper aims to explicate and integrate the leading contemporary theories on the relationship between cities and economic growth.² The relationship can work in several ways focusing on: the impact of economic growth on cities, the impact of cities on economic growth, and cities as an intermediate link to economic growth. Rather than favouring one theory over another *a priori*, each theory should be understood on its own terms in order to illuminate key assumptions and hypotheses. Only after each theory has been considered separately can a comparison be made to contrast the different conceptual frameworks in order to reveal areas of logical inconsistency and substantial disagreement. Lastly, the design of current policies to stimulate the relationship between cities and economic growth will be discussed.

II. The Impact of Cities on Economic Growth

In the literature, five different approaches to the impact of cities have on economic growth can be identified. Some are partly overlapping, but none excludes the others.

1. Size, productivity and economic growth

A positive correlation between size and productivity exists (Berg, 2012). When a significant number of economic activities are concentrated in few places specialisation, scale effects and knowledge spill-over will occur. The urban positioning of a company leads to economies of scale because it has access to a bigger market, lower transport costs, lower information and transaction costs, a higher level of economic diversification and easier access to qualified labour (Polèse, 2005).

It is important to distinguish between urbanisation economies and localisation economies. In *urbanisation economies*, agglomeration effects will occur due to higher productivity, which is a function of the geographic concentration of people and capital. Size and economic diversification will lead to increased productivity and economic growth. Economies of scale arise due to size, diversification and knowledge spill-over between companies and sectors.³

Localisation economies view size and productivity from a somewhat different perspective. Agglomeration effects relate back to the positioning of companies with similar production requirements to a certain geographic area. Clusters and specialisation will be the drivers of productivity growth here. This approach has its roots in e.g. Lucas (1988), Romer (1994), Arrow (1962) and Marshall (1890).

The productivity increase is a function of the urban concentration i.e. how big the share of the total population is of those living in the country's biggest cities. The optimal urban concentration depends on how developed the country is and its size (Henderson, 2003a, 2003b).

² This study is an integrative literature review that critically looks at and synthesizes what is known about the field in order to develop new frameworks or perspectives. The selection of material has been restricted to key publications, i.e. publications presenting 'new' or path-breaking findings.

³ This stance originates in e.g. Jacobs (1984) and Bairoch (1988). See also Fujita (1988), Krugman (1995), Basant (2002) and Johansson and Quigley (2003).

Urban over or under concentration may lead to costly productivity losses. Furthermore, there is no linear correlation between city size and productivity increase. Rather, productivity will increase up to a certain city size and then subside (Rice & Venables, 2004).

2. Agglomeration economics

The basic concept of *agglomeration economies* is that a clustering of economic activity facilitates production. This concept relates to the idea of economies of scale and network effects. As more firms in related fields cluster together, inducing their production costs to decline significantly due to the existence of competing suppliers, greater specialisation and the division of labour (Krugman, 1991b; Porter, 1990). Even when competing firms in the same sector cluster, there may be advantages because the cluster attracts more suppliers and customers than a single firm could achieve alone (Henderson, 1988, 2003a; Glaeser, 1994, 1998; Quigley, 1998). Cities form and grow to exploit economies of agglomeration.

Marshall (1890) was one of the first scholars to identify the importance of economies of scale and network effects. His 'industrial districts' were not just the concentration of industrial activities in a well-defined territory; in his 'industrial districts' economies of scale and network effects are fused together with economic and social structures, which generates a self-reproducing economic structure given a specific territory (Beccatini, 2002). Marshallian 'industrial districts' can also be viewed as 'learning regions'. Such regions will be able to avoid a "lock-in" of development, caused by localised path-dependency, through the formation of dynamic flexible learning organisations both at an intra- and inter-firm level. The endogenous innovative capacity of the 'industrial districts' is also, particularly when it comes to learning and social relationships, of strategic importance for their future development (Asheim, 1995). The 'industrial districts' notion, from which agglomeration economics emerged, was the first to understand that employers in 'industrial districts' were able to create a constant market for skill and competence. By sharing the same labour pool, employers could also gain knowledge from each other through cross-fertilisation (Puga, 2010).

Agglomeration economies are closely associated with economies of scale and the network effects mentioned above. A positive outcome, agglomeration economies, will only be achieved if the benefits outweigh the disadvantages. *Diseconomies of agglomeration* is the opposite case. Additional competition drives down pricing power. For example, spatially concentrated growth in automobile-oriented fields may create problems of crowding and traffic congestion. It is this tension between economies and diseconomies that allows cities to grow while keeping them from becoming too large (Polesè, 2005). It can be argued that being 'too large' is a function of politics; the problem of becoming 'too large' – however it is defined – depends on the lack of administration or planning rather than of economic balance.

While localisation and urbanisation economies as well as their sources are crucial to sustaining agglomeration economies and cities, it is important to understand the long-term result of the function of agglomeration economies as it relates to the core-periphery model. The core-periphery model basically features an amount of economic activity in one main area surrounded by a remote area of less dense activity. The concentration of this economic activity in one area (usually a city centre) allows for the growth and expansion of activity into other and surrounding areas because of the cost-minimising location decisions of firms within these agglomeration economies sustaining high productivity and advantages which therefore allow them to grow outside of the city (core) and into the periphery. A small decrease in the fixed cost of production can increase the range of locations for the further establishment of firms leading to a loss of concentration in the city and possibly the development of a new city outside the original city where agglomeration and increasing returns to scale existed (Duranton & Puga, 2002; Henderson, 1997, 2003b).

