Dynamics in Economic Geography

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Understanding spatial socio-economic inequalities

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Sierdjan Koster

Fourth, revised edition

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Foreword to the fourth, revised edition

The global economy is in a near-permanent state of flux. At the time of writing, the Russian invasion of Ukraine is changing the perspectives people have on globalization. And the situation is influencing national and regional economies throughout Europe and beyond. The same can be said about the COVID-19 epidemic and the measures taken to curtail its spread. For over two years, many national economies were effectively closed down and trade was hindered. But our behaviour also seems to have changed; people are still working from home more regularly than before. Banks are merging and splitting up again, former developing countries account for an ever-growing slice of world trade, and innovations force one industry into a defensive position while allowing another to flourish. The integration of the European economy is stagnating, although the conflict in Ukraine has led to renewed dynamics, and EU expansion and indeed the EU itself are called into question with increasing urgency.

As an empirical applied science, economic geography can help explain this economic turbulence and its effects on global, national and local economies. Rooted in 19th-century theory, the field has evolved and adapted over time. Over the last decades, economic geographers have studied globalization, regional institutional variation and the spatial evolution of industries, and they are making themselves heard.

The aim of this book is to provide students and other interested readers with an up-to-date introduction to economic geography. It provides an overview of what economic geography studies and summarizes and explains its main approaches. As such, the book is broad in scope and serves as a starting point for more in-depth exploration. To aid with this, the bibliography provides a good overview of the current state of research. Compared with the third edition, published in 2012 in Dutch (English version 2014), both the chapter organization and the topics addressed have been comprehensively updated.

An introductory chapter, outlining what constitutes economic geography, is followed by a new Chapter 2 about globalization and its opportunities and threats. This chapter sets the global context in which we can understand many local developments and phenomena. Chapters 3 to 7 introduce and summarize the main approaches in economic geography. Chapter 3 introduces classical and neoclassical theories, Chapter 4 explains the role of agglomeration as formalized in the influential New Economic Geography approach. This is followed by the behavioural approach (Chapter 5), the institutional approach (Chapter 6), and the evolutionary

approach (Chapter 7). Chapter 8 is also new; it asks what economic value actually is and explains the broad welfare approach as well as the concepts of sustainability and resilience. Finally, Chapter 9 offers conclusions and looks ahead.

We are grateful to Margot Stoete from the Faculty of Geographical Sciences at Utrecht University for producing the figures. We are also grateful to our colleagues at the Faculty of Geographical Sciences of Utrecht University and the Faculty of Spatial Sciences of the University of Groningen for their contributions and reflections. We hope the book will provide students, fellow academics and other interested readers with a suitable springboard into the field of economic geography. If you have any queries or comments, please do not hesitate to contact us.

Ton van Rietbergen and Sierdjan Koster
Utrecht/Groningen, Spring 2023

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1 What is economic geography?

1.1 Introduction

At its most succinct, economic geography asks the question: 'What economic activity happens where and why does it happen there?' Economic activity is viewed from a broad perspective. Global and local imbalances in wealth distribution are typical topics of economic geography, but spatial differences in less obviously economic indicators, such as well-being, happiness and voting outcomes, also fit under the umbrella of economic geography. Economic geographers explain spatial imbalances by looking at the distribution of raw materials and factors of production such as labour, capital and land, and associated spatial differences in costs and benefits. Factors affecting the accessibility of regions, such as harbours and roads, are also important, as are the scale and composition of industrial activity. The productivity of a region, and therefore its ability to generate income, varies per industrial sector. In addition to these solidly economic factors, cultural, social, political and natural factors are also taken into account when trying to understand spatial disparities in economic activities. In this case. economic geography is about more than production, income and jobs – it takes a broad view on development.

How do these spatial disparities come about? To understand them, economic geography takes the decisions of three important economic agents as its starting point: *people*, *firms* and *governments*. Spatial differences in socio-economic development are driven by the choices and decisions of people, firms and governments. Knowing this, there are two main ways in which spatial disparities can be understood. Firstly, spatial disparities derive from the unequal distribution of people and firms across space as a result of decisions taken by people and firms. Since universities are typically located in cities, this is where you will find students. This process is known as *spatial sorting*. Secondly, spatial differences are driven by inherently regional characteristics including the demography of a place, its culture and also already existing industries and firms. To illustrate, people are more likely to start a business if there are already many other entrepreneurs. Prospective business owners can learn from the entrepreneurs in the region, but it also shows that entrepreneurship is an accepted labour market choice. If others do it, I might as well! Summarizing, the spatial context in which people, firms and governments find themselves, influences their decisions. Spatial sorting and the impact of the context on decisions tend to be mutually reinforcing.

With this in mind, we can give a somewhat more encompassing definition of economic geography:

> Economic geography studies the mutual relationship between the actions of people, firms and governments and the socio-economic context on different spatial scales.

This translates into two overarching questions that form the core of economic geography:

1. What drives the spatial decisions of firms, people and governments as the main agents?
2. Why are some places more prosperous – in a broad sense – than others?

These two questions underlie the structure of this book and they are addressed from a variety of perspectives: from a neoclassical, behavioural, institutional and evolutionary perspective, as well as from the perspective of New Economic Geography. While economic geography has a solid theoretical foundation, it is in the end an applied science. This means that economic geography knowledge has to be 'useable' for government and industry. In essence, policies are aimed at optimizing spatial patterns in prosperity, and using the insights from these two main questions, advice can be given on how to influence decisions and, in the end, regional patterns of development. The second question may then be followed by '… and what can we do about it?'

In this chapter we will discuss the rediscovery of economic geography (Section 1.1) and geographic concepts such as location, distance and networks (Section 1.2). This is followed by the relationship between economic geography and industry and environment (Section 1.3).

1.2 The rediscovery of economic geography

In 2009, the *World Development Report*, published annually by the World Bank, was entitled *Reshaping Economic Geography*. The report paid particular attention to the role played by the physical environment. It is clear that geographic factors are of great importance to the World Bank in explaining economic differences between both nations and regions. Another sign of increasing interest in the influence of geography on economic issues is the fact that the 2008 Nobel Prize for Economics was awarded to Paul Krugman for his analysis of trading patterns and locations of economic activity.

During the period following World War Two, geography as an academic discipline had a poor reputation. It had been brought into disrepute by the Nazi regime that

used geographic theories to underpin plans for the expansion of the Third Reich. Due to the association of geography with *Blut und Boden* ('Blood and Soil', the alleged connection between geography and race), the geography faculties of Harvard in Boston and Columbia in New York were closed during this period, as were those of other renowned universities in the United States. For economic geography as a discipline, this was a significant blow.

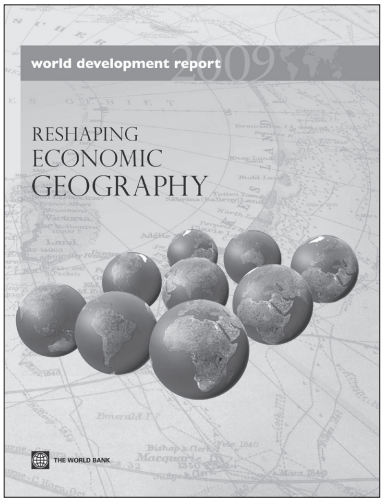

Figure 1.1 The 2009 World Development Report

Slowly but surely, economic geography recovered and lately, certainly from 1990 onwards, it has been a flourishing discipline, although this development has not been without difficulties. The debate between economists and geographers has always been fraught; economists accuse geographers of not having sufficient general theory, while geographers claim that economists do not pay enough attention to empirical evidence as a source of knowledge. Often the debate centres on the question: to what extent does the physical environment determine the economic achievements of businesses and regions? Over time, a number of different answers to this question have been proposed. Initially, the focus was on the influence of the physical environment on regions' economic achievements. In his seminal work *Civilization and Climate* (1915), Ellsworth Huntington (1876-1947) classified civilizations hierarchically. The most stimulating climate, he argued, was that of New Haven, Connecticut. Coincidentally, this was where he taught, at Yale University. Other regions followed, with countries with tropical climates inhabited by dark-skinned people bringing up the rear. Huntington considered climatic differences relevant to environmental factors influencing businesses, and therefore to their overall economic achievements. Geographer Ellen Churchill Semple went further, witness the first sentence of her 1911 book *Influences of Geographic Environment*: 'Man is a product of the earth's surface.'

Huntington and especially Semple were clear representatives of *physical determinism* in geography, which was based on the premise that nature limits variations in human behaviour. Economists thought this was too dogmatic and did not leave enough room for human agency, leading to a rejection of geography's ability to explain world poverty. The solution to poverty would have to come from humans and technology, for example by stimulating the economy, as was argued by Keynes and applied by President Roosevelt in his New Deal to fight the 1929 economic crisis.

Initially, the postwar development of the welfare state did not do the discipline of economic geography much good either. During this period, society was heavily influenced by the rise of new technology. There was a strong feeling among politicians, entrepreneurs and consumers alike that nature and the limitations it imposes can be controlled. Society was seen as something that could be shaped into what-

ever people wanted it to be. This led to large-scale interventions in the physical environment, such as massive deforestation, the widespread use of pesticides and the diversion of great rivers – not only in totalitarian countries like the Soviet Union and China – but also in democratic nations. The ecological consequences of these interventions were often disastrous.

The late 1960s witnessed renewed interest in economic geography. This was not so much because the natural environment was considered an important factor, but because the realization was dawning that imbalances between regions may well be permanent – not only on a global scale but also within countries. Some regions had a much higher unemployment rate than others, and such imbalances remained. In the agricultural and industrial regions of the Netherlands for example, unemployment was particularly high during this period, prompting many people to emigrate to countries such as Canada, Australia and New Zealand. The tide would have to be turned by strengthening the local economy. In those days, regional planning policies were aimed at 'bringing work to the people' and the government offered grants to attract new businesses to the region or for expanding existing businesses. In addition, access to these regions was improved by constructing roads and railways. In other words, the regional geography was adjusted to stimulate the economy and boost the level of welfare. Economic geography thus found an application in government policy.

Published in 1998, *The Wealth and Poverty of Nations*, by historian David Landes, marked the rehabilitation of economic geography within the social sciences in the United States. Landes felt that geography, with its emphasis on the unequal distribution of natural resources and climatic limitations, had wrongly become a forgotten discipline. He gave the example of a community's struggle against the sea as a possible basis for economic welfare. Tropical climates, on the other hand, with their high levels of illness tended to lower productivity and therefore constituted a hindrance to development. Although they were grateful to Landes for putting geographic factors back on the agenda, many geographers also felt he went too far, as his ideas reminded them too much of the earlier determinism. Having said this, Landes undoubtedly did much to generate interest in economic geography.

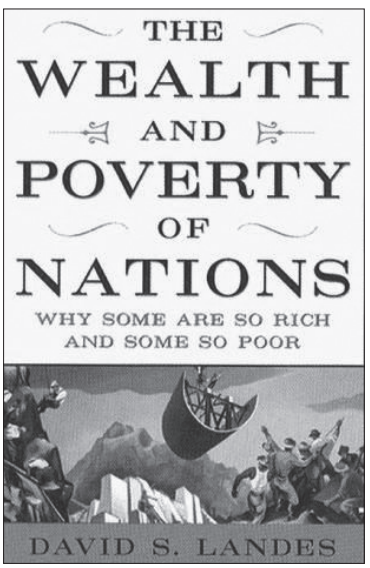

Figure 1.2 David S. Landes' bestseller *The Wealth and Poverty of Nations*

While Landes emphasized the importance of geography as a variable that could explain differences in welfare levels, economic geographers

and historians generally concentrated on how societies were organized (in terms of their legal system, education and entrepreneurial climate). An apt illustration of this is a description of Switzerland used by the Dutch historian H.L. Wesseling (1994):

> They are small countries, surrounded by often hostile neighbouring countries, without access to the sea and with no natural resources. Much of the land is mountainous and infertile. Roads are hard to construct due to the mountainous terrain. (…) The population is small and consists of several groups, without cultural or linguistic connections. People are so poor that they leave the country or sign up as mercenaries in foreign armies. The prospects of such a country would appear to be very poor indeed – the developing nation *par excellence*.

This was a fairly accurate description of Switzerland around 1800. Today Switzerland is one of the wealthiest nations in the world. Its open-door policy, tax system, education, frugality, calm political situation and neutrality are some of the factors thought to have stimulated its economic development.

Breaking the vicious circle of poverty is possible, historians argue, but it is a complex process. Jan Luiten van Zanden, Professor of Global Economic History at Utrecht University in the Netherlands, reduced this complexity to two factors: the division of power and the relationship between neighbouring regions. With regard to the second factor, Van Zanden compares economic growth to an expanding oil slick:

> Once a growth nucleus has developed (e.g. the late medieval Italian city states, the cities in 17th-century Holland, or post-World War II Germany and Japan), such a nucleus often pulls surrounding regions along with it. Soon, 'the neighbours' do more than simply bob along on the waves of trade and productivity. Often the surrounding areas copy the institutions of an economic centre. As well as a reflection of economic fluctuations, this is a fundamental, structural development. (as cited in Van Es, 2011)

In addition to historians, we owe the rediscovery of economic geography to economists. In *The Competitive Advantage of Nations* (1990), bestselling American business strategy expert Michael Porter described the basic geographic factors necessary for a country to be competitive. In the context of the Netherlands, these geographic factors would be the mouths of the main rivers on which the Dutch 'delta economy' is based. Boasting Rotterdam harbour and Amsterdam Airport ('the Gateway to Europe'), the Netherlands has a competitive advantage that can be directly linked to its geography. Porter gave examples of the economic success stories of regions such as the 'Third Italy' in northern Italy and Silicon Valley in the United States.

Porter argued that nations are well advised to focus on their regional economic specializations (clusters) as the driving force behind their economic develop-

ment. In the Netherlands, this line of thinking underpinned 'Pieken in de Delta', a long-running development programme focused on regional strengths that has led to, for example, the establishment of a 'Food Valley' in and around the town of Wageningen. What is striking here is that we are once again dealing with an approach to economic geography aimed at policy development.

In this context it is relevant to mention Richard Florida, author of *The Rise of the Creative Class* (2002). As manufacturing activity increasingly relocated from the Western world to low-income countries, his argument was that creativity was becoming the main driving force behind economic growth, particularly in highly developed countries (see also Chapter 5).

The rise of the internet prompted O'Brien (1992) to predict the demise of geography. After all, if distance is no longer an issue, how can geography possibly have anything left to offer? Books such as the provocatively titled *The World is Flat* by Thomas Friedman (2005) seemed to confirm the picture painted by O'Brien (see also Chapter 2). However, in his inaugural address, Robert Kloosterman, Professor of Economic Geography and Planning at the University of Amsterdam, cited *The Economist* to illustrate why this picture is flawed: 'Distance is dying, but geography, it seems, is alive and kicking' (Kloosterman, 2001). Six years earlier, *The Economist* had proclaimed that distance was no longer relevant as a limiting factor for economic activity.

Whether the world becoming a smaller place will cause the demise of geography is a matter of intense debate. In its 2002 article 'Prisoners of Geography', the authoritative American journal *Foreign Policy* recognized that the significance of geographic factors may be underestimated in efforts to explain differences in wealth between countries, concluding that, 'In the academic arena, economic geography is no longer a taboo. It is only a matter of time before the discipline becomes acceptable in broader circles.' In the article, Ricardo Hausmann, Professor of Economic Development at Harvard University, stated: 'Tropical, landlocked nations may never enjoy access to the markets and new technologies, they need to flourish in the global economy' (p. 45). In *Physioeconomics* (2000, p. 8), Philip Parker went a step further, concluding that distance to the equator is highly predictive of the wealth of a nation – a connection that has proven increasingly powerful over the years. Particularly the statistical connection between latitude and wealth is many times stronger than the one between religion and wealth, as put forward by many other researchers, including Max Weber.

However, it is unwise to rely entirely on location and climate factors when seeking explanations for differences in wealth, as this would reek too much of the old geographical determinism. The link between climate and economy is better seen as indirect than direct. Regions located at the same latitude can differ vastly in terms of natural conditions (coastal locations, gulf streams, etc.) as well as political and institutional circumstances. In other words, while climate and location undeniably

play significant roles in explaining differences, they are by no means all-determining, as we saw earlier from the example of Switzerland.

Box 1.1

Silicon Valley, the world's most innovative region

The name Silicon Valley, first used by American journalist Don Hoefler in the early 1970s, referred to the emerging semiconductor industry in the southern San Francisco Bay area, a region stretching from Palo Alto in the north to San Francisco Airport in the south, and from the Santa Cruz Mountains to the southwest to San José to the west. Prior to the arrival of high-tech companies, the region was known for its excellent plum orchards. The valley had a pleasant climate and none of the manic traffic of the big American cities.

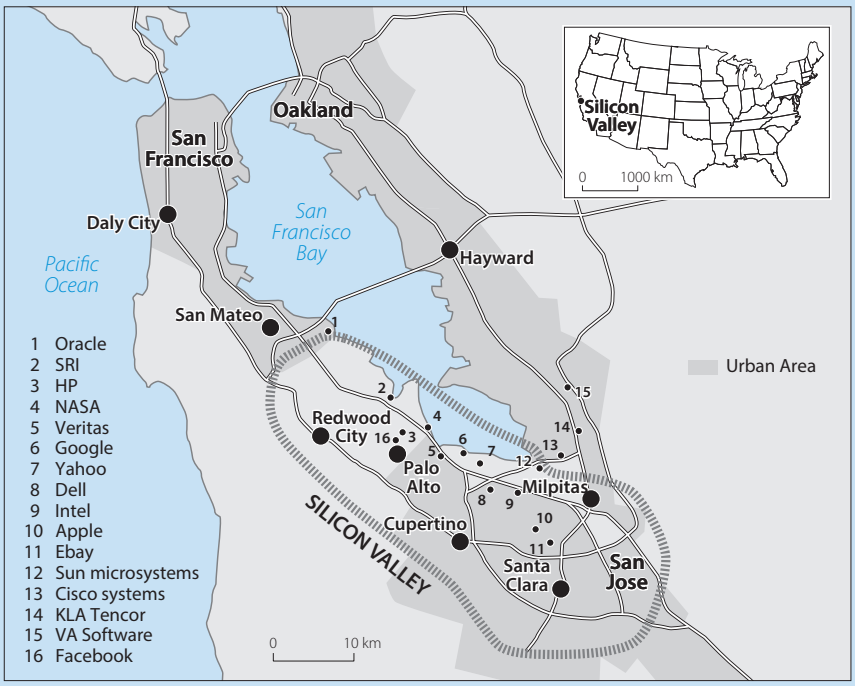

Figure 1.3 Silicon Valley

Silicon Valley, home of the headquarters of Apple, Meta (Facebook, Instagram, WhatsApp), Alphabet (including Google), Cisco, Intel and Yahoo, is often considered the nursery for the semiconductor, the personal computer, and the internet. Fredrick Terman, former Dean of the Stanford Engineering Faculty, is generally regarded as the Father of Silicon Valley. His aim was to create jobs for graduates near the university, so they would not need to move to the East Coast. In 1939, Bill Hewlett and Dave Packard built an oscillator for Walt Disney studios in a garage in the Valley. In 1977, local boy Steve Jobs began to build Apple computers in his parents' garage.

Silicon Valley is an example of Schumpeter's concept of 'creative destruction'. Companies based in the area continued to develop. They switched from building hardware to creating software and developing applications and search engines. The innovations that came out of Silicon Valley changed the world and led to dramatic changes in other sectors as well, including the entertainment industry (music, film), newspapers and the publishing world.

Attempts to replicate Silicon Valley elsewhere in the world (Bangalore, Tel Aviv, Côte d'Azur) have so far been unsuccessful. According to Gordon Moore, one of the founders of Intel, a number of factors led to the success of Silicon Valley which cannot easily be replicated:

- a continuous influx of highly trained engineers;
- an enterprise culture with no fear of failure;
- ample availability of venture capital;
- a government policy creating the right growth conditions.

(Markoff, 2009)

1.3 Location, distance and networks

According to Crevoisier (1999), there are two main opposing views in economic geography: the homogenizing and the particularizing approach. These approaches are also known as *nomothetic* and *idiosyncratic*. The former, which includes classical and neoclassical theory, focuses entirely on finding regularity and patterning and ignores historical and spatial deviations from the theory. The latter focuses on finding explanations for the particular and unusual, embracing temporal and geographic deviations within the economy. As Crevoisier noted, economics is shaped by regions, not vice versa. He concluded that theories formulated by economists should 'pass through the sieve' of geographers and historians, since history and geography determine how economic theory should be applied in a specific context. Economic geography is effectively area-specific economics. In the previous section, we saw how geographic concepts such as location, distance, density and distribution are once again making inroads in economic science. As the *World Development Report 2009* (*Reshaping Economic Geography*, p. 5) puts it, 'Economic growth is seldom balanced, efforts to spread prematurely will jeopardize progress.' In the view of economists, location is mostly a matter of physical location (costs) but also of size and agglomeration (benefits). According to the World Bank, location is of such crucial economic importance that efforts to distribute the economy geographically through policy are futile. This runs counter to the regional economic policy prevalent at the time of the welfare state, in which authorities actively attempted to distribute economic growth across their regions by means of growth centres, infrastructure and subsidies. Clear examples are the relocation to the northern Dutch 'periphery' of a number of government institutions and state-run companies, such

as PTT-NL, the forerunner of KPN and PostNL, or to the southernmost region of South Limburg, such as part of Statistics Netherlands and the largest pension fund in the Netherlands (ABP). This policy was directed from the central government in The Hague. Nowadays, spatial geographic economic policy is delegated to local and regional authorities, such as provinces and municipalities. The national authorities concentrate entirely on stimulating the top industries in order to reinforce or maintain the international competitiveness of the Dutch economy.

In his 2001 article 'Distance Still Matters: The Hard Reality of Global Expansion' and his 2011 book *World 3.0. Global Prosperity and how to Achieve It*, Professor of Global Strategy Pankaj Ghemawat drew attention to the role of distance, a factor much underrated by economists. Contrary to O'Brien and Friedman, Ghemawat did not believe the rise of the internet had drastically changed the importance of distance. Rather than restricting the scope of the concept to physical distance, he distinguished four dimensions: geographic, cultural, administrative and economic distance. According to his calculations, a 2400-km increase in the geographic distance between two countries will bring trade to an almost complete standstill. Essentially the same point was made by Leamer and Storper (2001), who pointed out that internet hardly affected the geographic clustering of economic activities. Ghemawat stated that cultural and administrative distance had a stronger effect on international trade than geographic distance. For example, companies in countries with a colonial past are ten times more likely to have trading partners in former colonies than in countries without such ties. Having a common currency boosts trade by 340% and a regional trade block leads to 330% growth in trade. Ghemawat's conclusion was that if the problems caused by these four types of distance are taken into account, industrial globalization suddenly becomes far less attractive than is generally thought.

Summarizing the strength of economic geography, prominent economic geographer Ron Martin said it applies insights from economics, political science, sociology and psychology to what actually takes place in physical space (Martin, 1999). In contrast to economists and 'geographic economists', economic geographers view this physical space as a living space: the actual locations of economic activities and the interaction between them. However, this does not mean current economic geography is restricted to describing the concrete economic reality, as it used to be. Like economic science, it focuses on giving explanations, and in doing so it does not refrain from utilizing abstract concepts and theories. An example of this can be found in the article 'Proximity and Innovation' by economic geographer Ron Boschma (2005). He argued that geographic distance is neither a necessary nor a sufficient condition for economic renewal (i.e. innovation), and that this is mainly determined by cognitive and organizational proximity. While such forms of proximity can potentially replace the effect of geographic proximity, they often go hand in hand. However, Boschma also cautions against too much proximity, whether geographic, cognitive, organizational, social or institutional, which can be equally harmful to innovation. In this kind of scenario, people are too close to be able

to bring fresh news to each other and too hemmed in by bureaucratic regulations. They become too indulgent to each other, lose sight of the economic rationale and as a group suffer from a lack of openness and flexibility.

Maintaining relationships outside the immediate environment can counter these harmful developments. Today's buzzword in this respect is 'networking', with collaboration between agents as its central concept. They can be companies, institutions or authorities that collaborate to save money, exchange knowledge or inspire each other. For many companies, what the consumer wants is a key stimulus behind their networking activity. Marketing and innovation are increasingly interconnected, and the question the modern economic geographer seeks to answer is how these networks influence the behaviour of both manufacturers and consumers. An important question that flows from this is how these networks can be organized. In this connection, British geographer Peter Taylor, who laid the foundation for the 'world-city network approach' (2001), remarked that: 'as a product of "state-istics", the geographical bedrock of social sciences is territorial; it describes the world as a space of places'. To him this was too narrow a view. What is needed is research in which the world is analyzed as a space of interactions. Taylor reached this conclusion after studying international networks like those of banks and solicitors' practices. He argued that it is impossible to explain the location choices of large corporate service providers without insight into the information exchange between these organizations and the various networks within which they operate. Here Taylor agreed with Spanish sociologist Manuel Castells (2000), whose name is associated with spatial networks and who was the first to state that 'spaces of flow' may well be more important than 'spaces of places'.

1.4 Industry and environment

The relation between economics and geography has not only given rise to debate within the academic community, it also has a strong bearing on industry. It is in business management that the two disciplines meet. This multidisciplinary area of study is concerned with optimizing managerial processes. It does so by studying how businesses are organized (e.g. in terms of staff, purchase, logistics, marketing and financial management) and the environments they operate in. The paths of economic geography and business management cross at the point of the latter key objective, as both disciplines study the factors determining where a business decides to establish itself.

Location decisions with an international scope are often about access to a foreign market and better protection of the company's own products. In this context, a central location in a continent can play an important role. Once a company or its subsidiary has established itself in a given location, it starts to build regional connections. These can be business links with suppliers, consumers and ancillary services, or links with authorities, for example concerning legal aspects. However,

the connections can also be of a more sociocultural nature, such as sponsoring local clubs and charities or taking on responsibilities in the interest of the sustainable development of the immediate environment.

Each company views the regional environment from its own perspective. For businesses, environment, in the spatial sense of the word, appears to be a flexible concept. The expansion of the European union will have less impact on a small bakery with a regional reach than on a multinational like Philips. Changes in EU legislation on the transport of goods may not affect a service provider, but will impact an international haulage company. The significance of these types of spatial factors also varies per company. Agricultural businesses are strongly affected by environmental legislation, but the same rules and regulations are far removed from the world of an optician at a local shopping centre. In other words, not only is the scale important on which the relationship plays out, but also the nature of the relationship.

However diverse regional factors are, they are increasingly becoming less localized and more globalized. The growth of globalization is demonstrated by a wide range of indicators. For many years, trade has been outgrowing production while international investments are growing even faster. According to Friedman (2005), the symbol of this new age is the internet. Rather than the amassing of nuclear power that typified the Cold War period (often symbolically represented by Albert Einstein's $E=mc^2$), the current age of total globalization is governed by Moore's Law, which says the performance of computer chips doubles every two years while the price is reduced by half. During the Cold War, everything revolved ideologically around the people who held the reins of capitalism, as Karl Marx and John Maynard Keynes each pointed out in their own words. Friedman's ideas about the present age correspond with those of Austrian economist Joseph Schumpeter, a strong proponent of continuous renewal, with innovation replacing tradition. Or, to use a sports analogy, the Cold War was a wrestling match where everyone circled around everyone else but no one got hurt, whereas globalization is a high-jump competition. For years, athletes jumped face forward after a straight approach, but when Dick Fosbury introduced the Fosbury Flop, clearing the bar in a supine position after a curved, sideways approach, this instantly made him Olympic champion at the 1968 Games in Mexico. Although athletes have continued to perfect the technique, they have never looked back and no one jumps the old way anymore. Friedman views this kind of 'creative destruction', a term borrowed from Schumpeter, as the most typical characteristic of a globalizing world.

The trend towards ever-increasing globalization also implies geographic consequences. The Cold War was dominated by strained relations between the United States and the Soviet Union. Today, in addition to the traditional balance in power between nation-states, we are dealing with relations between nation-states and financial markets. The 2008 financial crisis, also known as the Credit Crunch, highlighted the strong interdependence of financial markets globally and the extent to which the actions of banks and other financial institutions can influence national

policies. In the sixth edition of his monumental book *Global Shift*, British geographer Peter Dicken (2011) demonstrated how the ratio between daily financial transactions and actual trade rose from 2:1 in 1973 to 100:1 in 2007. While partly linked to trade and investment, these transactions are increasingly aimed at short-term profit and speculation.

The figures above indicate a shift from regional to global competition. The once emblematic Dutch bicycle brands like Gazelle, Fongers, Sparta and Batavus are now all owned by foreign firms, and the Taiwanese bicycle manufacturer Giant has started manufacturing bicycles in the Netherlands. Another example is the flower and plant sector. Dutch flower growers have set up shop in Kenya and are now competing with their colleagues in the Netherlands at the Aalsmeer flower auction. Yet, this has not destroyed the Dutch floral sector. Although Dutch flower production has shrunk, the Aalsmeer auction continues to be the main hub in the distribution of cut flowers and pot plants. The Dutch auctions have evolved from national sales hubs to international market places. This trend, with the direction of operational processes and the enhancement of the trade function playing an ever more important role, is also evident with respect to other agricultural products. Here too, the Dutch have successfully specialized in buying and selling and mediating in trade transactions. Globalization has driven down transaction costs, leading to increased specialization and fragmentation of production. Naturally, this also applies to other countries and regions. In India, for example, software is being developed for Western companies on a large scale, firmly putting places like Bangalore on the map. Such international competition has led to a situation where many activities are simply no longer profitable within countries like the Netherlands.

The term 'environment' has a broader definition in the discipline of business management than in economic geography. In business management, the environment comprises everything that happens outside the business and has to be taken into account in its management. It can involve developments in the foreign market, or political or legal decisions made at the European Union level. In economic geography, the semantic scope of the concepts 'functional' and 'spatial' is restricted to factors that influence why an economic activity is located in a particular place. In this context, Dutch economic geographer Marc de Smidt (1941-1992) defined the production environment as 'all the external conditions that influence both the decision to locate a business in a particular place and how it subsequently functions' (1975, p. 48). In this definition, we recognize the two aspects that characterize economic geography, i.e. location choice and regional development. In business management, where a business decides to settle is seen as a direct consequence of its internal organization. In economics, this type of decision is viewed as resulting from a cost-benefit perspective. The economic geographer, however, views it from a territorial perspective, with the external conditions examined at different levels – local, regional, national and international (see Figure 1.4). This distinction will be discussed in more detail in Chapter 2.

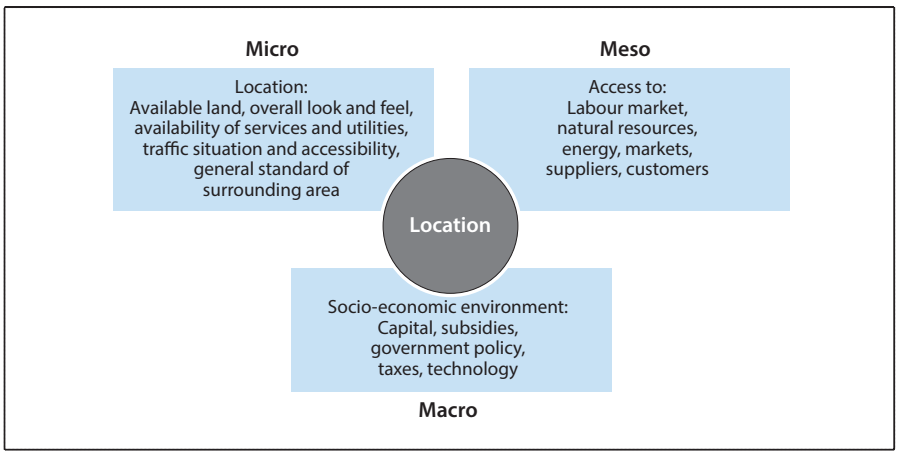

Figure 1.4 Location factors at the micro, meso and macro level (Rodrigue, 2020)

The various regions in the Netherlands have a great deal in common: there is a single tax system, collective agreements ensure virtually equal pay for certain types of labour, all the provinces have the same kind of educational institutions, and all across the country, the road network meets the same minimum standard. In other words, for many (though by no means all) activities, many (though again not all) regions are able to provide the basic conditions enabling companies to function.

Nonetheless, the Netherlands does not provide the kind of equal conditions offered by an 'urban field'. In this type of region, exactly where businesses decide to establish themselves does not matter too much, as conditions will be favourable to them everywhere. There are local differences within the Netherlands and companies take these into account. This can have to do with the increasing importance of 'soft' location factors, such as the look and feel of the premises, the quality of the surrounding area and the reputation of the region. According to research bureau Stec (2001), the importance of soft factors depends on the type of activity, with sales, consultancy and shared services being the most sensitive to soft location factors. From a comparison of three studies on corporate migration dated 1977, 1988 and 1999, Dutch economic geographer Frank van Oort (2007) concluded that over time, the appearance of the premise has become an increasingly important location factor in the Netherlands.

1.5 Conclusion

In this chapter we have seen how closely related the disciplines of economics and economic geography are; economic geography is the spatial application of economic theories. The desire on the part of authorities for economic development in their administrative regions has led many policymakers to include economic-geographical theory in their toolkit. As a strongly empirical science, economic geography

distinguishes itself from classical economics, which is rooted in the development of models. In recent decades, economic science, like other social sciences, has witnessed renewed interest in geographic variation and its influence on economic development. Interdisciplinary research has been on the rise, and, by engaging with aspects such as the structuring of the manufacturing process and the external conditions for economic activity, economic geography also overlaps with business management.

2 Regional development in a global society

2.1 Introduction

Explaining the economic development of regions is not an easy task. It can be tricky to determine whether something is the cause or the result of something else: does economic growth come from within or does international trade allow a region's economy to develop? Such questions are typically addressed by growth theories, which seek to explain the economic development of regions and their positions relative to each other.

Ideas on what causes economic growth have changed over time. The *mercantile system* is one such view that dates back to the 17th century. It entails the idea of combining export with the highest possible level of self-sufficiency. Export yields silver and gold, whereas import is paid with silver and gold. The global trade system was seen as a zero-sum game: one country's loss was another country's gain, and the sum of all gains and losses, by definition, was zero. Though a historical idea, it is still influential. For instance, the 'America First Agenda' advocated by then president Donald Trump could be called mercantile. But generally it can be said that practically all economists now support the idea that free trade and division of labour increase global welfare. This idea was first established by the founding fathers of classical economics and globalization, Adam Smith and David Ricardo (Section 2.2). In this chapter we will also look at the drivers of globalization (Section 2.3) and discuss different views on globalization (Section 2.4). Globalization often goes hand in hand with neoliberalism, which we will address in Section 2.5. Finally , Sections 2.6 and 2.7 set out the consequences and the future of globalization.

2.2 The founding fathers of classical economics and globalization

During the Age of Enlightenment (ca. 1650-1800), an optimistic, less belligerent worldview began to take hold. The Scottish economist and philosopher Adam Smith, who laid the foundations for classical economics, did not agree with the notion that a country's wealth was determined by its gold and silver reserves: 'The division of labour is the great cause of the increase of public opulence, which is always proportioned to the industry of the people, and not to the quantity of gold and silver as is foolishly imagined' (Smith, 1904, p. xxi). According to Smith, genuine wealth was not about gold and silver but about the way labour was organ-

ized. He advocated labour division, as it enabled workers to become more skilled and therefore more efficient. If two countries engaged in a cost-effective exchange of specialist goods or services, both became wealthier as a result. This idea was at odds with the zero-sum view on the world economy and trade as represented in the mercantile system.

Smith's main idea was that if products are produced in countries best equipped to do so, global output will increase while input remains the same. In short, trade allows production to be organized more efficiently across space. To analyze this idea, Smith introduced the notion of *absolute advantage*, i.e. the absolute cost difference for producing the same product. If producing a bicycle costs 100 euros in the Netherlands, while producing the same bicycle costs 50 euros in Taiwan, Taiwan has an absolute advantage in producing bicycles over the Netherlands.

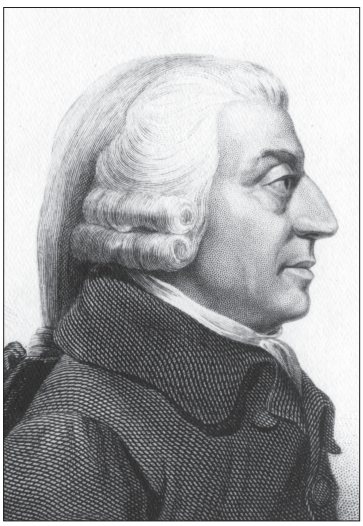

Figure 2.1 Adam Smith (1723-1790)

Smith believed there were two underlying reasons for an absolute advantage. First, a *natural advantage*, i.e. the availability of a scarce natural resource, a particular climate or geographic feature. Roses, for instance, thrive in warm regions without sharp temperature fluctuations, making equatorial regions such as Kenya and Ecuador particularly suitable for growing them. Coal is easiest to mine from open-pit mines, such as those which can be found in Wyoming or the Departamento del Cesar (Colombia). The second type of advantage is an *acquired advantage*. Producing certain goods or services may require particular knowledge, skills or infrastructure. In Smith's day, the English textile industry was the most efficient in the world. Grain and textile trade between England and the American colonies was beneficial to both. In Smith's view, there was no such thing as a zero-sum game. Tables 2.1 and 2.2 elaborate on how trade and specialization – in a world of absolute advantages – increase the world economy.

Table 2.1 shows the above-mentioned (fictional) example of Taiwan and the Netherlands, as well as the computer chip industry. First, Table 2.1 shows the production costs for one unit of each. For bicycles, Taiwan has an absolute advantage, while for computer chips, the Netherlands is actually cheaper (50 euros vs. 100 euros for Taiwan), giving the Netherlands the absolute production advantage. We assume that both countries produce at their maximum capacity which is represented by the total production costs (100 + 50 = 150 for each country). Given this set-up, both countries can produce exactly 1 unit of each product. The total world production is now 2 for each product and 4 in total.

Table 2.1 Absolute advantage without trade

	Production costs		Units produced		Total
	Netherlands	Taiwan	Netherlands	Taiwan	production
Bicycles	100	50	1	1	2
Computer chips	50	100	1	1	2
Total production capacity	150	150			

In Table 2.2, it is assumed that both countries start trading and that they specialize in the product in which they have an absolute advantage. This means Taiwan will only produce bicycles, while the Netherlands fully specialize in computer chips. Table 2.2 again starts with the production costs and total production capacity as in Table 2.1. Nothing has changed here. Taiwan now fully commits its 150 euro of production capacity to the production of bicycles. The production costs for 1 unit of bicycles are 50 euros, meaning that Taiwan can now produce 3 bicycles. Similarly, the Netherlands now produce 3 units of computer chips. Summing this up, the total world production is now 3 for each product and 6 in total. Based on this stylized example, Smith concluded that increased trade would lead to specialization in production and an increase in the world economy.

Table 2.2 Absolute advantage with trade and specialization

	Production costs		Units produced		Total
	Netherlands	Taiwan	Netherlands	Taiwan	production
Bicycles	100	50		150 / 50 = 3	3
Computer chips	50	100	150 / 50 = 3		3
Total production capacity	150	150			

The idea can also be understood from the perspective of the consumer. If trade is an option(i.e. not too expensive), Dutch consumers will prefer to purchase bicycles in Taiwan rather than on the domestic market, simply because they are cheaper. To be able to meet the increased demand, Taiwan will have to expand production. This requires extra factors of production. These being limited, it can only produce more bicycles if it produces fewer computer chips. A similar shift of factors for production – but in the other direction – takes place in the Netherlands. Both countries

specialize and both benefit from this. Thanks to international trade, consumers can either spend less than they would if they were to buy their goods domestically only, or they can buy more for the same amount of money.

Ricardo's theory of comparative advantage

The classical economist David Ricardo (1772-1823) built on Smith's ideas regarding the value and advantages of regional specialization. To the concept of *absolute advantage* he added that of *comparative advantages* and showed that even if one country has absolute advantages for all products, trade with another country can still be beneficial as long as the two countries specialize in the production process in which they are – in a relative sense – most productive. Tables 2.3 and 2.4 illustrate Ricardo's trade model.

Figure 2.2 David Ricardo (1772-1823)

Table 2.3 presents a somewhat different set-up and now features the Netherlands and Germany, both producing bicycles and cars. The starting point is again the production costs for one unit of production, which are 10 and 30, respectively, for bicycles and 20 and 25 for cars. Again, we assume both countries are producing at capacity and the production level is 1 for each product in a country. Global production is again 4 in this initial situation.

Table 2.3 Comparative advantage without trade

	Production costs		Units produced		Total production
	Netherlands	Germany	Netherlands	Germany	
Bicycles	10	30	1	1	2
Cars	20	25	1	1	2
Total production capacity	30	55			

The next step is again to allow for trade, but in this case, the idea of absolute advantage is not helpful in determining the specialization of the countries. The Netherlands is cheaper in producing either product; it has the absolute advantage in both. Ricardo's theory now holds that trade can still be beneficial if each country specializes in the product it is relatively most efficient in producing. As a next step, the comparative advantage of the countries needs to be determined. For this, we assess the internal cost structure by dividing the costs per commodity within the country. In the Netherlands, bicycles are relatively cheap to build as we can see in Table 2.4.

For each bicycle, the Netherlands can only produce half a car (10 divided by 20) and, for each car, the Netherlands can build 2 cars (20 divided by 10). If we do the same for Germany, we can then compare the relative costs structures between both countries. For bicycles, the Netherlands are relatively speaking cheaper, they have the relative or comparative advantage (0.5 vs. 1.2). For cars, the reverse is the case (2.0 vs. 0.83).

Table 2.4 Comparative advantage with trade and specialization

	Comparative advantage		Units produced		Total
	Netherlands	Germany	Netherlands	Germany	production
Bicycles	10/20 = 0.5	30/25 = 1.2	30/10 = 3		3
Cars	20/10 = 2.0	25/30 = 0.83		55/25 = 2.2	2.2
Total production capacity	30	55			

Following their comparative advantage, the Netherlands will specialize in producing bicycles while Germany specializes in cars. Following the steps in Table 2.2, the total production of bicycles will now be 3, while for cars, it will be 2.2. The global economy grows to a total output of 5.2. This theory of relative comparative advantages demonstrates that rather than price levels (absolute advantage), it is differences in productivity (comparative advantage) that determine the scope for international trade. Proponents of the (neo)classical theory of comparative advantages believe that regions should specialize in those products or services in which they have clear strengths. This is beneficial for the region itself, but also for the world economy as a whole.

Both Ricardo's and Smith's model rely on quite strong assumptions, if only because the world economy is reduced to only two countries and two products. But it is also assumed that the countries can reallocate their factors of production to another product without incurring extra costs. Similarly, a long-term balance between supply and demand is assumed. All requirements are fulfilled and there is neither under- nor overproduction. According to Smith, such stability is the result of an 'invisible hand', his metaphor for the interplay between self-interest, market forces and the law of supply and demand. Together, these three mechanisms create economic stability. If the demand for product Y rises, the price goes up and more of it will be produced. If demand for product X falls, the price will go down, resulting in a fall in production or even discontinuation of the product. The economy thus has the ability to self-regulate by adjusting its production levels. This same mechanism also deals with imbalances between nations and regions.

Smith and Ricardo were keenly aware that the invisible hand does not always work. For example, Smith expressed surprise at the lack of labour mobility between

London and its surrounding regions in his day, despite a wage difference of 25%: 'Such a difference of prices, which it seems is not always sufficient to transport a man from one parish to another. It appears evidently from experience that a man is of all sorts of luggage the most difficult to be transported' (Smith, 1904, p. 77).

Despite the simplicity and quite strong assumptions in the models, the main idea of the models carries great weight in our understanding of globalization and the global economy. In this respect, it is important to realize that the outcome of specialization and global economic growth is based on the important condition that transport costs between the two countries are low enough for the products to be transported from one place to another. If transportation costs are too high, this will add to the cost of the product and a country may be better off producing it domestically. There are two related implications to this observation. If our understanding of globalization is that transportation costs will decrease, trade will become cheaper and then we would expect – following the trade models discussed – that regions will specialize and that the world economy will grow. Also, if we want the world economy to grow, reducing transportation costs is a viable way of trying to achieve this. Reducing trade barriers is indeed one of the main goals of the World Trade Organization (WTO). Similarly, the European Union and its common market can be understood in this way. Then it is not an exaggeration to claim that the theories of Smith and Ricardo are at the heart of the globalization process.

2.3 Drivers of globalization

If you type 'globalization' in Google, you get 1,880,000,000 results within 0.48 seconds and for the British spelling 'globalisation' another 147,000,000 results within 0.52 seconds. Obviously, globalization is an important phenomenon. But is globalization here to stay or have the 2007–08 financial crisis, the COVID-19 epidemic and the war in Ukraine put an end to it? Or, in the words of *The Economist*, which even before the latest shocks already concluded, quoting Tom Linton, supply chain officer at Flex: 'We are heading to a post-global world' (Vaitheeswaran, 2019).

Even though the process of integration of markets has been going on for a long time, the term globalization is relatively recent, being first mentioned in 1983 by Theodore Levitt. In his article 'Globalization of markets', Levitt claimed that 'the world's desires have been irrevocably homogenized'. 'Only global companies will achieve long-term success by concentrating on what everyone wants rather than worrying about the details of what everyone thinks they might like' (p. 92). He also pointed to a fundamental difference between multinational companies and global corporations: 'The multinational corporation operates in a number of countries, and adjusts its products and practices in each – at high relative costs. The global corporation operates with resolute constancy – at low relative cost – as if the entire world (or major regions of it) were a single entity; it sells the same things in the same way everywhere'. So, while the term is relatively new, the process it describes

goes back a long time. Some academics point to the early 16th century when international trade already took place and banks in Italy financed international projects; others even go as far back as Ancient Rome. A rather dark aspect of globalization was the trade in people who were sold as slaves in other continents, and in many studies and books, colonialism and imperialism are still seen as key in explaining the different development paths.

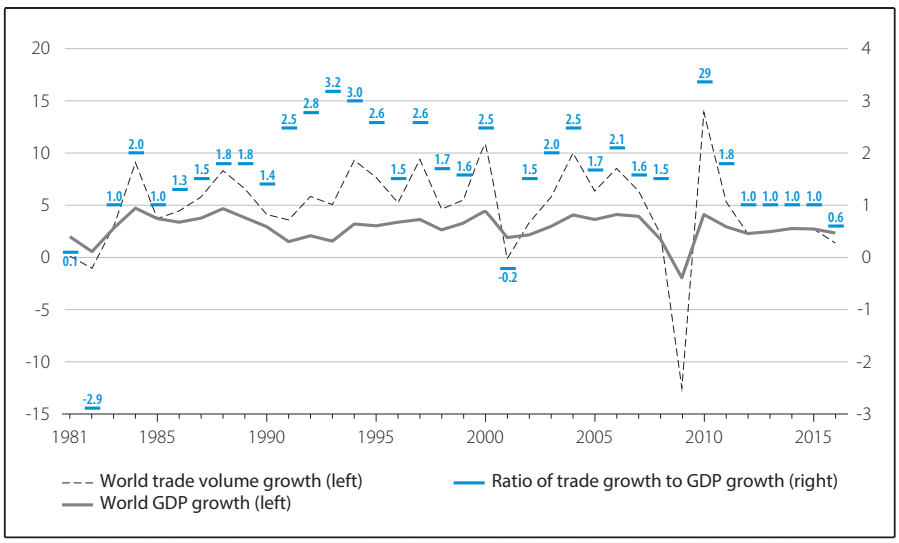

Figure 2.3 Trends in trade and production (based on WTO data)

According to Brakman (2004), the globalization process took off in 1820 when, for the first time, prices in one country were influenced by prices in another country. Figure 2.3 shows that for a long time trade has been growing more rapidly than production, indicating that products are becoming more and more global. Products are produced in so-called global value chains which include production steps in various countries. Figure 2.4 shows the global value chain of the bicycle. Saddles, brakes and the like are all produced in different countries, while final assembly is done near the customer. In his analysis of this slicing up of the global value chain (Table 2.5), Timmer et al. (2014) demonstrated the consequences for the geographical distribution of the value added. Looking at the German car industry, it becomes clear that more and more of the value added is produced outside Germany and that especially high and medium-skilled people and capital are profiting. Note how Figures 2.3 and 2.4 and Table 2.5 can be seen as supporting the expectations derived from the trade models by Ricardo and Smith. Regions specialize in activities in which they have a comparative advantage if transport costs are low enough so that the goods can be transported cheaply. The observed slicing up of value chains is in line with the ideas of the trade models.