Closely related to agglomerations is the idea of polycentrism. In many settings they are synonymous (Van Meeteren et al., 2015). The most basic morphological definition of polycentrism is that a given area can be considered as polycentric if it contains two or more centres and if population and employment is not concentrated to a substantial extent to one single centre (Riguelle et al., 2007). A functional definition of polycentrism is based upon what functional relationships exist between cities and how they are linked to each other through networks (e.g. infrastructure, financial flows etc.). The formal definition of a polycentric urban region (PUR) in terms of both functional connections and distance between settlements is useful (Green, 2007; De Goei et al., 2010). This can be studied at three different spatial scales: metropolitan, regional and national (Brezzi & Veneri, 2015).

The polycentric urban region is considered one of the European Spatial Development Plans' (ESDP) key policy options for a balanced territorial development across Europe and has been strenuously promoted by the EU Commission (Davoudi, 2003). Over the years however the meaning of polycentrism has subtly changed: from promoting cohesion initially it now stimulates economic growth and increases competitiveness in cities (Faludi et al., 2015).

3. Clusters

Porter (1990) introduced the notion of cluster theory while Krugman (1991) brought spatial economics to our attention. The underlying concept dates back to the work on industrial districts by Marshall (1890). A business cluster is a geographical location where the total sum of resources and competences amassed reach a critical threshold, giving it a key position in a given economic branch of activity, and with a competitive advantage over other places (Porter, 1990). Well-known examples of this include Silicon Valley, Hollywood, 'the city' - London's financial centre and the diamond district in Antwerp.

Clusters have the potential to affect competition in three ways: by increasing the productivity of companies in the cluster, by driving innovation in the field and by stimulating new businesses in the field. In the modern global economy, comparative advantage is less relevant. Instead, how companies make productive use of inputs and innovation, i.e. the competitive advantage, is of greater importance (Porter, 1998a). Economic activities are embedded in social activities, i.e. the 'social glue binds clusters together' (Porter, 1998b). Empirical evidence reports that significantly more innovation takes place in communities that have stronger inter-personal networks (Wear, 2008).

The cluster effect can be more easily perceived in any urban agglomeration, as most kinds of commercial establishments will tend to group themselves by category. The cluster effect displays certain similarities to the network effect. Thus, by being an effect greater than the sum of its causes, and as it occurs spontaneously, the cluster effect is usually cited as an example of its emergence (Polesè, 2005). To sustain cluster performance in the long term, clusters need to manage network openness to businesses outside the cluster while facilitating strong inter-organisational relationships within the cluster (Eisingerich & Boehm, 2007; Eisingerich et al., 2010).

4. Cities, innovations and economic growth

The knowledge creation process hinges on the density of interaction in cities required to generate new ideas. Cities mix different people together, and the resulting interactions are a fertile ground for the creation of all kinds of new work. As Jacobs (1984) observed, cities are places that bring different people and ideas together in ways that generate new jobs and new firms (Polèse, 2005). The depth and diversity of customers in cities is attractive and advantageous to entrepreneurs because many important innovations are the result of user modifications and close interactions between producers and consumers (von Hippel, 1998; von Hippel & Katz, 2002).

Porter's 'Diamond model' looks at clusters, consisting of a number of small industries, where the competitiveness of one company is related to the performance of other companies and other factors tied together in the value-added chain, in customer-client relation, or in a local or regional contexts (Porter, 1990). Cities tend to stimulate innovations and thereby stimulate economic growth. Porter (1990) identifies these processes as parts of the demand conditions (when sophisticated home market buyers pressure firms to innovate faster and to create more advanced products than those of competitors), related and supporting industries (can produce inputs that are important for innovation and provide cost-effective inputs, thus stimulating other companies in the chain to innovate), and firm strategy, structure and rivalry (rivalry creates pressure to innovate in order to upgrade competitiveness).

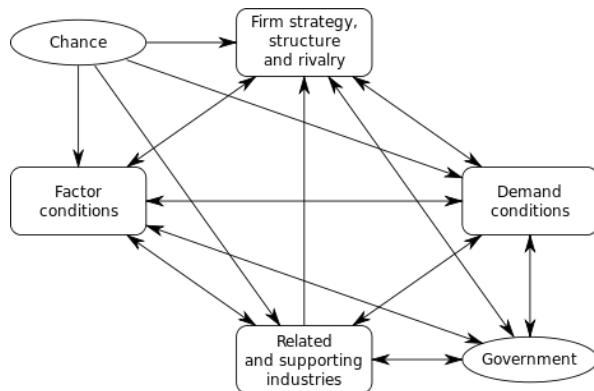


Diagram 1: Porter's 'Diamond model'

These factors interact with each other to create conditions where innovation and improved competitiveness occurs. As businesses cluster in cities, innovation and improved competitiveness will primarily occur and hence stimulate economic development and growth in cities.