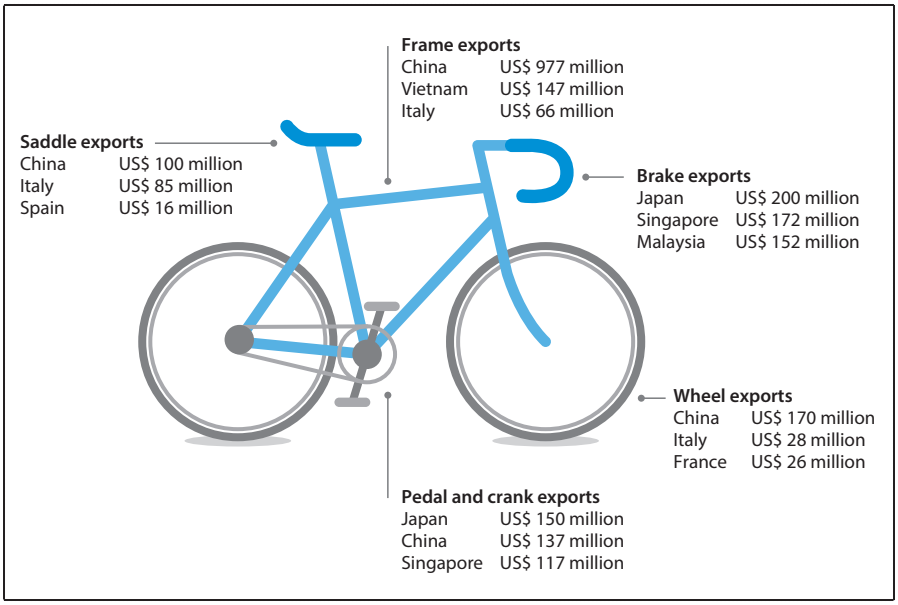

Figure 2.4 The value chain of a bicycle (World Bank, 2020)

To understand why firms, especially multinational enterprises, choose to engage in foreign production, Dunning (2000) created a typology of four strategic reasons for a firm's foreign activity. These are *resource seeking*, *market seeking*, *efficiency seeking* and *strategic asset seeking* strategies for internationalization. The first strategy, resource seeking, refers to firms engaging with foreign counterparts to acquire resources, in the form of (natural) materials or labour, at a relatively lower cost. Second, market seeking involves a firm's desire to access foreign demand markets. Third, firms with an efficiency seeking strategy aim to achieve improved efficiency through the scope or scale of the value chain activities and costs of production. Finally, strategic asset seeking strategies relate to specified knowledge assets and attempts to reduce competitors' comparative advantages (Dunning, 2000). Traditionally, offshoring manufacturing stems from a resource seeking strategy, where firms attempt to cut labour and production costs by producing in countries with lower wage levels (Kinkel & Maloca, 2009). Dunning (1988) proposed a so-called eclectic paradigm, which provides a framework for understanding the *ownership*, *internalization* and *location advantages* firms face (OLI advantages, see also Chapter 6). Based on this framework, researchers claim that the location and internalization advantages explain the offshoring of production to countries with lower wages. Kinkel and Maloca (2009) argue that 'as factor cost differences for capital are lower than for labour between countries, labour-intensive activities might be relocated abroad' (p. 155).

ized. He advocated labour division, as it enabled workers to become more skilled and therefore more efficient. If two countries engaged in a cost-effective exchange of specialist goods or services, both became wealthier as a result. This idea was at odds with the zero-sum view on the world economy and trade as represented in the mercantile system.

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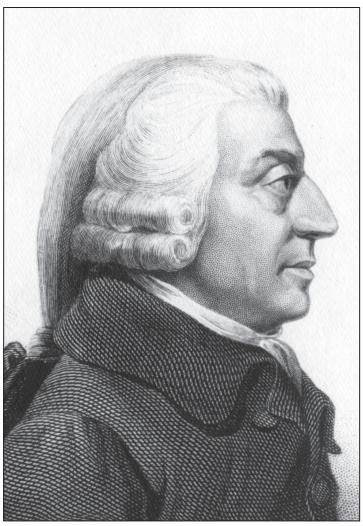

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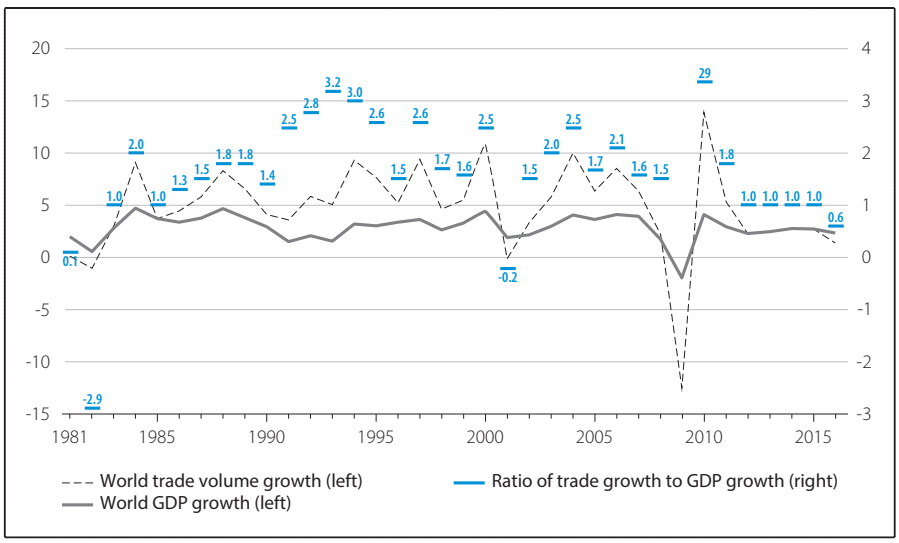


Figure 2.3 Trends in trade and production (based on WTO data)

According to Brakman (2004), the globalization process took off in 1820 when, for the first time, prices in one country were influenced by prices in another country. Figure 2.3 shows that for a long time trade has been growing more rapidly than production, indicating that products are becoming more and more global. Products are produced in so-called global value chains which include production steps in various countries. Figure 2.4 shows the global value chain of the bicycle. Saddles, brakes and the like are all produced in different countries, while final assembly is done near the customer. In his analysis of this slicing up of the global value chain (Table 2.5), Timmer et al. (2014) demonstrated the consequences for the geographical distribution of the value added. Looking at the German car industry, it becomes clear that more and more of the value added is produced outside Germany and that especially high and medium-skilled people and capital are profiting. Note how Figures 2.3 and 2.4 and Table 2.5 can be seen as supporting the expectations derived from the trade models by Ricardo and Smith. Regions specialize in activities in which they have a comparative advantage if transport costs are low enough so that the goods can be transported cheaply. The observed slicing up of value chains is in line with the ideas of the trade models.

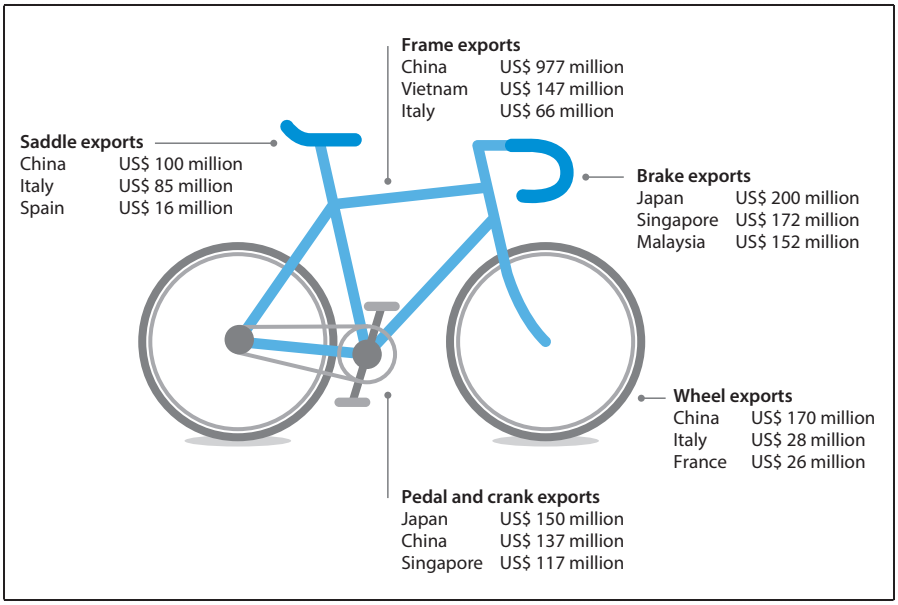


Figure 2.4 The value chain of a bicycle (World Bank, 2020)

To understand why firms, especially multinational enterprises, choose to engage in foreign production, Dunning (2000) created a typology of four strategic reasons for a firm's foreign activity. These are *resource seeking*, *market seeking*, *efficiency seeking* and *strategic asset seeking* strategies for internationalization. The first strategy, resource seeking, refers to firms engaging with foreign counterparts to acquire resources, in the form of (natural) materials or labour, at a relatively lower cost. Second, market seeking involves a firm's desire to access foreign demand markets. Third, firms with an efficiency seeking strategy aim to achieve improved efficiency through the scope or scale of the value chain activities and costs of production. Finally, strategic asset seeking strategies relate to specified knowledge assets and attempts to reduce competitors' comparative advantages (Dunning, 2000). Traditionally, offshoring manufacturing stems from a resource seeking strategy, where firms attempt to cut labour and production costs by producing in countries with lower wage levels (Kinkel & Maloca, 2009). Dunning (1988) proposed a so-called eclectic paradigm, which provides a framework for understanding the *ownership*, *internalization* and *location advantages* firms face (OLI advantages, see also Chapter 6). Based on this framework, researchers claim that the location and internalization advantages explain the offshoring of production to countries with lower wages. Kinkel and Maloca (2009) argue that 'as factor cost differences for capital are lower than for labour between countries, labour-intensive activities might be relocated abroad' (p. 155).

Table 2.5 Slicing up the global value chain of German cars (percent of final output value) (Timmer et al., 2014)

	1995	2008
German value added	**79%**	**66%**
High-skilled labour	16%	17%
Medium-skilled labour	34%	25%
Low-skilled labour	7%	4%
Capital	21%	20%
Foreign value added	**21%**	**34%**
High-skilled labour	3%	6%
Medium-skilled labour	6%	9%
Low-skilled labour	4%	4%
Capital	8%	15%
Total final output	**100%**	**100%**

The process of globalization may be old, but it was arguably catalyzed by the advent of computer technology and other influences occurring simultaneously from the 1990s onwards. Some argue that it was only then that globalization truly took off. This idea was powerfully described by Thomas Friedman in his influential book *The World is Flat* (2005). Friedman distinguished ten so-called flatteners that together fueled the process of globalization. It is instructive to discuss them briefly since they show that globalization is not driven by a single process, but rather by an amalgamation of influencing factors. The flatteners also show that, to some extent, globalization can be steered.

The first flattener, according to Friedman (2005), was the fall of the Berlin Wall in 1989 which first made the world 'truly global' in the sense that (almost) all countries were part of the same economic system. This was also the time when Francis Fukuyama (1992) wrote his highly influential book *The End of History and the Last Man*, which claimed there was no longer an ideological debate since capitalism and democracy had won. Or, in his own words: 'I argue that liberal democracy may constitute the end of mankind's evolution and the final form of human government and as such constituted the end of history' (p. XI). This position is repudiated by recent events like the war in Ukraine launched by Russia, increasing state control in China and anti-democratic sentiments in European and Anglo-Saxon countries. Figure 2.5 illustrates this and provides an overview of the global state of democracy. Fukuyama has recognized this and has more recently presented a less certain image. In *Identity: The Demand for Dignity and the Politics of Resentment* (2018), for instance, he pointed to the fact that 'boredom in the earthly paradise' has led to a forceful reaction in which dictators exploit the desire of people to be recognized and appreciated for their identity. The explosion of nationalistic feelings in former Yugoslavia, Brexit and the election of Donald Trump with his America First Agen-

da all point to rising nationalistic and identity feelings, leading in several countries to the suppression of democracy and freedom of expression and of the press. In general, we can say that democratic rights, while widespread, are still far from universal and have recently experienced setbacks. Even though many people now have them, the total number of people without democratic rights is higher than ever. This is because the world's population has grown faster than the spread of democracy. And some people have lost political rights in recent years, most prominently the 1.4 billion people living in India, which became an electoral autocracy in 2017. This means that over two-thirds of the world's population live in closed or electoral autocracies.

From an economic perspective, the current developments outlined above also show that globalization comes with increased interdependence between countries and that this may be leveraged for political gain. Globalization and worldwide stability – as the first flattener – are then by no means a given.

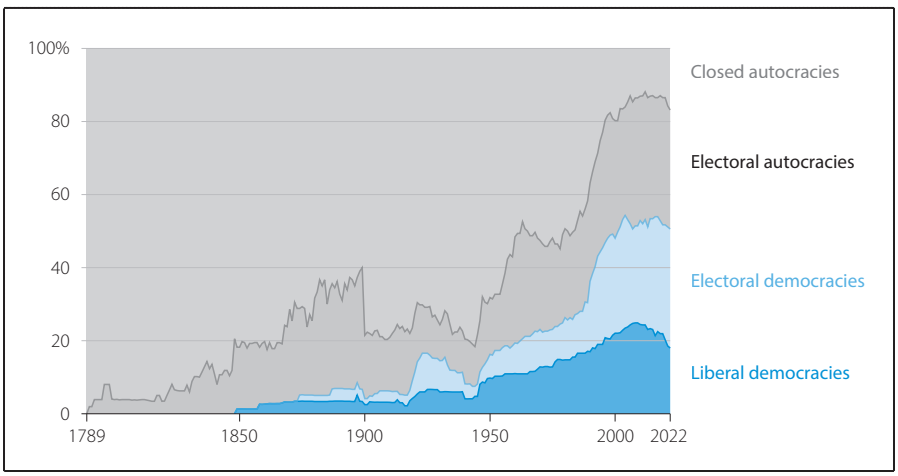


Figure 2.5 The state of global democracy over time (ourworldindata.org/democracy)

The second flattener is the emergence of the internet as a tool of low-cost connectivity. Of course, this provides ample opportunities to do business all over the world. Figure 2.6 shows the 'shrinking world', which created countless opportunities and was even at the heart of a completely new industry. One of the latest major developments in retailing has been the emergence of the internet as a channel for commerce. With the growth of the net, a new type of shopping channel has become available to consumers where shopping is no longer merely a physical, time-consuming activity.

The third flattener, akin to the idea of slicing up the value chain, is workflow software, or the way animation and products are produced in a global supply chain. The fourth is harnessing the power of communities which work in all kinds of open-source constructions like Wikipedia. The fifth is outsourcing, or not having

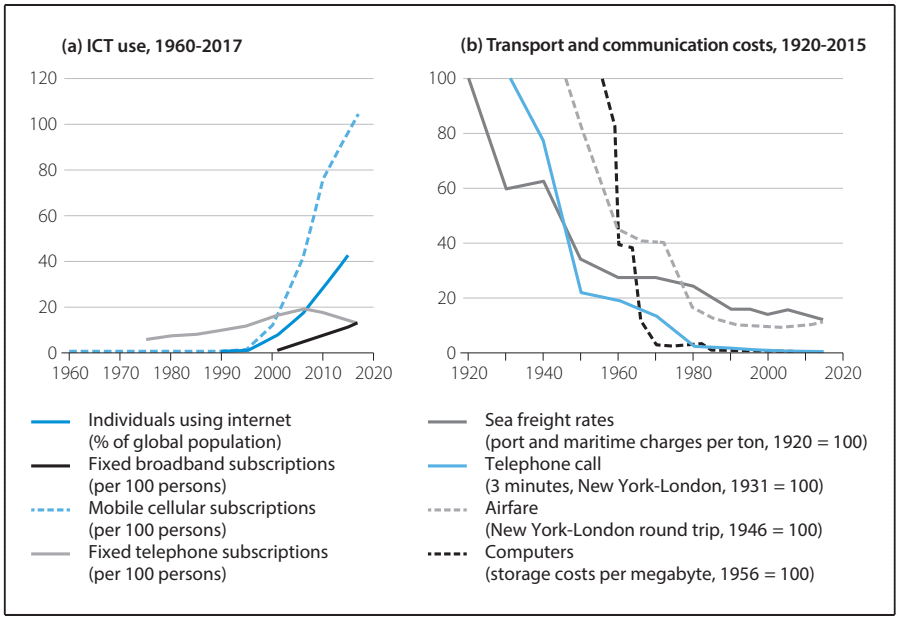


Figure 2.6 The ICT revolution (World Bank, 2020 using data from ITU's World Telecommunication/ICT Indicators database for panel a and based on Rodrigue et al., 2017 for panel b)

to produce everything domestically. Again, the ideas of Ricardo and Smith resonate here. The sixth is offshoring, or the option of outsourcing activities to the most suited countries. Table 2.6 presents the different forms, the core concepts being control and destination.

Table 2.6 The key concepts of outsourcing

		Destination	
		Intra-country	**Abroad**
Control	**Decentralized to another company**	National outsourcing	Offshore outsourcing
	Internalized	National investments	FDI offshoring

The seventh flattener is supply-chaining. The eighth is insourcing, or logistics firms like UPS performing all kinds of service activities for companies like Toshiba. Flattener number nine is informing, or the existence of search engines that can provide instant knowledge of the world. The last flattener is steroids, or electronic devices that can be used wireless. Robert Feenstra (1998) demonstrated the logic of a globalization strategy (Box 2.1) for companies, using the Mattel dolls as an early case in point.

Box 2.1

The logic of globalization

Mattel dolls are sold for 10 dollars apiece in the United States. The dolls are made in China/Hong Kong and their export value is 2 dollars per doll (35 cents for labour, 65 cents for materials, while the remaining dollar covers transport, profit and overhead in China and Hong Kong. On the retail price – 10 dollars – Mattel earns at least 1 dollar (10%) of profit, while the remaining 7 dollars go to marketing, transport, wholesaling and retail business in the United States. In other words, of the 10 dollars only 3.5% is spent on Chinese labour, 6.5% on materials, 10% on other things in China and Hong Kong, while 80% remains in the USA with at least 10% for Mattel. And as Mattel sells about two dolls per second worldwide, the company's profit on dolls was 1.4 billion in 1995 alone.

(Feenstra, 1998)

2.4 Globalization: Different perspectives

Globalization is a contested notion regarding the extent to which we live in a globalized economy and its normative question: is globalization a good thing? Thomas Friedman, for example, in *The World is Flat* stressed the opportunities globalization offered. Given the ten flatteners, everyone everywhere now had the opportunity to participate in the global economy. And Friedman believed everyone would grab this opportunity. Nobel Prize winner Joseph Stiglitz did not agree. Even if we accept the idea of a fully flat world – which Stiglitz does not – he sees forces at play working against the spread of economic activity globally. If anything, Stiglitz fears a further widening inequality between both groups and regions, as explained in his book with the telling title *The Great Divide* (2015).

Overall, views on globalization can be summarized in four overarching perspectives: the hyperglobalist perspective, with both a positive and negative interpretation of globalization, the sceptic perspective, and the transformationalist perspective.

In the hyperglobalist view, nation-states are something of the past, as symbolized by Kenichi Ohmae's *The End of the Nation State* (1995). In this perspective, globalization is irreversible and is usually considered positive since the allocation of resources through the market and free trade provide the most efficient allocation of the means of production. Proponents of this view generally base this on Adam Smith and David Ricardo, claiming the world is not a zero-sum game. Within the hyperglobalist approach there is also a group that stresses the negative effects of hyperglobalization. Progressive thinkers like Naomi Klein and Noreena Hertz particularly point to the negative effects of hyperglobalism on the distribution of income and the climate. There is also criticism from a more conservative angle. For example, Democratic senator David Bonior once said that globalization had only

brought 'dirty trucks, drugs and hepatitis' to the United States, and some will add the COVID-19 epidemic to this list.

The sceptics take an opposite view, claiming globalization is overstated. They refer to the fact that during the second wave of globalization (1890-1914), the world was more globalized than today in terms of trade. Ghemawat (2011) spoke of 'globaloney' and stresses that different forms of distance (geographical, cultural, economic, historic) are still of great importance and the world is far from globalized. According to him, only 10 to 25 percent of economic activity is international (and most of that is regional rather than global). Leamer & Storper (2001) also showed that the internet did not really change the clustering of economic activities. Others see the support for globalization as a useful political myth – rather than an economic reality – to support the neoliberal approach and oppose government intervention (MacKinnon & Cumbers, 2007). They point out that nation-states are still important and are needed to protect the rights of their citizens.

The transformationalist approach takes the middle ground. This perspective sees globalization as a very profound process but stresses the fact that nation-states do have possibilities to influence it. In his book *The Globalization Paradox* (2011), the Turkish economist and Harvard Professor of Economics Dani Rodrik presents a trilemma figure to describe the relation between hyperglobalization, national sovereignty and democratic policies (see Figure 2.7). In his view, combining all three simultaneously is impossible. If you want hyperglobalization you must obey the laws of global financial markets to stay competitive. This means that hyperglobalization and national sovereignty are only possible if you stay within the 'golden straitjacket' (a term coined by Thomas Friedman) of the International Monetary Fund and other international economic organizations. This can clash with democracy, for instance if wages should be reduced drastically or grants eliminated. If you value democracy and hyperglobalization you need a world government to weigh the different interests of the people involved. In the eyes of Rodrik's students this is a very popular option, but it hardly leaves any room for national sovereignty. Looking at the recurring conflicts between nation-states, this seems a very good option, but at the same time not very likely, since there is serious rise of nationalist policies.

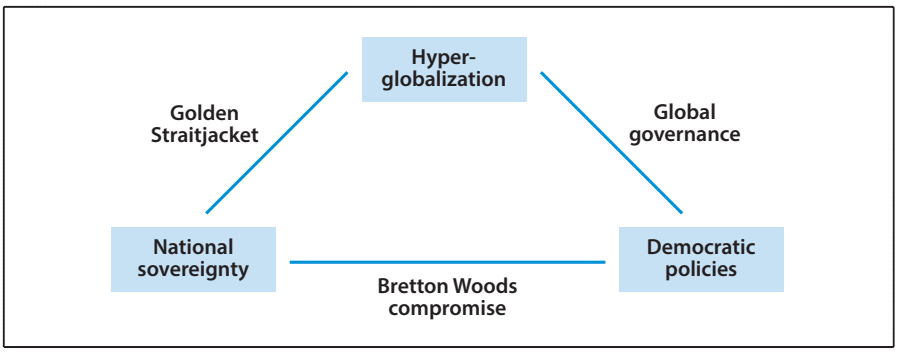


Figure 2.7 The trilemma of globalization, sovereignty and democracy (Rodrik, 2011)

The third option is national sovereignty and democracy, which means limiting the amount of globalization. Or, in Rodrik's own words, 'Less globalization is better globalization'. In this scenario, we should, therefore, create more restrictions on the mobility of capital.