Florida (2002) asserts that cities, with high concentrations of technology workers, artists, musicians, lesbians and gay men, and a group he describes as 'high bohemians', exhibit a higher level of economic development. These groups are collectively referred to as the *creative class*. He posits that the creative class fosters an open, dynamic, personal and professional urban environment. This environment, in turn, attracts more creative people, as well as businesses and capital. Innovations and economic growth will be stimulated when creative people, business and capital cluster in a limited geographical area.

5. The role of globalisation, networks and ICT

Sassen (1991) studied the impacts of globalisation such as economic restructuring, and how the movements of labour and capital influence urban life. The influence of communications technology on governance plays an important role here. She also observed how nation states begin to lose power to control these developments.⁴ This includes an increasing general move towards transnationalism, comprising transnational human migration. Cities play a key role in this development, according to Sassen (1991). New York, London and Tokyo became command centres for the global economy and in the process underwent a series of massive and parallel changes. The theoretical framework put significant emphasis on the formation of cross-border dynamics through which these cities and a growing number of other global cities begin to form strategic transnational networks.

⁴ This argument in a way has been 'refined' in the view that globalisation simply changes the role of the state and the way in which the state exercises its power.

The relationship between the information society, communications and globalisation, and the role of cities, has been extensively elaborated by Castells (1996, 1997, 1998). According to him, we are passing from the industrial age into the information age. This historical change is brought about by the advent of new information technologies. Society remains capitalist, but the basis of the technological means by which it acts has changed from energy to information. This information is of central importance in determining economic productivity. Communications technologies allow for the annihilation of space and for globalisation; the potential for rapid and asynchronous communication changes the relationship to time.

According to Castells, power now rests in networks. Some networks, such as those relating to financial capital, are global in scale. Networks also exist within and between businesses, where the organisational unit has shifted from being capability-oriented (e.g. accounting, human resources, etc.) to being project-oriented. Resources – including employees, consultants, and other businesses – are brought together to work on a particular project, then dispersed and reallocated when the task is complete. The ability of an actor in the network – be it a company, individual, government, or other organisation – to participate in the network is determined by the degree to which the node can contribute to the goals of the network. Cities play a key role in this process, due to the concentration of persons, companies and... networks.

Dicken (2003) finds a global hierarchical system of cities when analysing the functions of cities. In line with the *central-place theory*, London, New York and Tokyo are at the top of the hierarchy. In these cities, all functions needed are found. Consequently, the residents do not need to go anywhere outside the city border to access goods and services. Smaller towns also potentially have many of these functions, but the mega-cities have access to all of the functions required by persons and companies nationally and globally. The bigger the city, the denser its business networks.

What the findings from Sassen (1991), Castells (1996, 1997, 1998) and Dicken (2003) suggest is that cities are nodes for business. The new information and communications technology (ICT) has changed the rules of the game: networks, on demand production and flexible organisations are no longer fixed to a certain geographical place. In big cities networks overlap each other to a far greater extent than in smaller cities and hence bigger cities have better opportunities to participate in these global or international networks. Consequently, the big cities – diversified, networking and growth oriented – become engines of economic change. In addition, an increased urbanisation will follow as economically expanding cities attract both business and people. The advantages of big cities also relate to social ‘externalities’ they produce in terms of schools, entertainment, housing etc.

III. The Impact of Economic Growth and Economic Structure on Cities

The state is not the most suitable geographic unit within which to attempt to stimulate development and prosperity; the city, and its hinterland, is a far better geographical unit for this. Jacobs (1969) argues that the effects of ‘urbanisation economies’ are more important than the effects of ‘localisation economies’, i.e. in the diversification of big urban centres the exchange of ideas are more important than in smaller and more specialised urban centres. The diversification of the urban environment leads to a cross-fertilisation between different companies in different sectors, which, in turn, results in positive effects on economic growth and economic development.

Jacobs (1984) elaborates this argument further. Economic diversification in urban areas creates meeting points where new ideas thrive and where new technological and organisational innovations are implemented first. Structural economic changes in cities stimulate economic growth. Consequently, this will lead to positive effects on regional and national economic growth and hence cities will act as the engines behind structural changes in the economy.

Agglomeration effects will emerge due to 'urbanisation economies'; productivity gains will be obtained by the concentration of people and capital in the cities. Cross-fertilisation and knowledge spill over stimulates the process, according to Jacobs (1984). The bigger the city, the greater the diversification, and higher the productivity level and the resultant economic growth. Thus increased urbanisation will follow as growth engines attract both business and people.⁵

The economic structure of cities plays a central role here in providing economic resilience as they host hard and soft territorial capital elements—high physical accessibility, access to information and knowledge, advanced functions, agglomeration economies—generating inter-sectoral productivity growth and the ability to adjust to crises (Capello et al., 2015). This argument is not entirely new, but is in line with the reasoning of Jacobs (1984).

IV. Cities as an Intermediate Link to Economic Growth

Human capital plays an important role in the *New Growth Theory*, which emphasises the scale effects of knowledge and information transfer (Romer 1986, 1994; Lucas 1988; Barro 2001; Karagiannis 2007). Population size stimulates the productivity increase by increasing population density; as the distance between different individuals is smaller, human capital will grow (Becker et al., 1999). Cities are considered creative centres where an exchange of knowledge and information occur. Creativeness is built upon the notion that face-to-face contacts are essential for this (Quigley, 1988; Simon & Nardelli, 1996, 2002). As highly educated labour clusters in cities, positive effects will emerge on economic growth; the causality is assumed: human capital – urbanisation – economic growth. The distinction between cities capable of absorbing new ideas and cities capable of adjusting to new conditions has, however, seldom been made (Simon & Nardelli, 2002).

Urbanisation *per se* does not lead to economic growth; it is the transfer of knowledge and information between well-educated labour, which has clustered to exchange ideas through formal and informal networks. Without urbanisation however, such transfers of knowledge between well-educated labour, increases in productivity and economic growth will not take place (Henderson, 1997, 2003a). Cities are the essential terrain upon which creative people can meet.

Florida (2002) highlights the city as a creative centre. He rejects the role of human capital as it is closely connected to education. Creative persons do not work with physical products, but rather with intellectual property. Creative workers are looking for cultural, social, and technological environments in which they feel they can best 'be themselves'. For a city to attract the creative class, it must possess "the three 'T's': *Talent* (a highly talented/educated/skilled population), *Tolerance* (a diverse community, which has a 'live and let live' ethos), and *Technology* (the technological infrastructure necessary to fuel an entrepreneurial culture). Florida (2002) has been severely criticised. (1) There is nothing new or revolutionary in his reasoning. Marshall (1890) already emphasised the importance of ideas generated 'outside the box'; Jacobs (1984) considered the urban environment as a prerequisite for the emergence of new ideas with an impact on economic growth and development. (2) It has been very difficult to find any empirical evidence supporting the importance of a creative class in economic growth (Glaeser, 2005, Perry, 2011). Rather, creativity should be seen as an additional dimension of *Human Capital Theory* when explaining why cities develop differently (Marlets & Woerkens, 2004).

V. The Chicken or the Egg?

Many of the prevailing theories on the relationship between cities and economic growth assume that the causality is cities=>economic growth. However, Jacobs (1984) is one of the

⁵ Bairoch (1988) came to similar conclusions.

exceptions to this and believes that economic structure/growth=>cities. Also the findings by Capello et al., (2015) indicate a similar opinion, that the economic structure will impact the resilience against economic crises. Human Capital Theory places cities as an intermediate link in the causality between human capital and economic growth. Still, which came first – economic structure/growth or cities? Cities ‘emerged’ for different reasons, not always connected to economic growth.

Adam Smith (1776) may have provided an answer to this question. A *place* is needed in which trade can take place; producers and buyers, or consumers, need to meet somewhere for commerce. A city is a natural *place* for these activities. In such *place* a demand for services and infrastructure will arise to further stimulate economic activities, and hence investments are needed. This will, in line with the reasoning of Alfred Marshall (1890), generate the production of goods and services close to the market. Cities have a high population density within a relatively limited geographical area. Cities offer financial and commercial services to a much greater extent than rural areas. The city is a forum for a meeting of ideas and a centre for information about prices, new products, new markets and new technologies. (Schön, 2010)

Trade investments, infrastructure, goods, services, producers and consumers will result in economic growth. Economic growth will attract more capital, more people, more investments, more demand, more supply etc., and hence such an economically dynamic and expansive place will generate more of the same in this city.

What happens in the economic structure will impact the place where it is allocated, i.e., the city. A reinforcing process between the economic structure and cities will then follow. Of course, this model is impacted by exogenous factors. Places – whether urban or rural, cities or regions – are shaken by major forces in the external environment over which they have no control. The three major forces upsetting the economic equilibrium of communities are: (1) rapid technological change; (2) global competition; and (3) political power shifts. All three can make economically weak cities (regions) and cities (regions) with low resilience vulnerable to external shocks, making them unattractive, for example as a target for investments or as places of residence and employment, potentially increasing their peripherality. The process is illustrated in diagram 2 below.

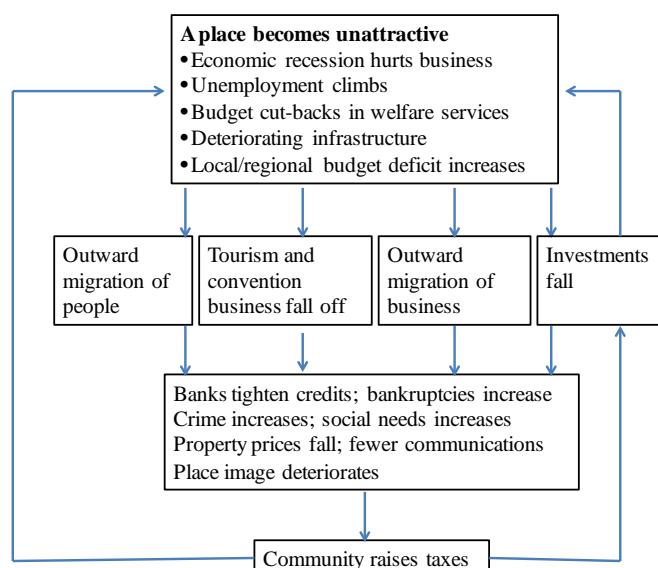


Diagram 2: Place growth dynamics. Modified after Kotler et al. (1999).