2.5 The market: An essential mechanism?

Globalization and neoliberalism are often used in tandem and a neoliberal worldview has become more prominent in the last century. Arguably, it became the leading view on economics when, at the end of the 1970s, US president Ronald Reagan and British prime minister Margaret Thatcher decided that the only sensible remedy to the limited growth after the 1973 and 1979 oil crises, was to cut red tape and leave addressing societal challenges and providing services to the market. The logic behind this is that companies have a better eye for innovation and new products. In an ever more connected world, it became more difficult for governments to oversee and manage the relevant networks. Also, by embracing the ideas of Ricardo and Smith, the narrative of competitiveness became more important. Stimulating the market's 'invisible hand' then fitted ongoing developments.

Neoliberalism builds on the idea of homo economicus (see Chapter 5) and in particular it brings to the foreground the importance of personal gain as a driver for an effective and efficient organization of the economy. Once placed in the context of markets, services would be organized more efficiently. Figure 2.8 shows what this means in practice. In almost all countries we have witnessed a transfer from public to private capital. Privatization and monetarization were key ideas and in almost all sectors governments tried to create markets. In some cases, this has been quite successful, for example in telecommunication. In other sectors, however, like healthcare and public transport, privatization has led to cherry-picking and a reduced

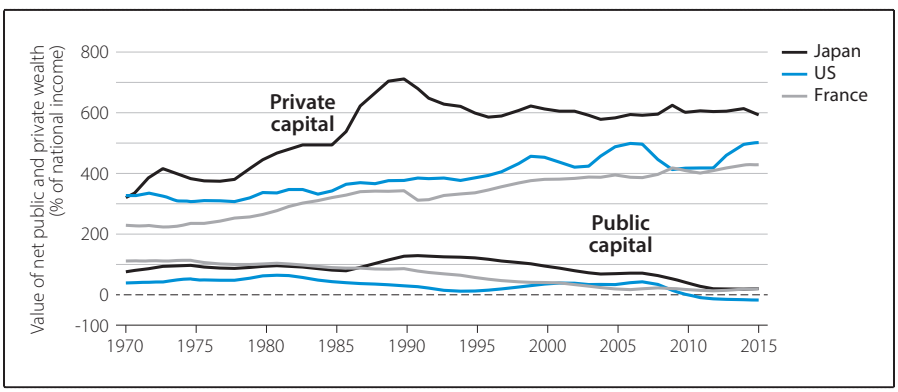


Figure 2.8 The rise of private capital and the fall of public capital in rich countries (inequalitylab.world)

quality of services. Economists like Hirshleifer (1985) were convinced that a market approach is the best way of organization, while 'our analytical categories, such as scarcity, preferences, opportunities, are truly universal in their applicability' (p. 53). H.W. de Jong (1996) concluded that attempts to restrain or abolish the market have all failed and thus it is perhaps not sensible to do so.

The neoliberal approach also met with criticism. The focus on personal gain, for example, may imply collective unwanted outcomes, as shown in Garrett Hardin's article 'Tragedy of the Commons' (1968). The study explored the tension between individual gain and collective benefit. In a classic example, Hardin showed that it is profitable for individual sheep owners to let their sheep graze on collective grounds, but at the same time this means that the quality of the common grounds deteriorates rapidly.

Another implication of going neoliberal is the financialization of markets. To let the market work effectively, capital should be allowed to flow freely and a neoliberal approach then entails free financial markets. One side-effect is that capital transactions as such have become more important for some companies than selling actual products. In his book *Flash Boys,* Michael Lewis (2017) showed what this means for the economy and how, in 2008, it led to the financial crisis. Referring to this crisis, economist Jeffrey Sachs was highly critical of neoliberals and the role of bankers specifically: 'Look, I meet a lot of these people on Wall Street on a regular basis right now. (…) I know them. (…) I regard the moral environment as pathological. These people have no responsibility to (…) their clients (…). They genuinely believe that they have a God-given right to take as much money as they possibly can in any way that they can get it, legal or otherwise'. (Graeber, 2018, p. 13)

In conclusion, we can say that the market mechanism, while important, can derail, leading to unwanted monopolies, concentration of power, and inequalities of income and opportunities. How to balance both dimensions is in the end a political issue. Still, it is important to realize that markets are not unavoidable forces of nature or an ideology, but simply an exchange between different agents all of whom can be influenced. Or, as the critical philosopher Peter Singer (2006, p. 69) concluded in his book *One World Now*: 'If you are among those who believe that the solution to the world's problems is to end capitalism, this book is not for you'. According to Singer, there is no system that, taking into account human nature, would have reached the same results. So far it would appear that all socialist/communist attempts, though perhaps appealing in theory, have failed, and can only survive by restricting human freedom. What goes for capitalism also goes for democracy: it may be a bad system, but it is still preferable to any alternative.

2.6 Outcomes of globalization

As sketched above, there are different views on how globalization should be seen. Despite these differences, quite a few indicators indicate that in parallel with globalization, global welfare has improved across the board. Figure 2.9 shows the worldwide development of the Human Development Index (HDI). The HDI is constructed by the United Nations Development Programme (UNDP) to capture development in a broad sense (see also Chapter 8). The index is a weighted average of health, education and standard of living. Zooming in on life expectancy at birth, the latest figures show that children born in 2015 now have an average life expectancy of 71.4 years, according to the World Health Organization (WHO). For women this is slightly better (73.8 years) than for men (69.1 years). Similarly, the global GDP is now more than seventy times as high as the global GDP in 1820, whereas the world population only has increased by a factor 7. Perhaps fueled by globalization discussions, people typically underestimate the progress made. On www.gapminder.org (developed by the Swedish physician Hans Rosling), this underestimation of development indicators is explored.

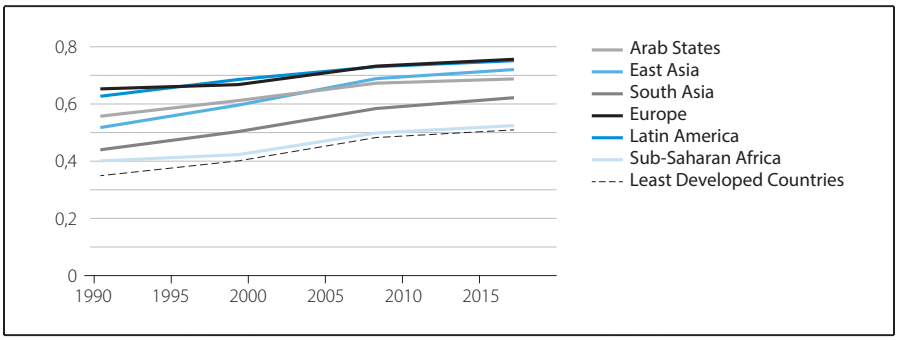


Figure 2.9 Trends in the Human Development Index (UNDP, 2016)

In parallel with the average progress made, we also observe a concentration of wealth in fewer hands. Globalization and free-floating capital have increased the differences in the world. Lakner and Milanovic's (2013) so-called elephant curve summarizes this (Figure 2.10) and shows the winners and losers of globalization. The big winners are China and India where numerous people were lifted out of poverty, although especially the very rich profited. The richest 1% captured more than 27% of growth in the period 1980-2016. The very poor and the middle classes in the Western world hardly profited from the increase in wealth and, relatively speaking, saw their position deteriorate. This is perhaps one of the reasons for the rise of populist groups that challenge authority and blame the global elite. Bear in mind, though, that the distribution of wealth and power has never been equal. In fact, historically this distribution was much more unequal than it is now. Many people, including women, had no rights at all.

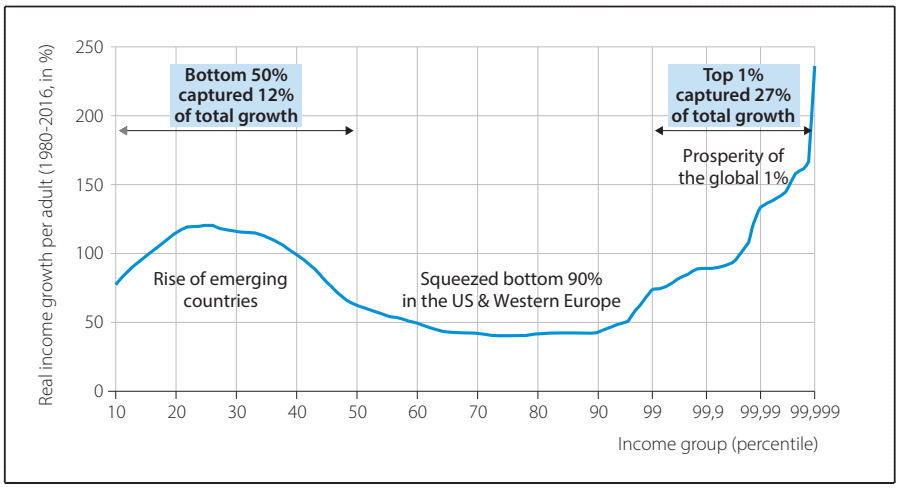


Figure 2.10 The elephant curve (Alvaredo et al., 2017)

The recent increase in inequality is at odds with neoclassical views of economic development. Capitalism and reduced transportation costs were expected to reduce economic differences. Capital would flow to areas with low labour costs where investments in capital were more profitable. Labour would head in the opposite direction. In this framework, it was expected that the world would converge. An account of international income differences for the period 1920-1990 by economist Simon Kuznets indeed showed this was the case. Due to two world wars and Keynesian macroeconomic policy, income differences were less profound than ever in history.

With the advent of the neoliberal economic approach, income differences again increased. Currently, the richest 1% possess almost half of the world's wealth (Figure 2.11). Thomas Piketty (2014) described this trend in much detail in his book *Capital in the Twenty-First Century*. He demonstrated, for example, that it is more profitable

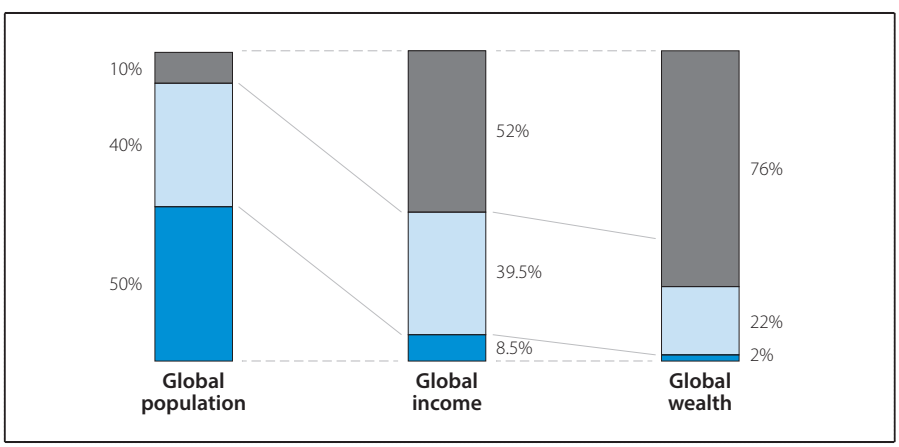


Figure 2.11 The distribution of wealth in the world (wir2022.wid.world)

to invest in financial projects compared to return on labour. Figure 2.12 shows that on average the reward for capital is growing much faster than the reward for labour.

The neoclassical prediction of convergence no longer seems to apply. New Economic Geography (Chapter 4) provides an alternative view that does explain increased income differences in the era of globalization.

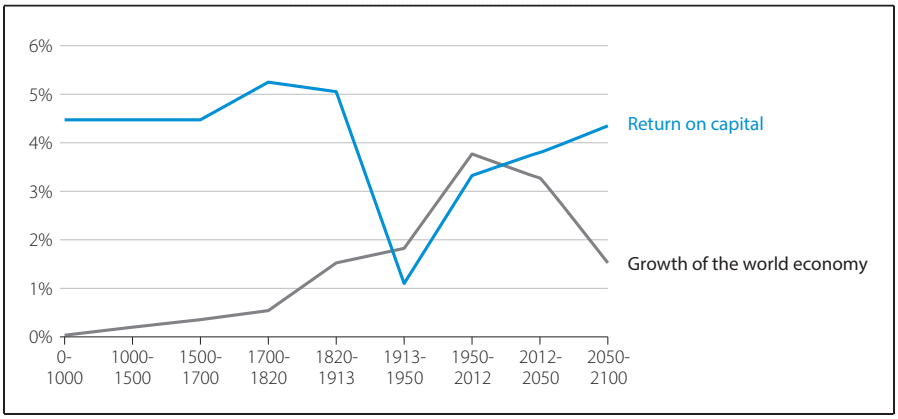


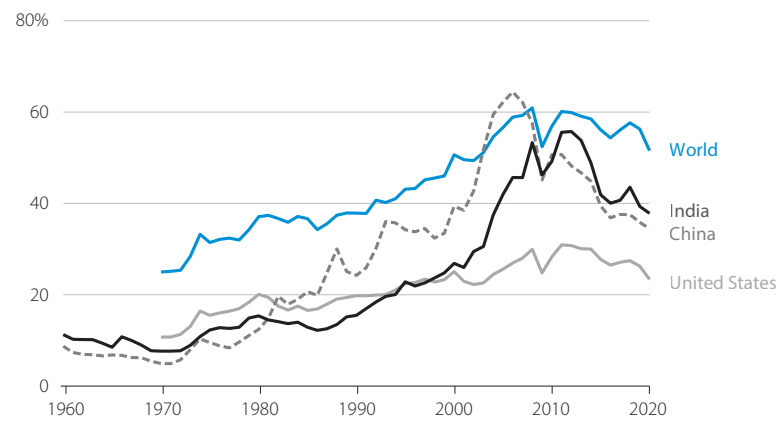
Figure 2.12 The returns on capital and labour (Piketty, 2014)

2.7 The end of globalization?

In 2019, *The Economist* questioned whether we were seeing 'the end of globalisation' (Cukier, 2019). The authoritative magazine mentioned a number of trends pointing towards this movement: increased political tension between countries, the rising number of trade restrictions and the decreasing number of liberalization measures. The flatteners – as Friedman called the drivers of globalization – were no longer so strong, particularly in the aftermath of the 2008 economic crisis. *The Economist* also used the headline 'We are heading to a post global world' (Vaitheeswaran, 2019). The recent COVID crisis and the current war in Ukraine are other developments that work against globalization. In a study on global connectedness by DHL (Altman & Bastian, 2020), experts were interviewed on the future of globalization. Ian Goldin, Professor of Globalization and Development at the University of Oxford, did not expect COVID-19 to kill globalization and, in fact, predicted growth and transformation. He pointed to increased academic collaboration and digital connectivity. He also saw more cross-border flows of capital since many countries need support from international institutions. Basically, he stated that current problems are so global and dangerous (pandemic, climate change), that there is simply no alternative to global cooperation. Paul Krugman, by contrast, expected a setback in globalization though he was not sure about the size of it. Fareed Zakaria, a journalist and political commentator, pointed out that the last wave of globalization was also stopped by politics: 'Globalization is not dead but we could kill it'.

People and politics can create an atmosphere of animosity and distrust. Echoing this, some claim geopolitics has replaced globalization.

In line with Ricardo's and Smith's trade theories, making trade harder should lead to increased costs. Indeed, Steven Brakman (2021), Professor of Economics at the University of Groningen, showed that political interference in international trade is not without costs. The trade war that Donald Trump started during his presidency to stimulate China to purchase more American products proved costly. A detailed analysis of higher tariffs for washing machines showed that the cost of creating these jobs in the United States was almost 900,000 dollars per job (Flaaen et al., 2020). According to Brakman, the mixture of politics and trade is not very fruitful and sanctions or trade barriers typically cause more economic hardship than benefits for the countries involved. Figure 2.13 shows that trade as a percentage of production has gone down since 2010, indicating that globalization is stagnating.



Note: Shown is the 'trade openness index' – the sum of exports and imports of goods and services, divided by the gross domestic product.

Figure 2.13 Trade as percentage of GDP (Ortiz-Ospina et al., 2018)

Summarizing these developments, Haroon Sheikh (2021) identified two types of logic – one in support of the free market (the best product or service at the lowest price), the other in support of geopolitics (the powerful decide what will happen). Geopolitics is based on showing power and trying to get countries in your camp. We see this happening in, for instance, the development of a 5G network by Chinese tech giant Huawei. Countries seem to be either on China's side and are therefore doing business with Huawei, or they are in bed with the United States and try to prevent Huawei from investing. Similarly, in 2022, the American government brokered a deal with Dutch tech giant ASML not to sell state-of-the-art chip-making machines to China. Sheikh (2021) summarized the quite fundamental changes taking place in the last decade in two tables (Tables 2.7 and 2.8). From a world focusing

on trade and multilateral agreements we are returning to a world of geopolitics. In a way, it would seem that mercantilism has returned. All countries are expanding their military budgets and are basing their policy not on economic grounds, but on whether or not a partner can be trusted.

Table 2.7 Difference between geopolitics and geo-economics (Sheikh, 2021)

	Geopolitics	Geo-economics
Purpose of states	Sphere of influence	Sphere of commerce
Type of balance/equilibrium	Power balance	Balance of dependencies
Openness about policy	Open	Hidden
Type of alliance	Unambiguous	Ambiguity
Importance of economics	Economics as a tool	Economics as aim in itself

Table 2.8 Difference between economics and geo-economics (Sheikh, 2021)

	Economics	Geo-economics
Geo-economic relations	Positive sum	Zero-sum
Focus on type of advantage	Absolute	Relative
Organizing principle	Market	National interest
Principal task of government	Competition policy	Industry policy
Task of companies	Profitability	Market share
Globalization outcome	Mutual interdependence	Asymmetric dependency

2.8 Conclusion

Globalization has truly changed the world and the way we look at regions and their success or failure. We have seen a 'global shift', as Peter Dicken called it in his standard work on globalization (2011). The average life expectancy has risen spectacularly to over 70 years, while the Human Development Index shows a similar positive trend. With this, the balance of power has changed: 'the West' is no longer the centre of the world. The rise of many Asian countries, and China in particular, is impressive. Increased economic power is accompanied by a longing for more political power, once again making geopolitics an important element.

Globalization also has its downsides. It has created more inequality, especially when considering that the top 1% has profited from the 'winner takes all' principle. Also, economic progress has had severe consequences for the world's climate and biodiversity. Given these effects, there has been a movement to understand development in a broader sense than just economic growth. We will explore this issue in more detail in Chapter 8.

And, perhaps as a result of its pervasiveness and the power shift that has accompanied it, globalization is now being challenged as the most prominent frame for understanding the global economy. Also, specific events like the 2008 financial crisis, the Occupy movement, the COVID pandemic and the invasion of Ukraine call into question the feasibility of the globalization and free-trade model. Following Sheikh (2021), we may see a new geopolitical world with the return of elements of mercantilism.

This chapter has sketched the global framework in which local and regional decisions by people, firms and governments are made. In the following chapters, we will explore how such decisions are made and which consequences they have for local and regional economic development.

3 Classical and neoclassical location theory

3.1 Introduction

Economic science is about how people cope with the scarcity that forces industries and consumers to make choices. The basic approach is to understand economic choices when contrasting the considerations of sellers (supply) – who aim to maximize profits in the face of cost constraints – with those of income-constrained buyers, who seek ways to maximize their utility. Locations may also be in short supply; not every company can have an optimal location. The choice of location can, therefore, be represented as an economic choice. In classical and neoclassical approaches, the location choice is considered according to the logic of economics: making rational choices, the theory argues, sellers seek to utilize their factors of production as cost-effectively as possible, and buyers do the same with their disposable income when making purchases. In classical location theory, there is a strong focus on spatial variation in the cost of factors of production and transport. Neoclassical theory also takes spatial variation in profits into account. While rooted in economics, both theoretical approaches have been applied in the field of economic geography.

A theory is a system of verifiable arguments with a logical coherence. Each argument can be deduced from the previous one. A *location theory* thus consists of a set of connected arguments explaining the choice of location for businesses and services. Although classical and neoclassical theories are historically at the heart of economic geography, there is considerable debate among geographers regarding their validity. In Chapter 1 we note that economic geography is a highly empirical science. In 1969, Professor of Geography Hendrik Keuning (1904-1985) wrote that since it was developed by economists and because of its theoretical basis and deductive nature, there was no place for location theory in an empirical science like geography. Nevertheless, such theories were very popular in the discipline of systematic geography (spatial science), which was on the rise at the time, and classical and neoclassical location theory experienced a revival in 'New Economic Geography', which is dominated by economists. Classical and neoclassical location theory may be old but can still be useful.

In Section 3.2 we will discuss classical economics and in Section 3.3 we will take a closer look at neoclassical economics and the role of the market.

3.2 Classical economics: Minimal costs

With *The Wealth of Nations* (1776), Adam Smith (1723-1790) laid the foundation for classical theory in economic science. One of the principles of classical economics is that each type of supply creates its own demand. The manufacturer is thus able to use the available factors of production to their full extent and has no difficulty selling the finished products. Classical economics also argues that the availability of factors of production, such as labour, capital and resources, determines the opportunities for industry. Factors of production are paid for in the form of wages, interest, leases, rent or purchase costs. As a result, entrepreneurs are faced with a problem of allocation, i.e. how to achieve maximum production at minimum cost. Since costs vary per location, there is also a geographic element to this question. In addition, the answer to this question is relevant to the wealth of nations, as countries with low average costs are at a competitive advantage.

The main proponents of classical economic location theory were Johann Heinrich von Thünen (1783-1850) and Alfred Weber (1868-1958). Von Thünen focused on agricultural land use, and Weber mainly on industrial location choice. They both held that an entrepreneur would choose the location with the lowest overall costs. We should note in this context that classical theories are based on the premise of a situation of 'perfect competition' in the markets, i.e. numerous sellers, none of whom can individually influence the price of a product. The price is fixed and competition is based on costs. Geography plays a role, since there is spatial variation in the cost of land, labour and capital as well as the transport costs for incoming raw materials and semi-finished products and outgoing finished products. The most profitable location is the one where the combined production and transport costs are the lowest.

Classical location theories are based on the assumption that people are fully informed and act rationally – the *economic man* or *homo economicus* – and the world is seen as an 'isotropic space.' This is the theoretical construct of a uniform space without geographical barriers (mountains, rivers, infrastructure, sociocultural differences etc.). In addition, classical location theory is deductive. On the basis of logical arguments, patterns are discerned that apply across the board. In other words, not the strange or the deviant are of interest, but the commonalities.

3.2.1 Agricultural land use according to Johann Heinrich von Thünen

In 1826, Johann Heinrich von Thünen published his theory on agricultural land use. A landowner in the German region of Mecklenburg, he observed that land use changed as the distance to the market increased (in his day, markets were typically located in the nearest village or town), and Von Thünen wondered why this was the case. It was this insight that led him to develop his theory. Rather than focusing on

why a farm was located in a particular place, his theory concentrated on which crops were grown at different distances from the market place. For example, Von Thünen wondered why arable farming was located in different areas than dairy farming and horticulture. Following classical economic thinking, he assumed a farmer's decision to grow a certain combination of crops was a purely rational choice. Farmers, he thought, saw crops in terms of costs and returns.

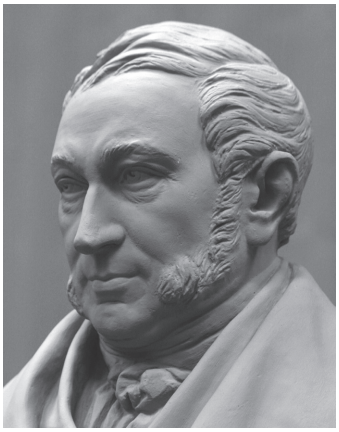


Figure 3.1 Johann Heinrich von Thünen

According to Von Thünen, land use derived from the price of land, and expensive land (fruit, vegetables) was not cultivated in the same way as cheaper land (rye, pasture). Classical economist David Ricardo (1772-1823) had already drawn attention to variations in lease rates caused by varying levels of fertility, i.e. the 'economic rent' of the land. Von Thünen adopted this concept and added the cost of transport to the market (the 'location rent'). These, he believed, were the decisive costs.

The deductive theory used in classical economics works on the basis of assumptions regarding reality. In Von Thünen's theory, the following assumptions apply:

- Space is isotropic: flat and boundless, with no natural barriers. Natural resources and climate are the same everywhere.
- Land is uniform: farmers can have the same animals and grow the same crops anywhere.
- There is one single market: the nearest town or village.
- Transport costs vary per product.
- Transport costs increase linearly as the distance to the market increases.
- There is one single mode of transport: all products are taken to the market by ox-drawn cart.
- The return per hectare is the same for all crops in the area.

Box 3.1

Johann Heinrich von Thünen

As a landowner, Johann Heinrich von Thünen (1783-1850) was able to combine theoretical mathematical knowledge with practical experience at the farms run by his tenant farmers. Von Thünen studied agricultural science as well as economics. Via his wealthy wife he acquired a 465-hectare (approx. 1,150 acres) estate near Teterow in Mecklenburg. He used the estate to conduct research on soil fertility and trends in grain prices and agricultural wages. In 1826 he published his seminal work *Der isolierte Staat in Beziehung auf Landwirtschaft und National-Oekonomie* (published in English under the title *The Isolated State*). Von Thünen created a formula for the

calculation of a fair wage – the root of the product of the minimum living standard times the productivity:

$A = \sqrt{ap}$

Von Thünen gave his tenants a share in the profits. He put money aside for them and, uniquely in those days, when they turned sixty, they received a 'pension'. There is a museum dedicated to his life and work in the German town of Tellow.

(www.thuenen.de; Dietvorst & Van Dinteren, 1984)

With these assumptions as a starting point, a farmer aiming to maximize his profits (W) has a clear goal. He must make sure the difference between a given market price (VM) and the sum of the production costs (P) and transport costs (T) is as large as possible. This translates into the following formula:

$W = VM - (P + T)$

Since the assumed market form in Von Thünen's model is that of perfect competition, individual producers cannot influence the price of their goods. There is a fixed market price for each crop (VM). Figure 3.2a shows how the overall costs in market M are equal to the production costs. This is because no transport costs are incurred in the production process in market M (goods are produced and sold at the same location). From the perspective of transport costs, farmers in M make the largest profit. Production outside M causes profits to fall, and they decline as the distance to M increases, since the farmer then has to pay higher transport costs. At one point transport costs will become so high that the farmer will not be able to make any profit with this particular product (Point L in Figure 3.2a). Here, the total costs (the sum of the production costs and the transport costs) are equal to the selling price. Outside zone ML, therefore, not a single farmer can be found who grows this particular crop.

However, farmers have a choice: they can grow rye, wheat, beets, cabbage, maize and so forth. A range of options like this generates a different scenario. Based on the economic rent of the land and the cost per product unit of transport to the market, Figure 3.2b introduces a second crop and Figure 3.2c shows how the farmer can judge which crops would be best to grow. While it costs less to grow crop A (MA) than crop B (MB), the transport costs for A are higher than those for B, which translates into a steeper slope of the total costs line when moving away from the market. The question Von Thünen tried to answer using this example was: Which crop is grown where? There are two steps. In the first step, the potential areas for the crops are determined. These are demarcated by the locations where the total production costs exceed the market price (R). In Figure 3.2, crop A can only be grown in area ML and B in MX, the areas in which the market price (R) is equal

to or higher than the total price for each crop (production + transport). The second step involves deciding which crop is the more profitable to grow in a given location; the farmer chooses the land use. At location M (where there are no transport costs), the farmer chooses to grow crop A, since the production costs per hectare for A are lowest here and the net return (selling price minus costs) highest. In the area between M and N, farmers also opt to grow A, since it is more profitable than B. In N, the two crops are equally profitable and beyond N, farmers choose to grow B.

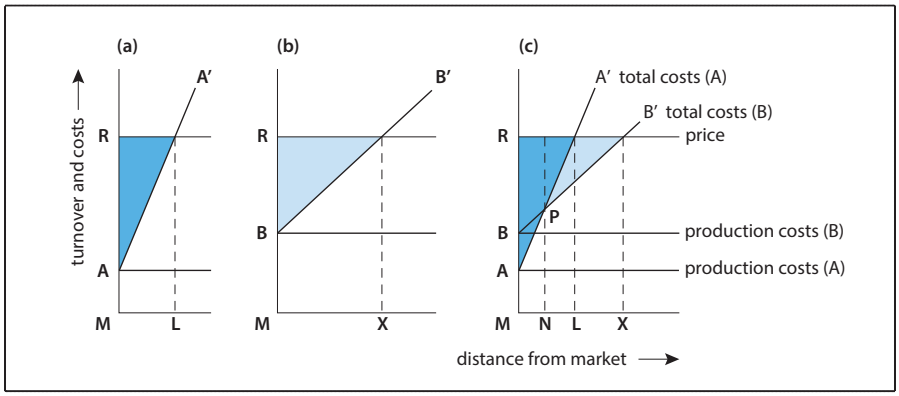


Figure 3.2 Transport and production costs per hectare for two equally profitable crops

In reality, the returns differ per crop. A hectare of tomatoes, for example, is worth more than a hectare of wheat. This leads to yet another scenario (see Figure 3.3).

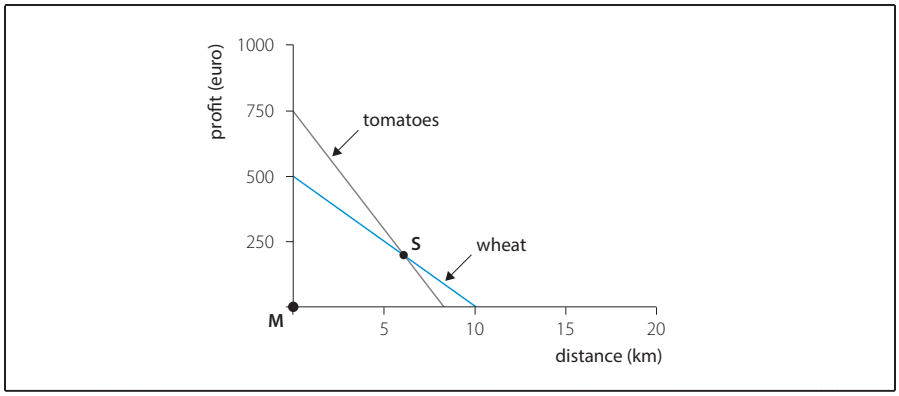


Figure 3.3 Returns, transport costs and production costs for two crops

In market M, the farmer chooses to grow tomatoes because the returns minus costs (but not transport costs!) per hectare for tomatoes are 750 euros as opposed to 500 euros for wheat. Outside M, tomatoes rapidly lose this edge in the face of relatively high transport costs. Further than six kilometres from M, the farmer would do better to grow wheat.

Table 3.1 Returns, production costs and transport costs for two crops

	Tomatoes	Wheat
Returns per hectare	€1500	€1000
Production costs per hectare	€750	€500
Transport costs per km*	€100	€50

* For quantity of produce per hectare

The assumption of an isotropic space and single market allowed Von Thünen to present his analysis as a three-dimensional figure, consisting of concentric circles representing agricultural land use, arranged around the market centre (see Figure 3.4).

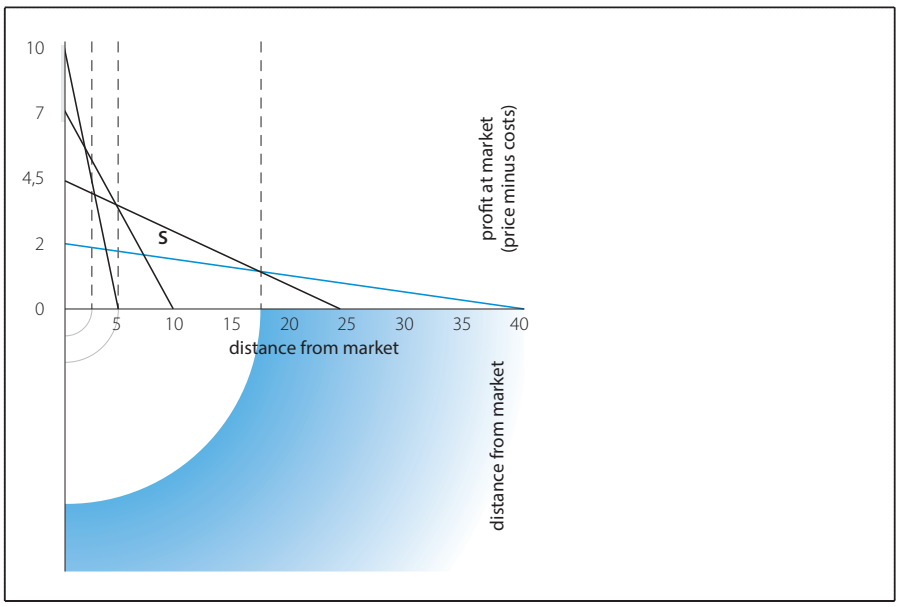


Figure 3.4 The relation between economic rent and land use in concentric zones

Von Thünen was aware of the limitations of his theory. In later versions, he considered the spatial variation in climate and soil fertility. He also addressed a dual market scenario. These adjustments led to the partial disappearance of the concentric circles. However, the basic principles of Von Thünen's theory remained unaltered and it is still used today.

Research by Sills and Caviglia-Harris into land use in the Amazon region showed that Von Thünen's model is still relevant today. One of their conclusions was that 'distance to market (…) explains nearly one-third of the variation in farm value, as predicted by the Von Thünen model' (Sills & Caviglia-Harris, 2009, p. 66). Another example was provided by regional economist Prof. Wim Heijman from the University of Wageningen in the Netherlands, whose 2002 study demonstrated a correlation in Europe between the intensity of land use, population density and

agricultural productivity. From 1990 to 2000, according to Heijman, an increase in population density of one person per hectare led to an increase in productivity of 789 dollars per hectare. In other words, there is a positive correlation between population density and the use of artificial fertilizers, which shows that Von Thünen's ideas on the relation between the intensity and the nature of land use and distance to the market are still valid. In the Netherlands, the location of the intensive horticulture activities, wedged in between the four largest cities, testifies to the model's relevance in understanding contemporary geographical patterns.

Von Thünen's model also has a bearing on land use in an urban context as elaborated in the work by Alonso (1965, see also 3.3). For example, the closer offices are to a city's central business district, the higher the value of commercial property. Not only is the economic rent of the land higher there, there are also location rent advantages for activities involving a high level of interpersonal contact. A central location enhances the accessibility for clients and employees alike (Figure 3.5). Also in this case, there is a clear relationship between the productivity of the economic activity, its location and the rent that can be paid for the location.

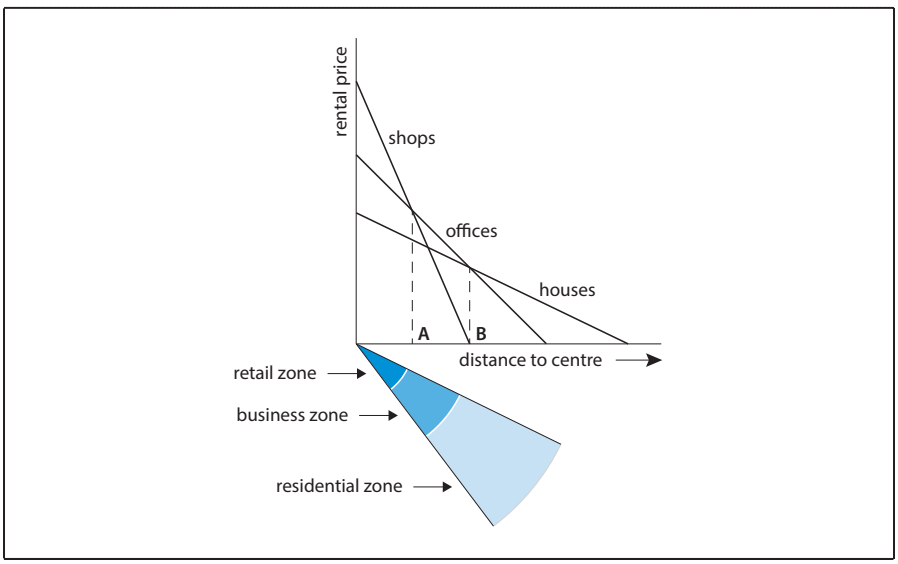


Figure 3.5 Economic rent and urban land use

3.2.2 Industrial location according to Alfred Weber

In 1909, German economist Alfred Weber published his theory on location choice in primary and secondary industries such as mining and the manufacturing of goods. During his lifetime, the Industrial Revolution had led to a high level of industrialization in Germany, mainly concentrated around areas such as the Ruhr district where natural resources like coal and iron ore could be found. The same pattern could be observed in the mining region known as the Black Country in England. In

Figure 3.6 Alfred Weber (1868-1958)

an effort to explain these concentrations, Weber made use of the principles of classical economics. Due to the uneven distribution of the natural resources required by this industrial sector, the location factors emphasized by Weber were not the same as the ones put forward by Von Thünen. Like Von Thünen, however, he assumed that businesses would aim to keep their transport costs to a minimum. In the case of primary and secondary industries, this not only meant finished products leaving the factories, it also meant raw materials and semi-finished products coming in. In addition, Weber's theory took spatial variation into account in the cost of labour and benefits of scale (agglomeration benefits, see Chapter 4).

Weber also adopted a deductive line of thinking and used the following set of assumptions:

- Space is isotropic: the land where companies operate has a uniform topography, climate, technology and economic system.
- Raw materials are unevenly distributed.
- Finished products are sold in a single market place (town or city).
- Though not mobile, as a factor of production, 'labour' is freely available everywhere.
- Transport costs for raw materials and finished products are based on the weight of the goods and the distance they are transported.
- Transport costs increase linearly as the distance increases.

Weber termed the factors affecting the choice of location for businesses in the primary and secondary industrial sectors Standort factors (the German word Standort means location or 'place of business'). He argued that a Standort factor had a different value for each location and each business looked for the location with the most favourable combination of Standort factors. Like Von Thünen, Weber assumed a situation of perfect competition in the market. So the best location was the one where a business could keep production and transport costs to a minimum. Weber grouped his Standort factors on the basis of three criteria:

- *applicability*: general location factors that apply to every type of business, such as transport costs and accessibility – as opposed to specific factors that only apply to certain types of businesses, such as the availability of cooling water.
- *nature*: Weber distinguished two main types of location factors, i.e. natural technical location factors, such as infrastructure, and sociocultural factors, such as regional development support from the central government.
- *functionality*: Weber drew attention to the regional effects of location factors. The availability of natural resources tended to affect a region, since it attracted primary sector industries that processed the natural resources. This in turn drew secondary sector industries, which supplied goods for the regional primary industry sector. He referred to these as economies of agglomeration: the

cost benefits associated with the spatial concentration of a variety of industries. Benefits of this kind are not only found where natural resources are located, but also, for instance, in harbours. If blast furnaces cluster together, they can all reap the benefits of their proximity to a deep-sea harbour terminal. In addition to economies of agglomeration, Weber also saw deagglomeration as a result of the diseconomies of agglomeration: costs incurred due to the clustering of a range of industrial sectors. Traffic congestion is a case in point.

Initially, Weber's theory was limited to regional location factors: transport and labour costs. Later he also took agglomerating and deagglomerating location factors into account. Remarkably, Weber did not include the cost of raw materials in his location theory. He assumed that their (purchasing) costs would be included in the cost of transporting them to the factory that would process them. The cost of raw materials was, therefore, part of the transport costs.

The core of Weber's model is that the location of manufacturing activity is governed by the relative difference between the transport costs of the inputs and the transport costs of the finished good to the market (see Figure 3.7).

Since transport costs are determined by distance and weight in Weber's model, the type of production process is an important factor. If the production process involves a weight loss of the material used, locating close to the inputs will give the manufacturer the lowest costs. This is, for example, the case for sugar production in the Netherlands. Sugar beets, being the raw material, are both heavier than refined sugar and more difficult to transport. The two Dutch sugar beet factories are therefore located close to agricultural areas where sugar beets are grown: near Groningen and in Dinteloord. If, however, weight is added to the production process, it is more efficient to locate close to the market. Originally, car manufacturers, for example, typically located close to their markets as the finished product was much heavier (and complex) than the individual inputs of the car. And so the main takeaway message is that *weight-reducing* industries typically locate close to the raw material or other inputs, while *weight-gaining* industries locate close to their main market. Figure 3.7 provides a graphical representation of the main idea of Weber's model. Moving further from the raw material, the total transport costs will increase as represented by the *isotims* that connect locations with the same transportation costs (R10, R20 and so on). The same can be done for the finished products that have to be transported to the market (isotims P10, P20 etc.). The blue isodapane connects the points with the same total transportation costs. Along the critical isodapane, the producer will be indifferent towards its locational preference.

On the basis of this principal idea, Weber developed further scenarios. First, he distinguished two types of materials: *ubiquitous material* and *localized material*. Ubiquitous material can be found everywhere. Since the costs do not vary across space, it is not relevant as a location factor to primary- and secondary-sector businesses. They effectively attract the business to the market. A case in point would be the production of oxygen from air, which is ubiquitous. Oxygen is a vital sub-

stance in the chemical industry. Air is freely available everywhere and the transport of oxygen gas is very costly, so oxygen factories are often located in close proximity to their main clients, such as Linde Gas Benelux Ltd in Schiedam in the Netherlands, which supplies oxygen to the petrochemical industries in the port of Rotterdam. Water can also be a ubiquitous commodity. Nearly every village used to have its own brewery. Water was everywhere but the transport of beer, which largely consists of water, was costly. Nowadays there are far fewer breweries, and they are mostly located near reliable sources of good quality water.

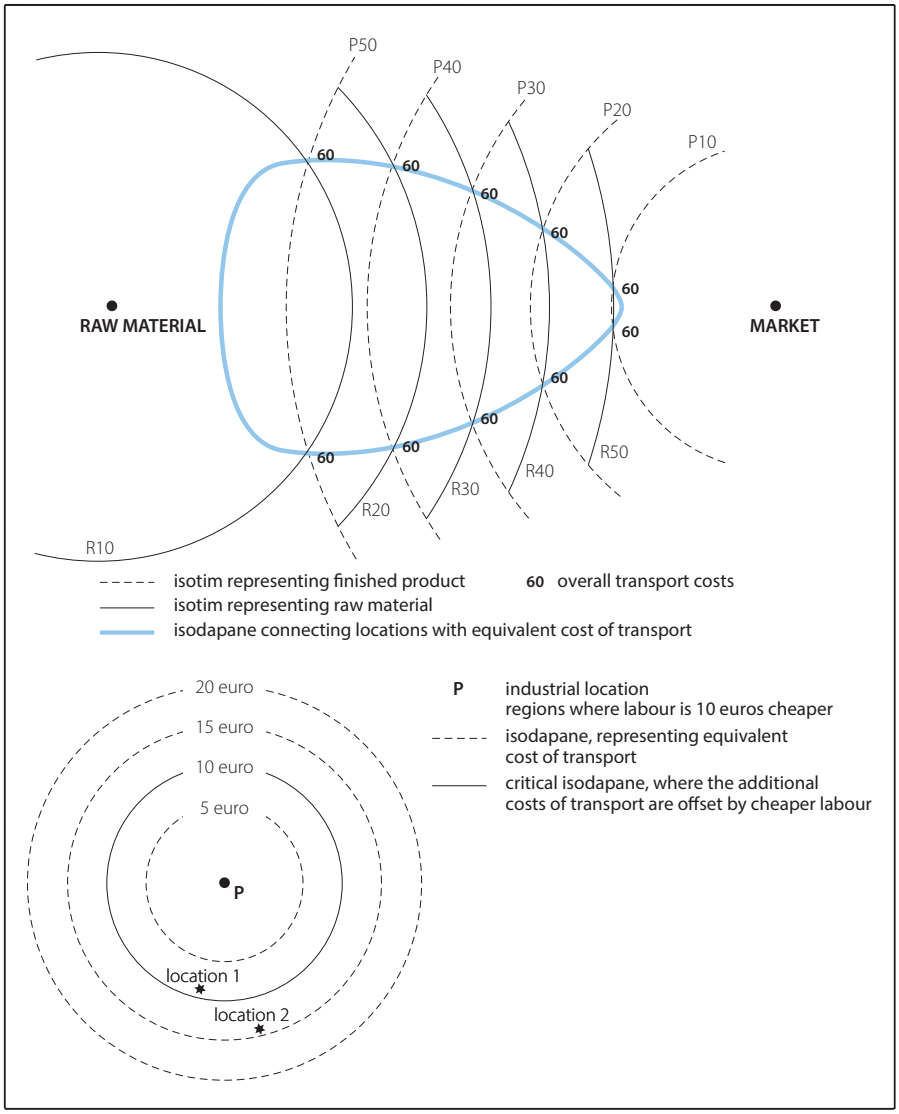


Figure 3.7 Raw materials, transport costs, labour costs and the location of primary and secondary sector industries

The internet is another context where the term ubiquitous is often used nowadays. Thanks to the World Wide Web, information from across the globe is now available everywhere. Entrepreneurs whose core business is gathering and distributing information, such as press photographers, tend to set up shop near their main clients, such as publishers. As they can now work from anywhere, photographers are likely to choose to remain in their main markets, i.e. cities like New York or London, where leading publishers like Reuters can be found.

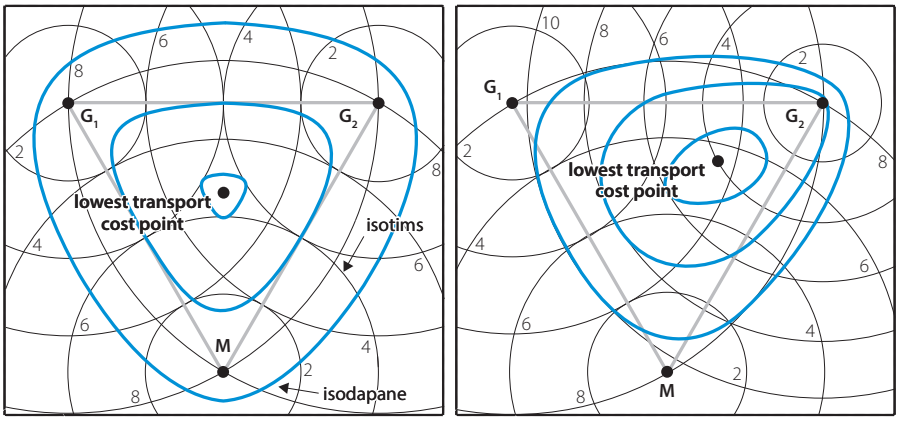
Where 'localized material' (locally available raw materials) is processed depends on the production process and whether or not it is *weight-gaining* or *weight-reducing*. If industries use weight-losing raw materials, they tend to be located near the sources of the raw materials. Crude petroleum was once used to only produce lamp oil, in a process that used a small percentage of the petroleum – the remainder was burned. Since it was not profitable to transport the oil across large distances and then burn most of it, refineries were located near oil fields. The same applied to the early blast furnaces. A vast amount of coal was required to fire them, most of which was wasted during the production process. There was no point transporting the coal across large distances, so the first blast furnaces were located near the coal mines, e.g. in northern France.

If there is little or no weight loss during the processing of raw material (as seen in Figure 3.7), as is the case, for example, with mineral water, in terms of transport costs it does not matter much whether the processing facility is located near the source of the raw material, near the market or somewhere in between. Massive improvements in the efficiency of production processes have greatly reduced weight loss, so in terms of costs it is no longer necessary for the oil-refining industry to locate plants near the sources of raw materials. The only blast furnace in the Netherlands is not located near the former coal mines in the southern province of Limburg, but adjacent to the port of IJmuiden on the west coast near Amsterdam. Here, the importance of transport costs outweighs that of the costs of processing the raw material. The same applies to the refineries at Rotterdam's seaport.