On the one hand, an attractive place leads to new industry start-ups, new job opportunities and a good quality of life. Such a place will see the inward migration of new residents, new business and new investment. Hence, real estate costs will rise as will social needs, also its infrastructure will become increasingly strained. On the other hand, a place becomes unattractive when major industries carry out significant cuts in staff or exit the region. Economic recession and unemployment are repelling factors for a place, as is an insufficient or old-fashioned infrastructure, local budget deficits or local tax increases (Kotler et al., 1999).

The marginalisation process may lead to a region becoming trapped in a vicious circle of underdevelopment (see diagram 3). If budget cut-backs lead to a deteriorating infrastructure and a reduction in the provision of welfare services, investment will fall and people and businesses will exit the locality. If a local economy does not have sufficient savings to invest in capital or infrastructures, or if its market is too small, its productivity level will remain low and fuel the vicious circle of underdevelopment: limited market expansion, low savings, low consumption, reduced stock of capital in the economy and low income. The result will be an insufficient critical mass of demand, savings and infrastructures – all of which are required to break the vicious circle of underdevelopment and marginalisation.

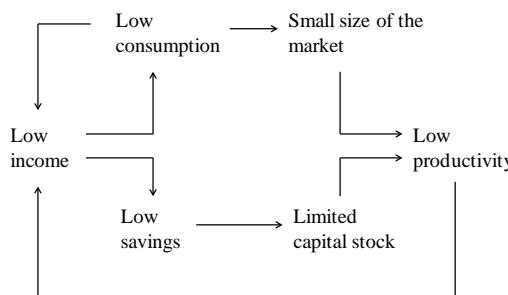


Diagram 3 The vicious circle of underdevelopment. Modified after Capello (2016).

Unless a place, i.e. a region or a town, has a diversified economic structure, it is vulnerable to external changes and is less likely to undergo the required restructuring and economic transformation. This has been studied widely in the regional science literature. Recent research on regional economic growth emphasises the importance of *endogenous* local elements that generate (local) competitiveness. Not only is relative competitiveness important however, absolute competitiveness is equally so. Absolute competitiveness derives from real productive and innovative capacities – including social capital – by virtue of which regions or territories can acquire a specific role in the international division of labour (Capello, 2016).

VI. Policy Design

Before discussing the possible policy implications of the relationship between cities and economic growth three points need to be clarified: (1) It is the growth of output per person rather than the growth of total output which is the prime concern in this discussion. By focussing on this aspect the living standards and quality of life of the typical individual can improve. (2) A once-and-for-all increase in productivity allows only for temporary economic growth; sustained growth requires a sustained growth in productivity. 3) Although faster growth allows the benefit of higher future output and consumption levels, it may involve a short-run cost. Whether faster growth is desirable depends on how society trades off present costs against future benefits.

The most important factor determining economic growth is the dynamism of the economic structure. Previous research has highlighted the importance of *organisational, institutional and*

technological changes on economic growth (Rosenberg & Birdzell, 1986; North & Thomas, 1973; North, 1990; Easterlin, 1996; Abramowitz, 1995). Investments in *human capital* also play an important role in the creation of long-term economic growth. Education, training, 'learning by doing' and management skills are important sources of productivity growth; in a short-term perspective these represent a cost (Begg et al., 1987). To achieve sustainable economic growth, entrepreneurship and innovations, investment and technological progress are required (Berg, 2012). Hence, policies need to be designed to promote e.g. entrepreneurship, innovation and investment as well as institutional, organisational and technological changes.

How can sustainable growth be promoted in cities? The ambition of the Europe 2020 strategy is to increase Europe's competitiveness in a global context by 'promoting smart, sustainable and inclusive growth' (CEC, 2010). This strategy targets institutional, organisational and technological changes as well as improvements in human capital and seeks e.g. to (a) improve framework conditions and access to finance for research and innovation so as to strengthen the innovation chain and boost levels of investment throughout the European Union; (b) enhance the performance of education systems and to reinforce the international attractiveness of Europe's higher education; (c) help decouple economic growth from the use of resources, by decarbonising the economy, increasing the use of renewable sources, modernising the transport sector and promoting energy efficiency; (d) to improve the business environment, especially for SMEs, and to support the development of a strong and sustainable industrial base able to compete globally; and (e) to modernise labour markets by facilitating labour mobility and the development of skills throughout the lifecycle with a view to increasing labour participation and better matching labour supply and demand.

The EU Cohesion Policy has changed from promoting balanced development between regions in Europe to stimulating global competitiveness in *cities*. (Faludi et al., 2015) EU policy objectives are designed to enhance regions and their cities through the improvement of their regional and urban competitive capacities in the world economy. The policy objectives highlight a large number of strategic suggestions, recommendations, methodologies, and substantive policies. These include general economic development strategies, e.g. stressing competitiveness based on a knowledge economy, spatial models e.g. polycentrism, or urban–rural relationships, priority territorial elements and actions e.g. cities as engines of growth, the importance of brown-field site rehabilitation, or specific performances e.g. accessibility to services or infrastructure (ESPON, 2013). The cities are assumed to be the drivers of economic growth (ESPON 2010, 2012).