In a second scenario, Weber acknowledged that most industries are faced with a variety of weight-losing materials. Here again, Weber's location theory offers a solution: the so-called *Standortdreieck*, or location triangle.

Figure 3.8a shows market M and two sources of raw material (G1 and G2). Circles are drawn around G2 connecting the points where the costs of obtaining a particular raw material are identical. Weber called them *isocost lines*. They can also be drawn around the market – lines connecting the points where the transportation costs of the finished product to the market are equal. For each point, the isocost lines can be summed. The points where the overall costs are identical are connected by *isodapanes*, and according to Weber, the point with the lowest overall costs is the ideal location. By overall costs, Weber meant the sum of the total input costs and transportation output costs. In his theory, the transport costs of raw materials

and semi-finished products are incorporated into the price when they are delivered to the factory. Figure 3.8b shows what happens when one raw material (G2) loses more weight during processing than another (G1). In such a case, the optimal location shifts in the direction of the material that has lost more weight (G2).



a identical weight loss in raw materials during processing

b varying weight loss in raw materials during processing

Figure 3.8 The relationship between location and minimizing transport costs: the location triangle

In formulating his location theory, Weber not only considered raw materials and the cost of transport, he also took the cost of production factors such as labour into account, adding yet another scenario. In Weber's view, if extra transport costs are counterbalanced by cheaper labour, the optimal location is wherever labour is cheapest. Figure 3.9 shows the isodapanes for a given product.

Transport costs are lowest in location T, namely 7 units. Labour costs are 15 units in all the areas except in A, where they are 12. To determine whether A is a

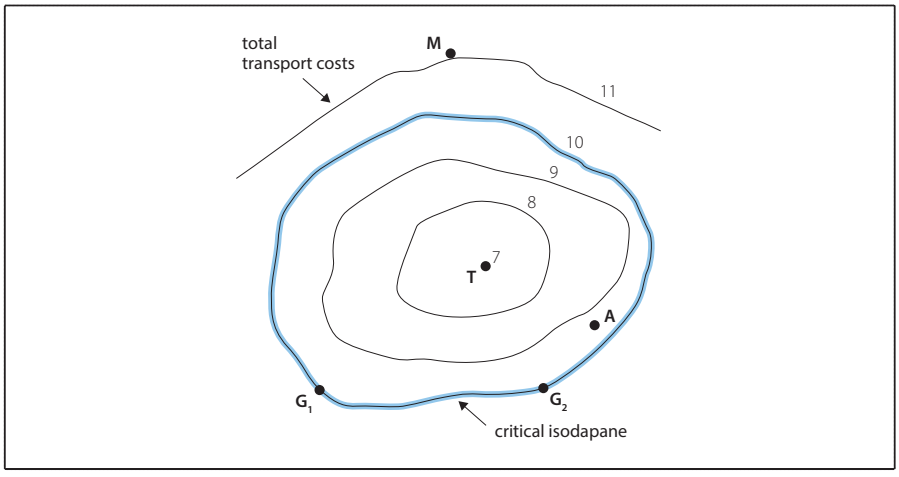


Figure 3.9 Critical isodapanes

cheaper location than T, the *critical isodapane* has to be found, i.e. the isodapane indicating the difference in labour costs (3) plus the minimum transport costs (7). If A falls within this critical isodapane of 10, as is the case in Figure 3.9, then A is indeed a better location than T. The overall costs in T are 22 (15 + 7), while in A they are 21.5 (12 + 9.5). An example of this type of situation is the location of the first textile factories in the Netherlands. Rather than being located in cities with large ports, where most of the cotton – the main raw material for the textile industry – arrived, they were set up in the southern province of North Brabant and eastern region of Twente where labour was cheaper and more readily available. As a result, the cities of Tilburg and Enschede became the main Dutch textile centres.

Like lower labour costs, agglomeration benefits can also prompt industries not to settle at the location with the lowest transport costs. These benefits arise if businesses obtain cost benefits from locations where people and businesses cluster, usually in towns and cities. An example is neighbouring businesses that outsource their transport to the same company, which thereby grows large enough to achieve an efficient cost structure itself. Such efficiency gains can subsequently encourage the transport company to lower its rates. Commercial productivity can be enhanced by the opportunities offered by geographic proximity.

Other theorists have since built on Weber's location theory. Two important additions have to do with factor substitution and internal economies of scale. They allow businesses to play strategically with the given costs of external location factors (input and transport costs).

Factor substitution means a manufacturer can utilize input goods and individual factors of production in different combinations and ratios, depending on their relative prices. This is an attractive option in situations where relative prices differ per location. At some locations, raw materials are relatively cheap, e.g. at the source, and at others, labour may be relatively cheap, e.g. in densely populated developing countries. Altering the raw material/labour ratio in the production process also changes the optimal location. If the use of raw materials increases, the source of the materials becomes an increasingly attractive location, and if more and more labour is needed, businesses will turn to developing countries, where labour is cheap. Stable Western nations have the advantage of a relatively low interest rate on the production factor capital and are consequently favoured locations for the production of capital-intensive goods. The tendency on the part of manufacturers to utilize the factor substitution effect thus changes the relative cost structure of production at certain locations, and also of businesses' positions relative to each other.

Internal economies of scale occur if there is a negative correlation between an increase in the scale of production and the production cost per unit. In this type of scenario, increased production leads to relatively lower production costs because of the more efficient use of the available factors of production, lower overheads, lower wholesale prices and so forth. This is why large businesses can produce goods at competitive prices, even if they are not based at the cheapest location in terms of

transport costs. Sometimes the location of an industrial facility, such as a plant or a factory, is highly dependent on the market. A case in point is the paper industry, discussed in Box 3.2.

Box 3.2

'A cardboard box should never be expensive'

NRC Handelsblad

The cardboard market is shrinking because its main clients are relocating to countries where labour is cheaper. Innovation and specialization go some way towards offering a solution. 'Making boxes is a highly critical process.'

One of the greatest nuisances for people who stock shelves at supermarkets are the cardboard boxes most products arrive in. They are either glued shut too tightly, covered from top to bottom in tape, or they are wrapped too tightly in plastic. A great deal of time is lost trying to open them. 'It could be so much simpler', says Bert Schoeren, Head of Innovation at Kappa Packaging, the largest paper and cardboard manufacturer in the Netherlands and, with 115 factories, one of the largest in Europe. 'Instead of glue you could use a strip to close a box. Or instead of glue you can have a serrated "press to open" area on the box.' Another way to speed up the shelf-stocking process is a box where the front and back can be removed so all its contents can be placed on the shelf in one go. 'With little tricks like that, stocking shelves would go twice as fast' says Schoeren.

So why aren't the little tricks being used? 'That's because the manufacturers are our customers, not the supermarkets. The manufacturers want the boxes as sturdy as possible, so that their products don't get damaged. They couldn't care less whether a box is also practical in the supermarket.' In addition, packaging equipment is set to the specifications of existing box types. Kappa only aims to develop applications that fit in with the existing production line, so the machines do not require too many (expensive) adjustments. As Schoeren explains: 'Whatever happens, the box cannot go up in price.'

'Competition is fierce and is based mainly on price', says Wim Hoebert, Director of Kappa de Zeeuw, corrugated cardboard manufacturers based in Eerbeek in the Dutch province of Gelderland. Hoebert is also Chairman of the Corrugated Cardboard Association, the industry trade group of the sixteen corrugated cardboard manufacturers in the Netherlands who annually produce 1.7 billion cardboard boxes, with a turnover of over 500 million euros. 'Our customers are forever demanding lower prices whereas the high price of paper has driven our purchase costs up, bringing our profit margin down.'

The main buyers of boxes are large manufacturers of food and cosmetics. Together they purchase millions of boxes, giving them a strong negotiating position. They are also highly demanding. 'It may just seem like a simple box,' Hoebert says, 'but actually the production process is highly critical. If a box is not folded perfectly straight, the packaging machine gets stuck and the production line grinds to a halt.'

In recent years the demand for cardboard boxes has shifted from standard boxes with a simple print to multicoloured boxes with the size matching the product. As Hoebert explains, 'A product sells better if it comes in a pretty box, and you can charge more for it. It used to be: 'The only thing you throw away is the box', now it's: 'The only thing you buy is the box.' Kappa de Zeeuw specializes in multicoloured corrugated cardboard boxes. 'Competition is fiercest in the case of standard products, which in our sector is the brown foldable box. There's a wider margin for specialist products.'

'The art of cardboard making', says Hoebert, 'is to make sure the production process generates the minimum amount of waste and your stocks are as small as possible.' Corrugated cardboard owes its robustness to the layer or layers of undulating paper, but it takes up a lot of space. 'It mostly consists of air.' Due to its large volume, distribution is costly, restricting the market for corrugated cardboard to a radius of no more than 250 kilometres from the factory. More specialist products have a larger radius. 'Such a limited reach has its advantages,' says Hoebert. 'We are not hampered by competition from Eastern Europe, where cardboard is produced much more cheaply.' However, the recent trend for companies to relocate their production to countries with lower wages has turned this advantage into a disadvantage. 'Part of our customer base is slowly disappearing abroad.'

Hoebert is keenly aware that in the long run, this will threaten the very existence of the Dutch cardboard industry. 'Clearly the market is shrinking. The only Kappa factories where we still see a growth of five percent or more are the ones in Eastern Europe.' In his view, the sector will have to rely on specialization and the development of new and innovative applications for cardboard, as there is not much more room for increasing profits from enhanced efficiency. 'We already produce twice as many boxes as ten years ago with half the number of people. The production process is highly automated. There's only so much we can do.'

Suppliers in the cardboard industry have also seen their markets shrink. Paper manufacturer SCA De Hoop is located near Kappa de Zeeuw in Eerbeek. It is part of the Swedish firm SCA which, in addition to paper and packaging material, also makes nappies and tissues. In Eerbeek, SCA produces recycled paper for the corrugated cardboard industry and turns used paper into single, double or triple-layered brown paper used for the lining and undulating layers in cardboard boxes, three-quarters of which consist of recycled paper. For the boxes' exterior, new paper tends to be used, providing a better surface for printing.

'SCA De Hoop is highly dependent on the price of used paper, which fluctuates whenever supply and demand fluctuate', says Head of Production Hennie Harmsen. In his opinion there is a slight overproduction of recycled paper on the European market. 'As a result, prices are low. Sometimes when we have too much we ship it off to Asia, where the demand for paper is high. It's better than dumping it on the market here.' In addition, transport costs are low. 'Many cargo ships bringing goods over from the Far East would otherwise just sail back empty.'

(Van Barschot, 2003)

3.2.3 Refining the linear connection between distance and transport costs

Minimizing the cost of transport is a key concept in classical location theory. It assumes there is a linear correlation between distance and transport costs. This is expressed in the formula T = b + aD. T stands for total transport costs per unit, and b for fixed transport costs per unit, including, for example, loading and offloading costs or harbour fees. D stands for distance (relative to O) and, finally, a for transport costs per distance category (e.g. kilometres). This theoretical relationship is shown in Figure 3.10. The slope of the graph is determined by the 'a' term in the formula.

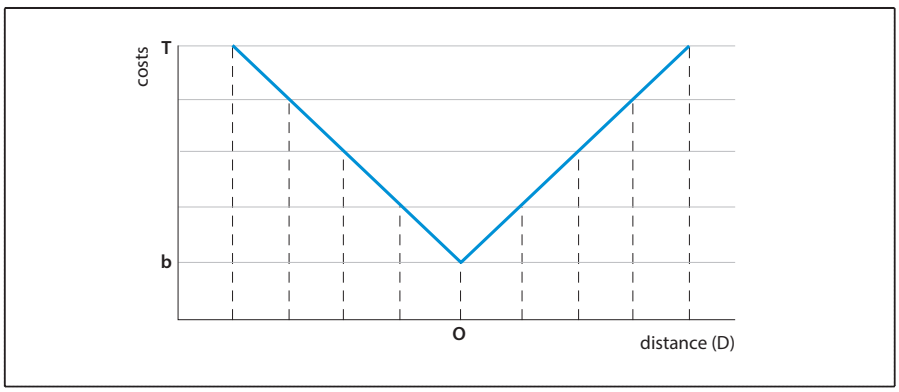


Figure 3.10 The linear relationship between distance and transport costs

However, a linear correlation between distance and transport costs cannot be automatically assumed (see Figure 3.11). The first qualification concerns how businesses calculate the cost of shipping. Classical theories use the 'free on board' or FOB system, in which all the costs of transport are incurred by the buyer and the price in-

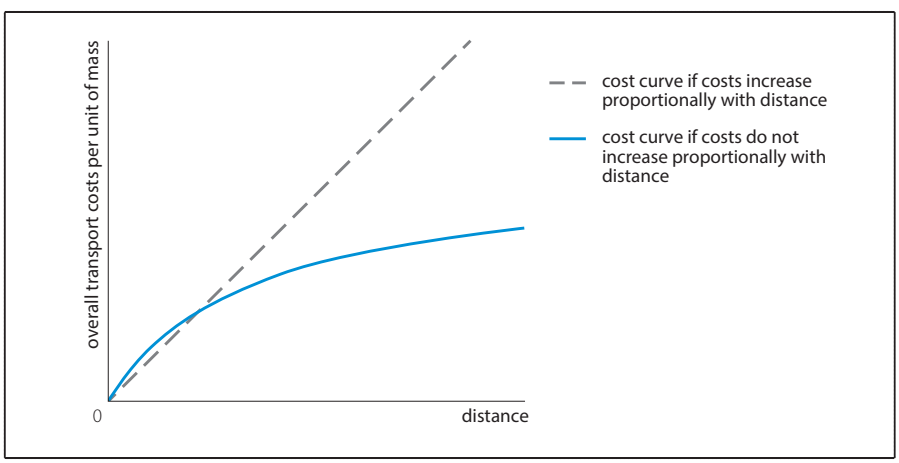


Figure 3.11 The non-linear relationship between distance and transport costs

cludes all the costs from the moment the goods leave the factory or dealership. This would mean a buyer located near the seller pays less than one based further away. In reality, however, sellers often charge customers an all-in price. This is known as the 'cost insurance freight' or CIF system, in which uniform prices apply within the same market. All the customers at the main Dutch supermarket chain Albert Heijn pay the same price for a bottle of detergent, regardless of how close or far from a distribution centre they live, and natural gas tariffs are the same in the south of the country as in the north, where the gas is extracted. The cost of transport is no longer a location factor in areas where prices are the same across the board.

A second qualification is connected with the costs of transhipment. The fixed/variable cost ratio is different for each mode of transport. In the case of haulage, where the fixed costs are relatively low and the variable costs relatively high, it almost amounts to a linear relationship between costs and distance. Here too the transport costs level out as the distance increases. Rail transport, by contrast, has high fixed costs and relatively low variable costs, resulting in a stronger levelling out of the costs. Figure 3.12 shows that the cheapest option for short-distance transport is road haulage. For longer distances, trains or ships are cheaper. Modes of transport are often integrated to limit terminal costs. Containers arriving at the port of Rotterdam by sea transport are transferred for road, rail or river transport at so-called multimodal terminals. Once in the port's hinterland, the containers are transferred to vehicles that deliver the goods to the customer.

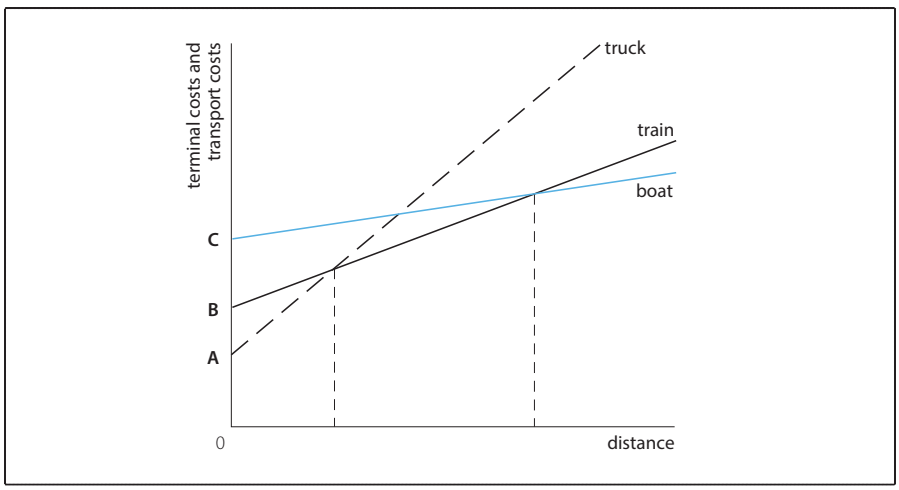


Figure 3.12 The relationship between distance and transport costs for a range of transport modes

Box 3.3

How containerization changed the role of transport costs

In 1955, American truck driver Malcolm McLean sent a shockwave through the world of shipping. During the long hours spent waiting while goods were transferred from ships and trucks onto racks and into crates and storage areas, it occurred to him that there must be a better way of going about this process. He proceeded to develop a system that combined detachable trailers and uniform containers, which would render manual transfer of goods unnecessary. While the customers were enthusiastic, the trade unions were not, fearing massive job losses among longshoremen. Many port authorities however saw an opportunity to strengthen their position on the market. They worked hard to adjust their ports to the requirements of containerization, the advantages of which eventually brought the unions on board too. They reasoned that it was better to have fewer workers in a prosperous enterprise than many in a declining one.

Each year an estimated 226 million shipping containers are moved. Between the cost effectiveness of containerization and low production costs in Asia, more and more companies are becoming convinced of the benefits of moving production to Asia. This can also be seen in a list of the biggest container harbours in the world, led by Shanghai and Singapore, and followed almost exclusively by Chinese harbours, except for Busan Port in South Korea (at 7) and Rotterdam (10).

In 2002, toy giant Mattel closed its last manufacturing facility in the United States; all Barbie dolls are now made in China using Taiwanese plastic, Japanese hair and American colouring agents. Once they leave the Chinese factories, the dolls proceed to travel the world. Another consequence of containerization is that it reduces the need for companies to have large amounts of goods in stock. From an economic value perspective, 70% of the world's goods are carried by sea, and 52% of the world's sea trade is transported in shipping containers.

Containerization has weakened the link between distance and transport costs. Much of the cost of containerized transport is in fixed costs, unrelated to distance, such as the costs of handling, customs clearance and administration.

The third qualification concerns the relation between the freight rate and the nature of the goods transported. For light bulk goods that take up a lot of space, the transport costs per product unit are very high. The amount of goods also plays a role. For large consignments there are economies of scale, since terminal costs can be spread out across a larger number of goods. Some fragile or perishable goods require extra facilities, driving up the costs. Another important factor is the value of the goods to be transported; the level of transport costs is less important for valuable goods than for cheaper products, and a transport provider can charge more for valuable products.

The fourth qualification pertains to the law of supply and demand for certain trade routes. The capacity requirements for the Shanghai–Rotterdam trade route are much higher than for the Rotterdam–Shanghai route, since far more products are exported from China to Europe than vice versa. So the cost price of container-

ized transport from China is often much higher. This often makes it worthwhile to fill containers with used paper for the return voyage to China, which would not be possible had the trading relationship been more balanced (see Box 3.3).

Even though there are important nuances to be made in the function and form of transport costs, it is clear that they play a crucial role in the classical and neoclassical models regarding the location of economic activity. But nowadays, including transport costs is also an important way of accounting for geography and the friction of distance in trying to understand spatial differences in economic activity.

3.3 Neoclassical economics and the role of the market

In economics, a distinction is made between classical and neoclassical theories. There are five main differences between the two theories:

- Neoclassical economics devotes more attention to the role of the market. Whereas in classical economics, the market is no more than a venue for buying and selling, neoclassical theorists also ask questions, such as who controls the market and how can businesses expand their markets.
- Neoclassical theories recognize the existence of more market types than just perfect competition. It is not enough for manufacturers and service providers to look at differences in costs, they also need to devote attention to the spatial behaviour of competitors and price-setting strategies.
- In contrast to classical approaches, neoclassical theories take into account internal *economies of scale*, highlighting the relevance of the internal organization of a company.
- There are more production functions in neoclassical than in classical economics. Neoclassical theories recognize that businesses can create output in a number of ways by utilizing varying combinations of factors of production. Needless to say, the most profitable combination is the preferred one. Neoclassical location theory not only examines the costs of a particular location but also the benefits it can bring, and the assumption is that entrepreneurs are adept at adjusting their use of location factors to their availability. If 'labour' is expensive in a particular area, neoclassical theory says a business will opt for automation, i.e. an increase in the use of 'capital' to reduce the importance of labour to the firm.

3.3.1 Hierarchy and distribution of services according to Walter Christaller

The German economist and geographer Walter Christaller (1893-1969) assessed the relationship between the spatial patterning of rural and urban settlements and their roles as regional service providers. As part of this line of research, he developed the *central place theory* in his PhD thesis published in 1933. Christaller's aim was to formulate universal laws to explain the regularity of settlement patterns. In econom-

ic geography, the central place theory is still frequently cited in determining and sometimes even planning location patterns for a variety of services.

Christaller discerned a hierarchy of settlements with highly specialist services located in large settlements and providers of basic day-to-day services in smaller ones. The centrality of a settlement thus depends on its size. With regard to the role of towns and cities as markets, rather than focusing on transport from the manufacturer to the urban market, Christaller was more interested in the *accessibility* of manufacturers or service providers to urban consumers. He tried to explain settlement patterns (size, number and distribution) in terms of how and to what extent they provide regional services, and found that the central-places pattern was the result of careful and deliberate location choices by consumer-focused service providers in particular. For these businesses, more consumers can mean a higher turnover.

Figure 3.13 Walter Christaller (1893-1969)

Central place theory describes a settlement pattern every traveller is familiar with. After a string of villages with limited amenities, there is usually a larger settlement with more shops. As towns grow, their function as service providers grows, as does the area they cater to, their *hinterlands*. Not only do urban centres have more shops, they have more specialist shops. Or, as Christaller would put it, they are higher up in the urban hierarchy. To develop his model, Christaller made a few – by now familiar – assumptions:

- Space is flat and isotropic, so moving goods and people is equally easy in all directions.
- Transport costs increase with distance.
- Outside the settlements, the population is distributed evenly.
- Income and consumer preferences are the same for everyone.
- Providers (manufacturers or service providers) and users (consumers) are fully aware of what the market has to offer – they are all 'economic men' or homo economicus.
- The market is characterized by perfect competition.
- There are no economies of scale and/or agglomeration benefits.

According to Christaller, a minimum number of consumers, i.e. level of demand, is required for a service or product to be viable, let alone profitable. This threshold varies per service or product. The threshold is higher for a supermarket than a pub, which explains why there are so few villages without a pub and so many without a supermarket. At the same time, many villagers would like to have a supermarket. The answer can be to reorganize local shopping facilities. Residents of the southern Dutch village of Sterksel organized a cooperative to reach the threshold for a local

supermarket. The village, with 1,200 residents, managed to keep a small supermarket operational with one paid employee and fifty volunteers. Christaller's theory assumes people will always go to the nearest location where a service is offered, be it a pub or a supermarket or another service. The number of customers a local service can hope to attract then depends on the maximum distance customers are prepared to travel – the range of a service. So the owners of the supermarket in Sterksel not only depend on the loyalty of customers in the village itself, but also of those in the surrounding area. The range of products and services again depends on their nature, also in connection to the frequency of use. You don't purchase a new sofa very often and, if needed, consumers are willing to travel relatively far to go to a furniture shop. Daily groceries, however, need to be available close by and thus have a much smaller range.

For all types of services, then, the market is determined by both threshold and range. In Christaller's theory, these two factors can be represented as concentric circles around the service, based on minimizing the distance within the *isotropic space*. Circles representing thresholds tend to be smaller than those indicating range, as service providers cannot be certain that all potential buyers within range will actually make use of their services. If within a certain range not enough buyers can be found to make the threshold, the service is not viable. Conversely, if the range far exceeds the threshold, then there is room for new providers. Christaller predicts that in such a situation, new providers will appear immediately ('economic man'). In due course, a new balance will be reached where the difference between range and threshold is minimal, and the overall regional market is distributed evenly across the providers.