In the recent EU Urban Agenda, towns, cities and urban areas are considered powerful engines for growth and jobs and as such make a significant contribution towards achieving both the Europe 2020 Strategy and the EU Cohesion Policy. However, at the same time they are confronted with difficult and complex societal challenges, such as demographic shifts, climate change and youth unemployment as well as the current refugee crisis. To be successful, towns and cities need to respond to these challenges in an integrated way, in cooperation with other levels of administration, the private sector and civil society. It is also important that the urban dimension is recognised at all levels of policy making and governance and that all policies with an urban dimension are effectively coordinated and this will be done through the EU Urban Agenda (European Union, 2016). The EU Member States are obliged to adopt the Europe 2020 strategy, the Cohesion Policy and the EU Urban Agenda into their own national policies on promoting economic growth. The EU policy focus is on *cities* and on how *cities can stimulate* human capital growth, innovations, entrepreneurship and investments in order to enhance economic dynamism. To what extent this will actually happen is uncertain.⁶ If it is true that cities boost economic growth

⁶ The Europe 2020 Strategy predominantly focuses on quantitative indicators, e.g. the number of persons with a university degree, but not what subject the degree is in. Another example is the definitions used on innovation and entrepreneurship, which are considered too narrow (Gros & Roth, 2012). Additional shortcomings in respect of the Europe 2020 Strategy have been discussed by e.g. Bongardt and Torres (2010), Pochet (2010), Begg (2010), Csaba (2010), Lannoo (2010), Suete (2010) and Egenhofer (2010).

per se, this is of course a policy with a high probability to deliver the assumed positive effect. The effectiveness of the suggested policies may however produce different results if economic structure and/or economic dynamism are seen to determine economic performance in cities and as the primary drivers boosting cities.

The Europe 2020 Strategy is a 10 year plan on how to increase European competitiveness in a global perspective. Such a temporary plan will, at best, generate temporary effects. The recent EU Urban Agenda is very much linked to the Europe 2020 Strategy and will most likely be replaced, reformulated or become obsolete when the Europe 2020 Strategy is replaced. The policy ambitions of the EU Cohesion Policy are relative and negotiable, which does not provide the required political stability for long-term economic growth. In sum, the design of the current suite of policies designed to promote long-term and sustainable economic growth is based upon a short- to medium term operational strategy and on the postulate that cities are the drivers of economic growth.

VII. Concluding Remarks

Theories developed to understand contemporary processes between economic growth and cities, and the processes between economic structure and cities, posit causal mechanisms that operate at widely divergent levels of analysis. Although the propositions, assumptions, and hypotheses derived from each perspective are not inherently contradictory, they do nevertheless carry very different implications for policy formulation. Depending on which model is supported and under which circumstances, a social scientist may recommend to policy makers contradictory suggestions.

Whatever the case, given the size and scale of contemporary economic structures and economic dynamism in cities, *political decisions* on economic growth will be of the utmost importance for development in the coming decades. Similarly, sorting out the relative empirical support for each of the theoretical schemes and integrating them in the light of that evaluation will be among the most important tasks carried out by social scientists in the years to come. It is hoped that by explicating the leading theories on the relationship between cities and economic growth by clarifying assumptions, and key propositions, the groundwork for that necessary work has been laid.

References

- Abramowitz, M. (1995). *Tankar om tillväxt*. Stockholm: SNS.
- Arrow, K. J. (1962). The economic implications of learning by doing, *The Review of Economic Studies*, 29(3), 155-173.
- Asheim, B. (1995). *Industrial districts as 'learning regions'; A condition for prosperity?* STEP Report, R-03.
- Bairoch, P. (1988). *Cities and economic development: From the dawn to present*. Chicago: University of Chicago Press.
- Banerjee, A. (2012). Trade and urbanization in pre-independent India; A historical perspective. *Journal of History and Social Sciences*, 3(1): 1-11.
- Barro, R. (2001). Human capital and growth. *American Economic Review*, 91(2), 12-17.
- Beccaccini, G. (2002). From Marshall's to the Italian 'Industrial Districts'. A brief critical reconstruction. In: A. Q. Curzio and M. Fortis (eds.), *Complexity and industrial clusters: Dynamics and models in theory and practice*. Heidelberg: Springer Verlag.
- Becker, G. S., Glaeser, E. L. & Murphy, K. (1999). Population and economic growth. *American Economic Review*, 89(2), 145-149.
- Begg, D., Foscher, S., & Dornbusch, R. (1987). *Economics*. McGraw-Hill.
- Begg, I. (2010). Europe 2020 and employment. *Intereconomics*, 45(3), 146-151.
- Berg, C. (2012). *Global ekonomi – en introduktion till samhällsekonomi och politisk ekonomi*. Stockholm: SNS
- Bongardt, A. & Torres, F. (2010). The competitiveness rationale, sustainable growth and the need for enhanced economic coordination. *Intereconomics*, 45(3), 136-141.
- Brezzi, M. & Veneri, P. (2015). Assessing polycentric urban systems in the OECD: Country, regional and metropolitan perspectives. *European Planning Studies*, 23(6), 1128-1145.