Box 3.4

Walter Christaller

As a child, Walter Christaller (1893-1969) liked to pore over his parents' atlas. In 1933, after studying economics, he got a PhD in geography. The subtitle of his thesis, *The Central Places in Southern Germany*, was 'An economic-geographic investigation into the laws governing the distribution and development of urban settlements'.

In 1940, Christaller joined Hitler's National Socialist Party, or NSDAP; during the War he worked at the SS Planning and Soil Office. As part of the Waffen SS, this department aimed to provide a scientific legitimization for German war efforts to conquer Central and Eastern Europe. In the hands of the Nazis, Christaller's central place theory became an instrument for the planning models for parts of Poland (see Figure 3.14), Czechoslovakia and Russia. Due to his work for the Nazis, his work was long shunned by the academic world.

From 1950 onwards, Christaller's work became better known and recognition for his central place theory grew steadily outside Germany. Geographers with a focus on quantitative methods appreciated his work and in 1964 Christaller received the Outstanding Achievement Award from the Association of American Geographers. Towards the end of his life, recognition also came in Germany and in 1968, he re-

ceived an Honorary Doctorate from the University of Bochum. In 1996, the German Association for Applied Geography named an award for applied geographical research after him.

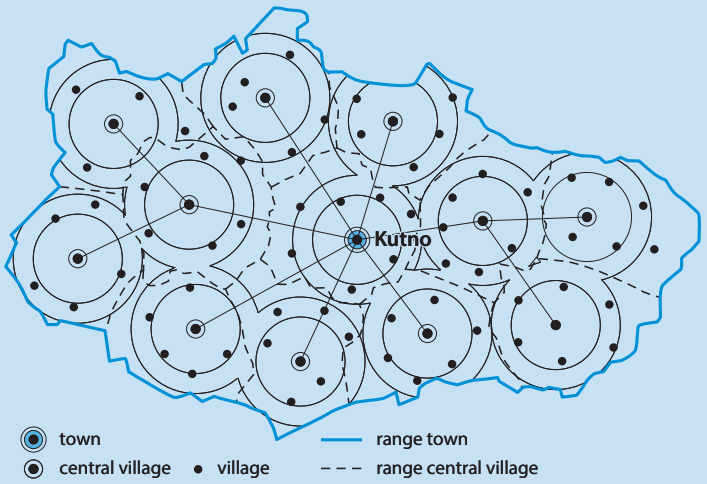


Figure 3.14 Central place theory applied to Poland

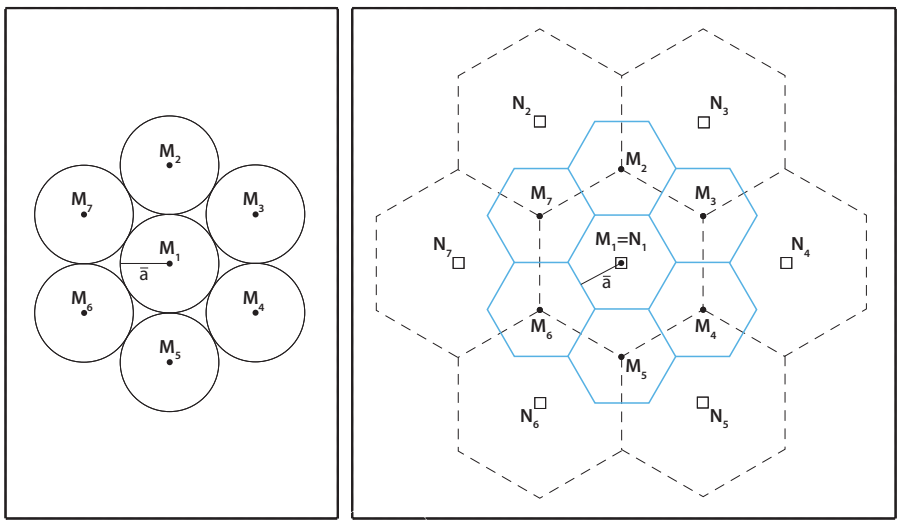


Figure 3.15 Markets in the central place theory

Figure 3.15a shows seven market places (M), all with the same characteristics. Each has a service with a range of approximately one kilometre, typical for a pub or café. Provided there is sufficient purchasing power in the market, new central places (M2–M7) can emerge for pubs beyond distance ā of place M1. If the purchasing power is too weak to keep seven services afloat, the markets (radius $\bar{a}$) will grow spatially and the services will have a lower-resolution distribution pattern.

Figure 3.15a illustrates that if markets are represented as circles, 'empty' areas remain. Christaller assumed the population was distributed evenly beyond the settlements, and people living in the 'empty' areas would not be provided for. In reality, however, providers cater to these customers as well. Rather than as circles, markets can more usefully be represented as hexagons, thus covering the entire area (Figure 3.15b).

So far, we have only looked at one type of service, the pub. Central place theory really comes into its own if different types of services are considered simultaneously. The threshold for a supermarket is higher than for a pub; also the market (range) for a supermarket is greater. Suppose its market is at least as large as the distance between M1 and M2 (Figure 3.15a). In this scenario, the supermarket would base itself in M1 and from there, serve customers in the markets in and around M2 to M7. All the places within that area would have a pub but only M1 would have a supermarket. As Christaller puts it, M1 is higher in the settlement hierarchy than M2–M7, since it provides more services, i.e. a pub and a supermarket. Naturally, there are also places with supermarkets further away from M1. These places are represented in Figure 3.15b as N1 (=M1) to N7. This process can be repeated for more specialist services with an even wider range, such as theatres or professional football clubs (see Box 3.5). In Christaller's theory, this process creates a regular pattern in terms of the numbers and distribution of central places. Consumers in M2 to M7 have a choice of three central places, all high in the settlement hierarchy and all equidistant. There is an inversely proportional relation between the number of places and their ranking in the settlement hierarchy (centrality).

Christaller's theory tells us the location of consumer-oriented service providers is linked to the extent to which they provide specialist services. Diamond merchants are more likely to set up shop in Amsterdam than in a small village, as are exclusive night clubs and high-profile solicitors. This can result from the desire on the part of these providers to monopolize their markets. As noted above, the theory states that the hexagonal markets are divided up between the providers.

A theoretical link can be drawn between central functions in larger urban settlements and the concept of economic rent as used by Von Thünen. This was noted by William Alonso (1933-1999) using bid rent theory, which holds that central places are battlegrounds with providers all vying for the most accessible location (Alonso, 1965). They try to outbid each other, and the highest bidders get the most popular locations. These are the locations with the most economic rent; the highest rents per square metre are paid in the centres of centrally located towns and cities. They are called A1 locations in the Dutch retail sector, and it is here that popular retailers, such as large department stores, can be found. Not only are they able to pay the high rents, they attract more footfall, enhancing the stream of purchases as well as the turnover for smaller nearby retailers, thus driving rental prices up even further.

Popular retailers and product affinity served as the basis for Nelson's 1958 theory of cumulative attraction. He believed consumers engage in 'comparison shopping', comparing retailers on the basis of aspects like the quality, design and price of the merchandise. The clustering of retailers in a restricted area such as a city centre, Nelson stated, offers advantages to buyers and sellers alike.

Box 3.5

Range and thresholds in Dutch professional football

Most professional football clubs in the Netherlands began as local neighbourhood clubs or initiatives by groups of friends. With the introduction of professionalism in 1954, football gained economic as well as social value, and the sport soon came to be run like a business. As with other consumer-focused services, Christaller's theory is useful for examining the location patterns of football clubs. To be viable, a club needs a minimum number of visitors, but there is a limit to the distance spectators are willing to travel to the stadium. Football lovers will travel further for a Champions' League final than for a home game of a team at the bottom of the 'First Division' (the second highest football division in the Netherlands). For Ajax home games, supporters come from across the Netherlands, but HFC Haarlem, which disappeared from professional football in 2009, relied mostly on Haarlem itself and nearby Bennebroek for its supporters. The threshold expressed in numbers of spectators is reflected in the budget. First Division annual budgets range from about 1 to 9 million euros, and teams in the 'Honorary Division', the highest Dutch league level, range from 6 to 70 million euros. More spectators mean higher income, and higher income means higher salaries, better players and a greater chance of winning. Good sporting results boost the number of spectators. There is a situation of reciprocal relations, with the size of the audience as the basis for a club's athletic and economic potential. About a third of a club's income has to come from ticket sales, and the income from sponsoring (40%) and television licenses (20%) is becoming increasingly important. Here too, however, there is a relation between income and potential support base.

Figure 3.16 summarizes the markets of the larger clubs (b–d) and professional football attendance (a). Attendance is extremely low in the province of Zeeland, on the Wadden Islands and in the 'Bible Belt', a stretch of the Netherlands traditionally home to conservative Protestants. The football landscape is not isotropic. In 2008, the level of penetration in the market regions ranged from 109.8 per 10,000 inhabitants in the market of ADO The Hague to 724.3 per 10,000 inhabitants in the market of FC Volendam. For some clubs, high consumption levels can compensate for a small market region.

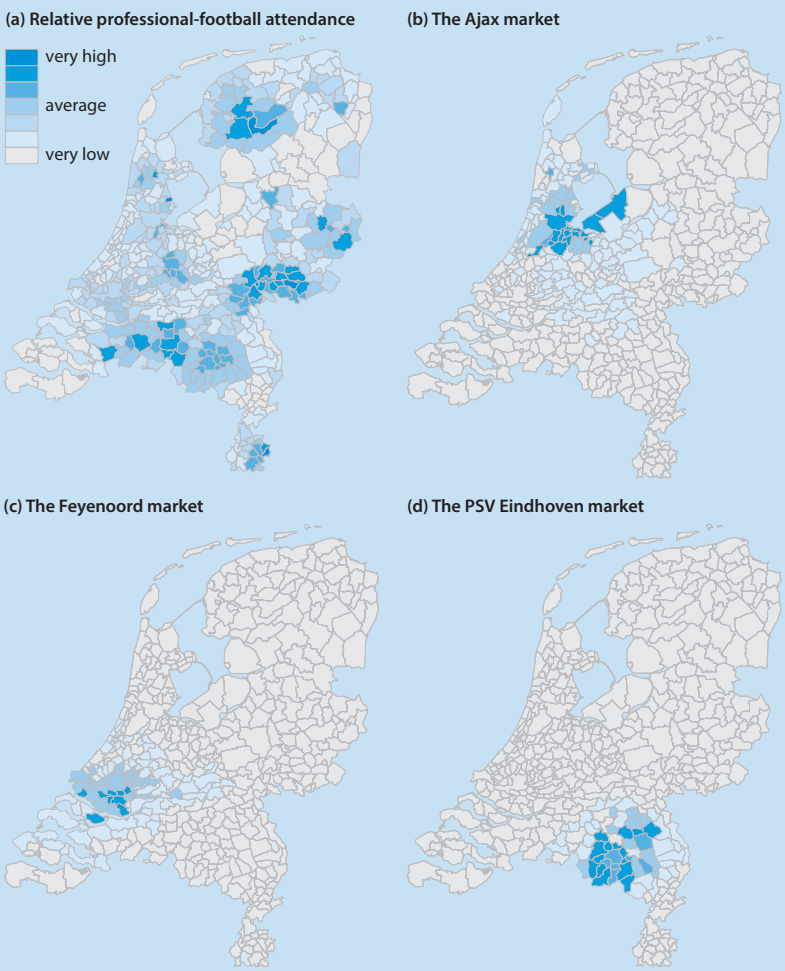


Figure 3.16 Relative professional-football attendance and the markets of three larger clubs

(Dejonghe et al., 2006)

These theoretical additions are not taken into account in Christaller's central place theory, although efforts have been made to test his theory empirically. Christaller's theory was applied to settlement planning in the Noordoostpolder (Northeast Polder), a large area of reclaimed land, and it is frequently referred to in the hierarchy of shopping centres from city centres to local neighbourhoods. This hierarchy is reflected in the property prices for retail areas (Figure 3.17). In determining the composition of shopping centres in terms of shops and other services, developers and managers of retail locations look at the location of their centre in the hierarchy within urban regions. Not every shop or service will thrive in a given shopping

centre. The individual retailer will adapt his product range to the market and avoid stocking unprofitable merchandise.

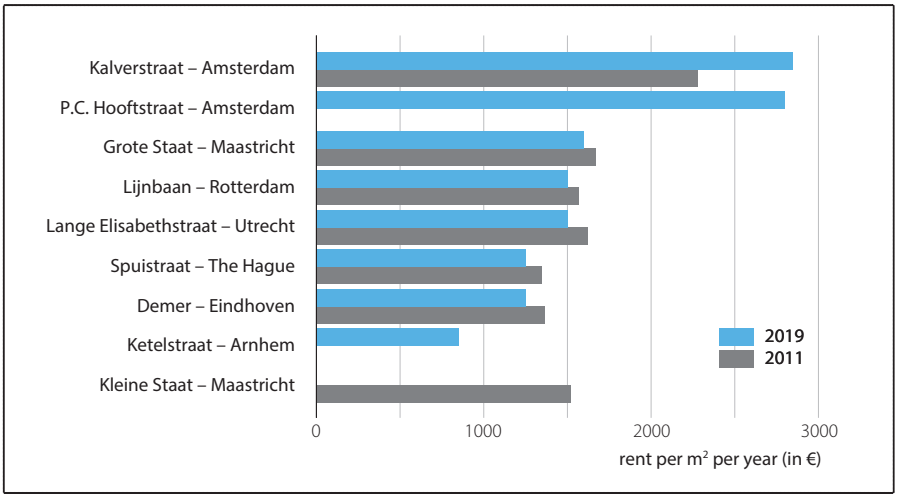


Figure 3.17 Highest retail rents in the Netherlands in 2011 and 2019 (PropertyNL, 2011; Cushman & Wakefield, 2019)

There are major drawbacks to empirical analyses and planning applications of Christaller's theory, as some of his assumptions are not supported by reality. It is questionable, for example, whether the principle of the concentration of central functions in central places and their surrounding area applies. Many services have a much wider range than the area immediately surrounding an urban settlement. The urban concentration of services can also result from agglomeration benefits, as is illustrated by Nelson's theory. Furthermore, Christaller's theory assumes that everyone has the same income and preferences, but in reality there can be enormous differences in purchasing power and taste. This is why market researchers divide consumers into groups based on income levels and social classes.

Another of Christaller's unconfirmed assumptions pertains to linear transport costs (see Section 3.2.3). Shopping centres compete on the basis of accessibility and parking charges. Some try to enhance their distinctive capability by offering a thematic range of services, thus enlarging their markets. The regular hierarchy of central places with associated services that Christaller envisaged often evaporates in the face of reality. The hierarchical system itself has been based on Christaller's central place theory. Though originally meant for rural settlements at the regional level, the system of places was used as a blueprint for the planning of shopping centres at the urban level (Van Duren, 1995). Its four-tier hierarchy can be seen at the intra-urban scale in hierarchy comprising street corner convenience cluster, neighbourhood shopping centre, community shopping centre and regional shopping centre. When planning shopping space, planners usually employed the principle of functional hierarchy of shopping centres (Borchert, 1995).

In his PhD, Bas Spierings (2006) described the rise of geographies of consumption, which is considered an important constituent of the new (cultural) retail geography that appeared on the academic scene in the 1990s, according to Lowe and Wrigley (1996). The literature discusses cultural as well as related economic dimensions of consumption spaces like the shopping mall, the (department) store, the shopping street and the home. Cities can be typified as consumption spaces to a decreasing extent due to changes in both functional facilities and physical features. The city has changed from 'smoking chimneys', via 'office buildings' to 'shopping buildings'.

3.3.2 Locational competition according to Harold Hotelling

Mathematical economist Harold Hotelling (1895-1973) is a typical proponent of neoclassical economics. The economic law named after him, Hotelling's Law, states that in competitive markets, providers tend to offer similar products, and in oligopolistic markets, they aim to be distinctive. In other words, the greater the competition the more homogeneous the products, since competitors keep a watchful eye on each other. If one competitor changes a product, others immediately copy the change. Hotelling's theories were adopted in geography because he saw the choice of location as a variable dependent on providers' competitive behaviour. In deciding where to set up shop, they not only consider costs and consumer distribution but also what the competition is up to. They may even try to anticipate the others' next move. This locational connectedness of businesses is sometimes called 'locational interdependence', and neither classical economics nor Christaller's theory allows for it. Another difference between Christaller and Hotelling is that their theories are based on different market situations: Christaller's on perfect competition and Hotelling's on a duopolistic market, i.e. containing two providers.

Hotelling published his ideas on locational interdependence in his article 'Stability of Competition' in the renowned Economic Journal. It appeared in 1929, the year of the Wall Street Crash. Hotelling criticized classical economics' 'invisible hand', which was supposed to ensure economic recovery. His criticism was mainly aimed at the idea that in a situation of perfect competition, each provider specialized in a particular product or target group. Hotelling envisaged exactly the opposite scenario, and held that the producers' aim to maximize profits combined with the consumers' aim to minimize costs would lead to one uniform product designed to satisfy the largest possible consumer group. While taking the need for consumer accessibility into account, the tendency of businesses to keep a watchful eye on each other would lead them to set up shop near their main competitor rather than close to their consumer base. Businesses play a 'location game' with each other and with the consumers, each anticipating the behaviour of the other players. Each business tries to obtain the best location, but ultimately they all find themselves in close proximity. In economic geography this is called 'co-location', 'clustering' or 'agglomeration'. Unlike the agglomeration factors cited when we discussed Weber

(Section 3.2.2), the 'locational interdependence principle' is not about reducing costs but about obtaining a favourable market position.

In economic geography, Hotelling's ideas have been elaborated upon using the example of two ice cream vendors arriving at a beach (see Figure 3.18). The beach is completely closed off on both sides, let's say because there are cliffs on either side. They shake hands and each decides to sell at least as much ice cream as the other that day, and preferably more. They survey the beach to see where their customers, the bathers, are located and conclude that they are distributed evenly across the beach. The obvious approach would be to divide the beach in two halves. This would be in line with Christaller's theory and each would set up shop in the centre of their half (phase 1). However, each wants to sell more ice cream than the other, and after some thought, one of them comes up with the cunning plan of moving slightly towards the middle of the beach. He can still sell to the bathers on his half, but now he can also steal some of the customers on his competitor's half. The most extreme form of this scenario would be for him to position himself next to the other vendor, while remaining within his own half of the beach (phase 2). Phase 1 is thus unstable, there is no stable situation in which both vendors can be happy. One of the two can still improve on their current situation. The technical term for this is *disequilibrium*. Both vendors have to be prepared for the other's opportunistic behaviour.

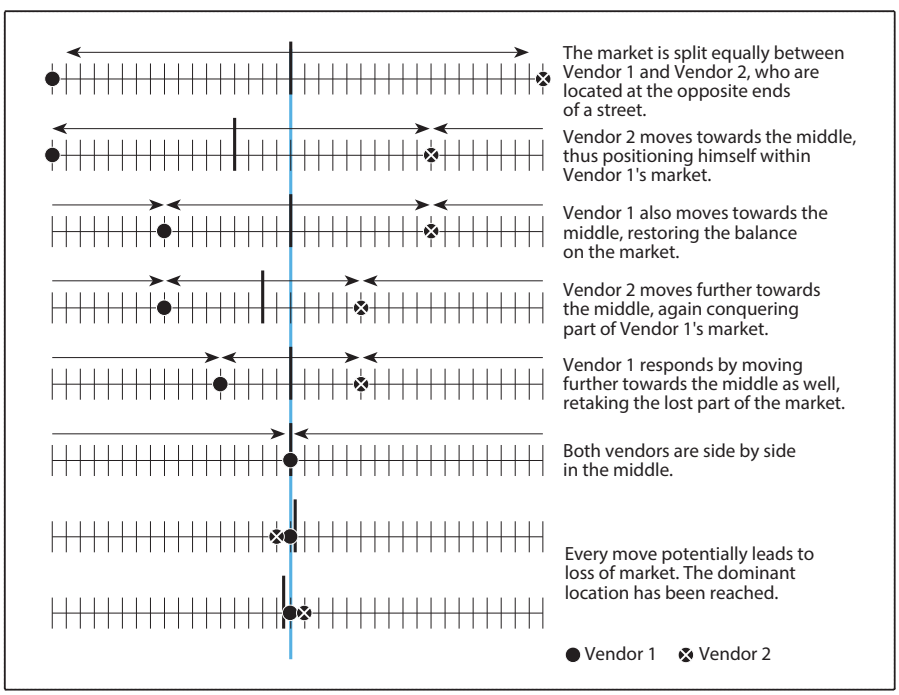


Figure 3.18 Locational interdependence and Hotelling's theory

Only by effectively 'leaping over' vendor A can vendor B avoid loss of market. If this behaviour is repeated often enough, both vendors will end up in the middle of the beach (phase 3). In this final situation, neither can improve their situation and the model has reached stability or *an equilibrium situation*. The losers in this scenario are the consumers, who need to walk further for their ice cream. Whether they do so, as we saw when we looked at Christaller's theory, depends on the range of the ice cream, that is how far the bathers are willing to walk to buy ice cream. Essentially, what Hotelling was trying to convey is that competition initially leads to product uniformity and subsequently to the spatial clustering of product providers. Also, he showed that this is not necessarily to the benefit of the consumer.

The ice cream vendors' choice of location in Hotelling's model contrasts sharply with where they would have positioned themselves according to Christaller. He would expect them to distribute themselves evenly instead of clustering in the middle of the beach. He describes a situation of perfect competition where the kind of opportunistic behaviour we see with Hotelling is not profitable. Hotelling's duopolistic market is one of income maximization leading to locational interdependence, as illustrated by the example of the ice cream vendors.

3.3.3 Markets according to August Lösch

August Lösch (1906-1945) was a German economist who worked at the University of Kiel in Germany as well as at American universities. A true academic, he considered the actual location of a business less important than the theory behind the best location for a business. In 1939 he published his ideas in *Die räumliche Ordnung der* Wirtschaft (literally the spatial organization of the economy). Due to the language it was written in and the outbreak of the Second World War, it remained a little known work even though it did contain a number of American examples. It was not until 1954 that an English translation was published under the title *The Economics of Location* and Lösch's ideas soon became mainstream. A systematic academic approach to geography (spatial science) was rapidly gaining in popularity at the time, and in economics, the field of regional science was developing.

Lösch's location theory is often contrasted with Alfred Weber's. Weber's theory focuses on finding the cheapest location, while Lösch aims to find the location that yields maximum proceeds. Central to Lösch's ideas about economic space are market forces rather than production and consumption, which he grouped together. To him, economic science was about studying interpersonal relations, for example between producers and consumers, and geographic space formed an integral part of the economy. As he wrote in the epilogue to his book, 'If everything occurred at the same time there would be no development. If everything existed in the same place there could be no particularity. Only space makes possible the particular, which then unfolds in time.' According to Lösch, the boundary of the market for a particular product is the point where the consumer can choose between two equally priced products. Producers can potentially enlarge their markets by adjusting their prices.

This is made possible by internal benefits of scale, as they can drive prices down. On the flip side, a larger market invites more competition, and any newcomers will try to steal some of the market. But where will they establish themselves? Lösch thought it unlikely that new competitors would settle close to the existing provider, since then each of them would only earn as much as the demand in half the market would yield. In this scenario, they might both sustain losses. So competitors would spread out in such a way as to create a regular pattern comparable to Christaller's hexagonal pattern. The exact pattern depends on the extent to which they can generate internal benefits of scale (the larger the benefits, the fewer the locations) and on transport costs (the higher the costs per product the larger the number of locations). As the outcomes of this exercise are similar to Christaller's, the two theorists are often discussed in tandem. However, in view of his theoretical depth and emphasis on mutual relations, Lösch merits a separate mention.