- Camagni, R. & Capello, R. (2015). Second-rank city dynamics: Theoretical interpretations behind their growth potentials. *European Planning Studies*, 23(6), 1041-1053.
- Capello, R. (2016). *Regional economics*. 2nd ed. London: Routledge.
- Capello, R., Caragliu, A. & Fratesi, U. (2015). Spatial heterogeneity in the costs of the economic crisis in Europe: are cities sources of regional resilience? *Journal of Economic Geography*, 1-22.
- Castells, M. (1996). *The rise of the network society. The information age: Economy, Society and Culture*. Vol. 1. Oxford: Blackwell.
- Castells, M. (1997). *The power of identity. The information age: Economy, society and culture*. Vol. 2. Oxford: Blackwell.
- Castells, M. (1998) *End of millennium. The information age: Economy, society and culture*. Vol. 3. Oxford: Blackwell.
- CEC (2010). *Europe 2020: A strategy for smart, sustainable and inclusive growth*. COM (2010) 2020 final.
- CEC (2011). *A quality framework for services of general interest in Europe*, COM (2011) 900 final.
- Cipolla, C. M. (1980). *Before the industrial revolution*. New York: Norton.
- Christaller, W. (1933). *Die zentralen Orte in Süddeutschland*. Jena.
- Christophers, B. (2015). Geographies of finance II: Crisis, space and political-economic transformation. *Progress in Human Geography*, 39(2): 205-213.
- Csaba, L. (2010). Green growth: Mirage or reality? *Intereconomics*, 45(3), 151-156.
- De Goei, B., Burger, M. J., & Van Oort, F. G. (2010) 'Functional polycentrism and urban network development in the Greater South East, United Kingdom: Evidence from commuting patterns, 1981-2001'. *Regional Studies*, 44(9):1149-1170.
- Dicken, P. (2003). *The global shift*. London: Paul Chapman Publishing.
- Dillard, D. (1967). *Economic development of the North Atlantic community: Historical introduction to modern economics*. Englewood Cliffs, N.J.: Prentice-Hall.
- Duranton, G., & Puga, D. (2005). From sectoral to functional urban specialisation. *Journal of Urban Economics*, 57(2): 343-370.
- Duranton, Gilles. (2014). Growing through cities in developing countries. *World Bank Research Observer*, Policy Working Paper No. 6818.
- Easterlin, R. (1996). *Growth triumphant*. University of Michigan Press.
- Egenhofer, C. (2010). A closer look at EU climate change leadership. *Intereconomics*, 45(3), 167-170.
- Eisingerich, A. B., & Boehm, L. (2007). Group analysis: Why some regional clusters work better than others. *The MIT Sloan Management Review Journal Report*, 3, 1-3.
- Eisingerich, A. B., Bell, S. J., & Tracy, P. (2010). How can clusters sustain performance? The role of network strength, network openness, and environmental uncertainty. *Research Policy*, 39(2), 239-253.
- ESPON (2010). *Future orientations for cities*. Luxembourg: ESPON.
- ESPON (2012). *Territorial impact of globalization for Europe and its regions*. Luxembourg: ESPON.
- ESPON (2013). *Indicators and perspectives for services of general interest in territorial cohesion and development*. Luxembourg: ESPON.
- European Union (2016). *Urban agenda for the EU 'Pact of Amsterdam agreed at the informal meeting of EU Ministers responsible for urban matters on 30 May 2016 in Amsterdam, The Netherlands*. European Union.
- Faludi, A., Stead, D., & Humer, A. (2015). Conclusions: services of general interest, territorial cohesion and competitiveness in Europe. In Fassmann et al. (eds.), *Services of general interest and territorial cohesion: European perspectives and national insights*. Göttingen: V & R Unipress.
- Florida, R. (2002). *The rise of the creative class*. New York: Basic Books.
- Glaeser, E. L. (1994). Cities, information and economic growth. *Cityscape*, 1(1), 9-47.
- Glaeser, E. L. (1998). Are cities dying? *Journal of Economic Perspectives*, 12(2), 139-160.
- Glaeser, E. L. (2005). Review of Florida's the rise of the creative class. *Regional Science and Urban Economics*, 35(5), 593-596.
- Green, N. (2007). Functional polycentricity: A formal definition in terms of social network analysis. *Urban Studies*, 44(11), 2077-2103.
- Gros, D., & Roth, F. (2012). *The Europe 2020 strategy. Can it maintain the EU's competitiveness in the World?* Brussels: Centre for European Policy Studies.
- Hadjimichalis, C. (2011). Uneven geographical development and socio-spatial justice and solidarity: European regions after the 2009 financial crisis. *European Urban and Regional Studies*, 18(3), 254-274.
- Henderson, V. (1997). Externalities and industrial development. *Journal of Urban Economics*, 42(3), 449-470.
- Henderson, V. (2003a). Marshall's scale economies. *Journal of Urban Economics*, 53(1), 1-28.

- Henderson, V. (2003b). The urbanization process and economic growth: the so-what question. *Journal of Economic Growth*, 8, 47-71.
- Hippel, E. von (1998). Economics of product development by users: The impact of "Sticky" local information. *Management Science*, 44(5), 629-644.
- Hippel, E. von, & Katz, R. (2002). Shifting innovation to users via toolkits. *Management Science*, 48(7), 821-833.
- Jacobs, J. (1984) *Cities and the wealth of nations. Principles of economic life*. New York: Vintage.
- Jacobs, J. (1969), *The economy of cities*. New York: Vintage.
- Jacobs, J. (1984), *Cities and the wealth of nations. Principles of economic life*. New York: Vintage.
- Karagiannis, S. (2007). The knowledge-based economy, convergence and economic growth: Evidence from the European Union. *The Journal of Economic Asymmetries*, 4(2), 65-85.
- Kotler, P., Asplund, C., Rein I., & Haider, D. H. (1999). *Marketing places Europe: How to attract investments, industries, residents and visitors to cities, communities, regions and nations in Europe*. Prentice Hall.
- Krugman, P. (1991a). Increasing returns and economic geography. *Journal of Political Economy* 99(3), 483-499.
- Krugman (1991b) *Geography and trade*. MIT Press.
- Krugman, P. (1993). First nature, second nature and the metropolitan location. *Journal of Regional Science*, 33(2), 129-144.
- Lannoo, K. (2010). Agenda 2020 and the financial crisis. *Intereconomics*, 45(3), 156-159.
- Lucas, R. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1), 3-42
- Lösch, A. (1954 [1939]). *The economics of location*. New Haven: Yale University Press.
- Marlets, G., & van Woerkens, C. (2004). *Skills and creativity in a cross section of Dutch cities*, Tjalling C. Koopmans Research Institute Discussion Paper 04-29, Utrecht School of Economics, Utrecht.
- Marshall, A. (1890). *The principles of economics*. London: Macmillan.
- North, D. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
- North, D. C., & Thomas, R. P. (1973). *The rise of the western world: A new economic history*. New York: Cambridge University Press.
- Olsson, C. A. (2005). Alfred Marshall, poverty and economic theory: A historical perspective. In D. Rauhut, N. Hatti, & C. A. Olsson (eds.), *Economists and poverty: From Adam Smith to Amartya Sen*. New Delhi: Vedam.
- Perry, M. (2011) 'Finding space for the creative class: A review of the issues. *Urban Policy and Research*, 29(4), 325-341.
- Pochet, P. (2010) 'What's Wrong with EU2020?' *Intereconomics*, 45(3), 141-146.
- Polèse, M. (2005). Cities and national economic growth: A reappraisal. *Urban Studies*, 42(8), 1429-1451.
- Pollard, S. (1981) *Peaceful conquest: The industrialization of Europe, 1760-1970*. Oxford: Oxford University Press.
- Porter, M. (1990). *The competitive advantage of nations*. New York: Free Press.
- Porter, M (1998a). Clusters and the new economics of competition. *Harvard Business Review*, 76(6), 77-90.
- Porter, M. (1998b) *On competition*. Boston: Harvard Business School Press.
- Puga, D. (2010). The magnitude and causes of agglomeration economies. *Journal of Regional Science*, 50(1), 203-219.
- Quigley, J. M. (1998). Urban diversity and economic growth. *Journal of Economic Perspectives*, 12(2), 127-138.
- Rice, P., & Venables, A. J. (2004). *Spatial determinants of productivity: Analysis for the regions of Great Britain*. CEPR Discussion Paper 4527.
- Riguelle, F., Thomas, I., & Verhetsel, A. (2007). Measuring urban polycentrism: A European case study and its implications. *Journal of Economic Geography*, 7(2), 193-215.
- Romer, P. (1994). The origins of endogenous growth. *Journal of Economic Perspectives*, 8(1), 3-22.
- Rosenberg, N., & Birdzell, L. E. (1986). *How the west grew rich: The economic transformation of the industrial world*. New York: Basic Books.
- Sassen, S. (1991). *The global city*. New York: Princeton University Press.
- Smith, A. (2000 [1776]). *The wealth of nations*. USA: The Modern Classics Library.
- Storper, M. (2011). Justice, efficiency and economic geography: Should places help one another to develop? *European Urban and Regional Studies*, 18(1): 3-21.
- Suete, L. (2010). Towards a sustainable knowledge-based economy in Europe: from the costs of 'Non-Europe' to the costs of Europe? *Intereconomics* 45(3), 160-166.
- Thomsen, R. (1985). *Verdenshistorien. Vol. 2 Hellas*. København: Gyldendal.

- Van Meeteren, M., Poorthuis, A., Derudder, B., & Witlox, F. (2015). Pacifying Babel's Tower: A scientometric analysis of polycentricity in urban research. *Urban Studies*, 53(6), 1278-1298.
- Wear, A. (2008). Innovation and community strength in Provincial Victoria. *Australasian Journal of Regional Studies*, 14(2), 195-211.
- Weber, A. (1929 [1909]). *Theory of the location of industries*. Chicago: Chicago University Press.