3.4 Conclusion

Classical and neoclassical economics deliberately reach beyond reality. Their models are normative in that they make statements about what the world should be rather than what it is. Their theories offer positivist explanations, based on assumptions about reality, in order to formulate generally applicable laws. Key assumptions are isotropic space, perfect competition, linear transport costs and, lastly, the existence of 'economic man': a fully informed entrepreneur whose decisions are entirely rational. When deciding where to establish his enterprise, he judges locations purely in terms of minimizing costs (classical) and maximizing income (neoclassical). Neoclassical theorists also take consumer behaviour into consideration, not just the costs of input factors. Although the name might suggest otherwise, classical and neoclassical location theory is still current. Producers and consumers still try to minimize costs and maximize use and income, while the decision where to manufacture or buy something often remains a matter of price comparison.

Even though the models discussed do not describe reality fully and make rather heroic assumptions, they still have their use. They explain under which conditions certain historical spatial patterns emerged even though they would probably come about differently in this day and age. Think of Von Thünen's theory and the location of the Dutch horticulture industry close to Amsterdam and Rotterdam. More importantly, the models allow for understanding and predicting certain outcomes when conditions change. If transportation costs go down, for example, the range of products in Christaller's model will increase, which will create competition between service providers who were previously not competitors; their ranges are now overlapping. In reality, this does not lead to the immediate closure of one of the services nor – as an extreme outcome of the model – the disappearance of a village. It does provide us with a possible mechanism through which we can understand the centralization of supermarkets in rural areas. With greater ranges, they can serve a

larger rural area. The models then should not be seen as absolute or trying to describe reality fully. Rather, they are tools to help us understand some of the underlying mechanisms and spatial tendencies that we observe.

What is often held against neoclassical theorists is their use of assumptions, which divorce theoretical reality from actual reality, and their lack of focus on the fundamental uncertainties agents have to operate within. In the light of this criticism, it is worth bearing in mind that neoclassicists are not as interested in explaining why a business is located where it is, as in seeking to understand an entrepreneur's underlying economic motivation for settling in a particular location. For a neoclassical locational theorist, the geographic distribution of economic activity is always the outcome, never the starting point (Brakman et al., 2006). The price for this focus on economic factors is that institutional, political, social and other aspects of geographic interest are not taken into consideration. They will consequently be addressed in Chapters 4 through 7.

4 Competitive regions: Agglomeration and New Economic Geography

4.1 Introduction

The classical and neoclassical approaches described in Chapter 3 have one clear goal: to explain where certain economic activities take place in space. Von Thünen's theory explains land use by farmers in relation to their distance from the market place. Weber theorized on the location of manufacturing activities and both Christaller and Hotelling described patterns in the spatial arrangement of services across space. Interestingly, in each of these approaches, the spatial patterns are the result of responses by firms to external factors and not necessarily the properties of the location they end up in. In fact, some of the models are based on the assumption that space is *isotropic*, i.e. it has the same properties everywhere. This implies that entrepreneurs cannot even consider any differences between locations; they are all the same. Similarly, the resulting spatial arrangements of the models do not influence the entrepreneurs' decisions. In Hotelling's location model, the two ice cream vendors respond to where the customers are located and try to locate their businesses in such a way that they can service the largest market. In the end, the two vendors cluster in the middle of the beach. This outcome, however, has no role in the performance of the now clustered vendors. They do not benefit from each other nor do they experience any disadvantages. To summarize, in the classical models, the location itself or the properties of space are not really part of the models. Location is only relevant as the outcome. In other words, space is *exogenous* to the model.

It is, however, easy to think of benefits that the 'Hotelling' vendors may have by clustering in the middle. Since they are located close to each other, they could, for example, share a power station for their carts. This would save on costs. They could build a nearby washroom together, which would improve the quality of their overall product. Also, they could try to increase aggregate demand by marketing their location together. In each of these examples, the fact that they are clustered in the middle of the beach has a specific and well-defined role in the performance of the businesses. This shows that there is another reason – apart from optimal access to their consumers – for the vendors to cluster together. At the same time, there may also be negative effects connected to the clustering of activities. At the beach, litter may pile up where the vendors are located, making the clustering less appealing to both the consumers and the vendors. To summarize the example in a more general

sense, we can say that spatial patterns are not only the result of *exogenous* factors (the distribution of consumers along the beach), the spatial arrangement itself may actually play a role (e.g. sharing costs for facilities) in understanding the performance and location decisions of firms and people. Place is then said to be *endogenous* in the model.

In this chapter we will discuss how place itself has been integrated in economic geography approaches. The typical takeaway from these approaches is that self-reinforcing cycles exist that strengthen the position of the location that somehow enjoys a certain advantage over other locations. The core grows, while peripheral locations stagnate or even decline. Early examples of this kind of reasoning include the *cumulative causation theory* as described by Gunnar Myrdal (Section 4.2), and the idea of *growth poles* developed by François Perroux (Section 4.3). Using the idea of agglomeration economies and building on the principles of cumulative causation (Section 4.4), the highly influential *New Economic Geography* (NEG) approach provides a more formal way of understanding how agglomeration influences spatial arrangements of economic activity and economic growth in a more general sense (Section 4.5).

4.2 Cumulative causation

In his book *Economic Theory and Underdeveloped Regions* (1957), Swedish economist and Nobel Prize winner Gunnar Myrdal introduced the principle of cumulative causation, i.e. certain regions become the focus of economic activity, thus increasing spatial contrasts (Figure 4.1). Myrdal's assumption was that companies based in wealthy regions have a head start to those in developing regions. Wealthy regions have larger markets, allowing businesses to take advantage of economies of scale. They also have other advantages, such as a better trained workforce and better innovation opportunities. What happens, however, if a region like this drastically expands its output? Initially this leads to an increase in local employment. Assuming there is no local unemployment, it is likely that workers and their families are drawn to the newly created employment opportunities from elsewhere, thus swelling the local population. Among these newcomers there may be a relatively large number of highly trained workers. Job migration is known to be a self-selecting process and usually leads to an increase in skilled labour. This alters the business environment, which may attract new economic activities aimed specifically at those skilled workers. This in turn encourages further concentration of economic activities. The arrival of new companies can also be motivated by other factors, e.g. the backward linkages of suppliers with the relatively large company providing the initial growth stimulus. This too has a cumulative effect.

A growing local population, with the possibility of enhanced standard of living due to wage rises, constitutes an attractive market for local service providers. Existing providers expand and new ones arrive, including bakeries, supermarkets, sur-

geries, garages, pubs, cafeterias, etc. In turn, the increased provision of services can attract other businesses.

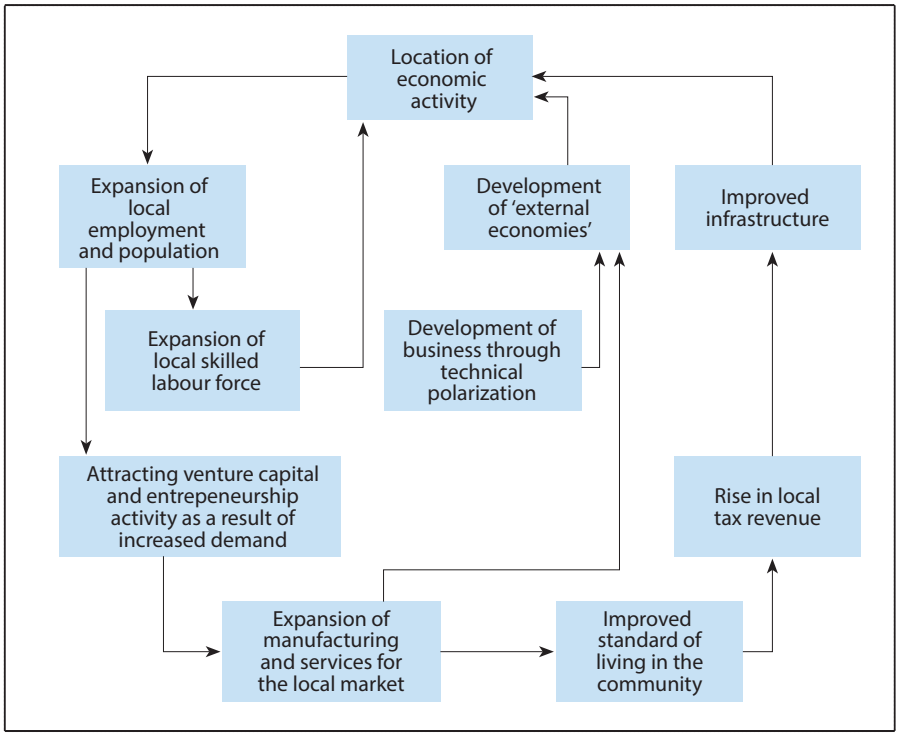


Figure 4.1 The principle of cumulative causation

Box 4.1

Cumulative causation in professional football

Professional football is a good example of how the principle of cumulative causation works (Dejonghe, 2004). In Chapter 3, we saw how visitor numbers can be explained by central place theory. Clubs based in countries and cities with large populations have a competitive advantage over clubs from smaller countries or cities. Television rights, income from merchandizing and advertising contracts all depend on the size of the market.

The fact that professional football is increasingly market-oriented creates a process of cumulative cycles: higher attendance means more income from sponsors. More income from visitors and sponsors allows clubs to pay players higher salaries, which in turn allows them to attract better players. Better players usually lead to better sporting results. Better results usually mean clubs can charge more for the TV rights and visitor numbers increase. In professional football, with generally only a handful of successful clubs, long-term success can be seen as an example of Myrdal's process of cumulative causation.

Myrdal's theory holds that improvements in a given region's business environment go hand in hand with improvements in its production structure, making the region more attractive to businesses and workers. The quality of the factors of production and improvements in the business environment generate new economic activity. There are also losers, since relocating businesses and workers takes something away from the areas they leave. These regions may lose some of their most valuable businesses and workers and see capital draining away to the core region, where returns are higher. So the growth region's cumulative advantage is accompanied by a cumulative disadvantage for other regions, sharpening the contrast between the core and the periphery. This adverse effect is known as the backwash effect. In addition to the cumulative advantages that stimulate prosperity, growth regions undergo another development. As economic development progresses, economic activities fan out, the spread effect. It is a result of the rising price of land, since vacant space becomes increasingly rare, the labour market is dogged by labour shortages and rising tension, and congestion and reduced accessibility adversely affect the core region. However, this spatial decentralization does not result in a levelling-off of regional economic variation. There are four reasons why:

- The clustering of economic activity in core regions means labour and space are at a higher premium and businesses compete ever more fiercely for them. The weaker companies perish and the remaining ones are forced to be extremely efficient and highly competitive.
- Growth regions can attract new growth stimuli. It is here that the main communication and transport hubs can be found, and their large knowledge and training centres provide them with a wealth of information. The workforce is highly skilled and versatile. All these factors mean changes and innovations are most likely to first manifest themselves in the growth regions.
- In growth regions, economies of scale are maintained by the size of the market. Leaving aside other drawbacks, businesses in peripheral regions are far less able to benefit from economies of scale than their counterparts in core regions; and so an entrepreneur will think twice before moving to the periphery.
- Backwash and spread effects can occur on different spatial scales. Backwash effects mainly occur in peripheral regions, where the best workers and most successful businesses drain away. Spread effects occur when growth regions expand. Neighbouring regions benefit, as businesses and part of the local labour market from the core region find a new home there.

In other words, even if economic activity spreads out, the original growth area is likely to remain dominant. Its clearest manifestation is a continuous, modern production structure. Myrdal observed an economic divide: strong regions get stronger, weak ones get weaker.

4.3 Perroux's growth poles

The main message of the cumulative growth theory is that development is self-reinforcing. Myrdal used this insight primarily to explain why core regions tend to consistently outperform lagging regions. The French economist François Perroux (1950) instead surmised that economic growth would lift off if a process akin to cumulative causation can somehow be ignited. This idea proved fertile ground for regional development theories and policies trying to improve the economic performance of lagging regions.

According to Perroux, regional economic growth begins with a *firme motrice*, a key firm constituting a regional growth pole or pôle de croissance. This is a relatively large company in a strong growth industry that maintains intensive linkages with other businesses and industries. Guided by the economic structure of his time, Perroux thought of car manufacturers, blast furnaces and oil refineries as examples of companies that catalyze regional economic growth. Nowadays, a firme motrice can also be, for example, a university. Via manifold intensive relations with other industries (suppliers, maintenance services, buyers), key firms are able to occupy a central position like a spider in a web and spread growth through their network. Incidentally, as an economist, Perroux focussed more on the national economy than on the regional dimensions of these relations. Governments aiming to stimulate their national economies, he thought, would be wise to invest in key catalyzing firms. In fact, Perroux used the term 'economic space' to denote the catalyzing firm's network and sphere of influence in express contrast to 'geographic space'. The network itself was key, not its geographical dimensions. It was not until later, mainly in publications by Perroux's followers, that the concept was applied to geographic space. This narrative, however, has been persuasive and since 1960, the term growth pole has mainly been used to refer to where the key firm is located. This brought Perroux's growth pole theory into alignment with Myrdal's theory of cumulative causation, the shared argument being that the establishment of a growth pole business in a certain area will lead to overall economic growth there.

In the 1960s, growth pole theory was very popular with regional policymakers, and many policies to stimulate regional economic growth were based on its principles. It was assumed that a region boasting a growth pole would be able to maintain all its growth effects as a result of four polarization or multiplier mechanisms:

- *Technical polarization*. This applies to businesses the key firm is connected with via buyer/seller relations. The assumption is that some of the other businesses will settle near the key firm.
- *Income polarization*. Increased employment in the key firm and the businesses drawn in via technical polarization generates extra income that new and existing firms benefit from.
- *Psychological polarization*. The establishment of a renowned key firm and subsequent arrival of multifarious businesses create a sense of optimism across the region. Externally, the region's image receives a boost, attracting even more businesses.

- *Geographic polarization*. The above three types of polarization generate a positive change in the region's business environment, which is beneficial for future growth.

Although painting an appealing picture for regions that lag behind in socio-economic terms, the growth pole idea has also been widely criticized. Importantly, the key firm's location choice is barely addressed. Like the theory of cumulative causation, growth pole theory explains what happens when a key firm establishes itself in a region. Yet, it does not explain how key firms can be attracted. But even in cases where – often heavily subsidized – firms are attracted to lagging regions, the impact can be disappointing (see Box 4.2). Despite large-scale investments (e.g. steel production or chemical plants), many peripheral regions, such as Mezzogiorno in southern Italy, have not witnessed the desired polarization effects or image enhancements, and are often labelled 'cathedrals in the desert'. The regional business environment did not have much to offer and many of the polarization effects solely affected other regions, such as the economically stronger north in the case of Italy. The positive effects on the peripheral regions were limited to income polarization and occasionally some psychological polarization.

Box 4.2

Attracting businesses: do financial incentives work? The case of HP in Friesland, northern Netherlands

The history of the Friesland International Business Park (IBF) in Heerenveen, in the northwestern Dutch province of Friesland, is an example of state intervention and its limitations. Work on this 240-hectare business park was launched in 1993 in an effort to attract large international enterprises. In 1997, Mayor P. de Jonge spoke of 'a dream come true' when the American multinational SCI appeared on the scene. Later that year, SCI chose IBF as the assemblage and distribution hub for Hewlett-Packard computers in northwest Europe. In actual fact it was not HP but SCI that carried out the activities, but this did not dampen the spirits. Optimism was the name of the game, and in a matter of years, jobs would increase from 500 to 2,000. However, a mere five years later, SCI left as suddenly as it had arrived, leaving Friesland feeling deflated and millions of euros of subsidy poorer. The area was once again an ordinary business park. The overall cost of its reorganization, including a nearby industrial zone, was nearly 13 million euros. The closure of this international business park demonstrates the limited influence a government can exercise over the economy and how careful it has to be with financial incentives.

Both the cumulative causation and the growth pole theory provide valuable insights into how locational patterns of economic activity can reinforce themselves. In this way, they formulate a clear role for the location itself in understanding development patterns. As mentioned before, in both approaches location is *endogenous*. At the same time, the formulation of the role of location in development remains

somewhat casual. The remainder of this chapter introduces a more structured way of thinking about the way in which location influences economic growth. This culminates in the so-called New Economic Geography (NEG) approach.

4.4 Agglomeration benefits

In understanding how location influences economic growth, *agglomeration benefits* are a key concept. Taking its most basic interpretation, it describes the economic advantages for firms and people to cluster together. The term is thus self-explanatory: there are benefits to agglomerating. Other terms used to describe the same concept are *agglomeration advantages* and *agglomeration economies*.

The notion of agglomeration benefits is based on two related economic principles: *economies of scale* and *returns to scale*. Economies of scale refer to the idea that by increasing the scale of production, the production costs are spread across many products, decreasing the cost per product. For a coffee bar, it is more cost-effective to use one coffee machine to sell 100 cups of coffee daily than to sell only 10 cups of coffee using the same machine. Typically, economies of scale are not without limit and at some point the cost per product may actually go up again. In this situation, *diseconomies of scale* emerge. Diseconomies of scale may, for example, occur when the coffee bar is so popular that it needs to hire new employees and it becomes difficult for them to communicate effectively with each other. The average costs involved in serving a coffee may then increase rather than decrease.

The idea of returns to scale is similar to that of economies of scale but instead refers to firms' output. Returns to scale describe the relationship between additional inputs to the production and the resulting extra output. Returns to scale (Figure 4.2) can be *increasing*, *constant* or *decreasing* (or diminishing). In the event of constant returns to scale, the percentage increase in output is proportional to the

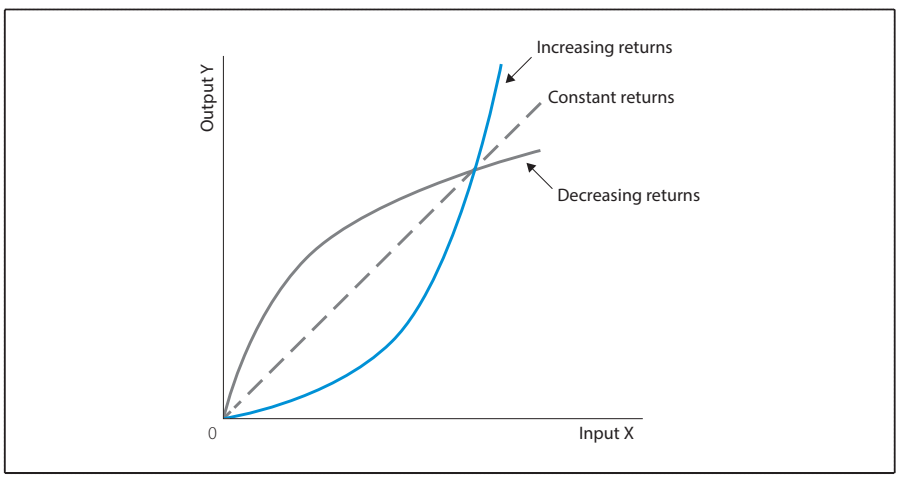


Figure 4.2 Returns to scale

percentage increase in inputs: for every 1% increase in worked hours, the firm's output also increases by 1%. In the event of increasing returns to scale, output would increase by more than 1%, and for decreasing returns to scale, output increases by less than 1%. In the coffee shop example, you can imagine it is more efficient to have two people working than only one. In that case, one person can deal with orders and payments and the other can make coffees. Dividing the tasks diminishes transitioning costs (walking from the cash register to the coffee machine and back) and allows workers to specialize in their tasks. Working as a team, two baristas can then serve more coffees in a day than if they had worked separately on two stations. There are increasing returns to scale.

The benefits of scale as described above apply to firms. They are *internal* to a firm or specific business location or plant. However, benefits of scale – both pertaining to costs and output – can also be *external*. A multinational firm's business units can profit from the parent company's scale benefits, for example by sharing Research & Development costs or by using knowledge of the use of certain machines in other locations. Here, the idea that such external benefits of scale can also be derived from the agglomeration of firms and people is important. Part of the story is simply that in an agglomeration, costs for generic services, like cleaning services, theatres and sports clubs, but also infrastructure, can be shared among many users. An illustration of this aspect is the fact that in the Netherlands, only the two largest cities – Amsterdam and Rotterdam – boast an underground system. Similarly, only the four largest cities have a tram system. In short, agglomeration of activities allows sharing costs, which provides benefits to users. In addition, agglomeration can be beneficial if firms and workers mutually influence each other through *externalities*. Externalities are by-products or unintended side-effects of economic activity and can be either *positive* or *negative*. Negative externalities can occur if, for example, production causes pollution, adversely affecting the local population and other firms. Typically, pollution hardly incurs any charges, which means that firms have no incentive to alter their behaviour in this respect. As such, pricing negative externalities (see Box 4.3) is a common way to control them. Positive externalities, on the other hand, occur when, for example, nearby firms learn from each other because employees first work for one firm and then for the other.

Box 4.3

Externalities and pollution - Putting a price on CO_2 emissions.

Pricing carbon emissions is a market-based approach used to address the negative externalities of carbon emissions, such as environmental damage, climate change, and public health issues. The two main methods involve imposing carbon taxes or introducing a so-called cap-and-trade system. Carbon taxes are direct fees levied on carbon emissions, while a cap-and-trade system limits the total amount of carbon emissions that can be produced, and allows businesses to buy and sell permits for emitting carbon.

In Europe, the European Union Emissions Trading System (EU ETS) is the largest cap-and-trade system in the world, covering more than 45% greenhouse gas emissions in the EU. Under the EU ETS, the total amount of carbon emissions that can be produced is limited, and businesses must purchase permits to emit carbon. If a business reduces its emissions, it can sell its unused permits to other businesses. This creates a market for carbon emissions and incentivizes businesses to reduce their carbon footprint. In the Netherlands, a similar system is in place for the trade and reduction of nitrogen emissions by the agriculture industry, manufacturing and the transport sector.

It has been estimated that the EU ETS has speeded up the decoupling of carbon emissions and economic growth (Kettner et al., 2011). CO_2 emissions have decreased 3-8% more quickly than the baseline scenario envisaged without the EU ETS (Brown et al., 2012; Egenhofer et al., 2012). Carbon pricing is, however, not without criticism. It increases the cost of living and of doing business. Also, EU ETS companies are allowed to offset their carbon emissions in Europe by green investments outside Europe. Although in theory this should decrease carbon emissions worldwide, in practice it is not so clear (Hu et al., 2015). Offsetting carbon emissions in other regions limits the incentive to invest in green solutions in Europe. Also, there are questions about the correct documentation of the carbon emissions offset.

Figure 4.3 Negative externalities

Agglomeration benefits, then, are the cost and production advantages of clustering economic activities, most prominently in cities. The benefits are the result of costs being shared among many users. In addition, firms and people positively influence each other through externalities. Depending on whom they accrue to, agglomeration benefits can be twofold. Generic benefits that accrue to all firms and people in one area are called *urbanization economies*. The availability of an efficient public

transport system is a good example. Other agglomeration benefits are only available to firms and people active in a specific economic activity. The availability of on-campus lab space, for instance, is only relevant for firms that use those labs. Such agglomeration benefits, relevant for specialized groups of people or firms, are called *localization economies*.

The notion that economic specialization offers advantages goes back to such early economists as Adam Smith (1723-1790) and Alfred Marshall (1842-1934). More recently, the concept of localization economies was further developed and popularized by two economists: Paul Römer and Kenneth Arrow. Both Römer and Arrow contributed to the development of the so-called *endogenous growth theory* for which they were individually awarded the Nobel Prize for Economics (in 2018 and 1972, respectively). The endogenous growth theory holds that regional economic growth is not so much the result of external investments in an economy (this would be e*xogenous* growth) as of the ability of regions to generate new ideas, innovation and technological change, and its ability to adopt technological innovations and integrate them into the regional economy. This leads to a follow-up question: under which circumstances are regions and places capable of innovation and growth? The concept of localization economies helped formulate an answer to this question. It was posited that regions that specialize in a certain activity stand a better chance of becoming champions of growth. Localization economies can involve advantages that have to do with sharing costs for certain specific activities, including specialized infrastructure, technical universities, labs etc. However, particularly externalities have been stressed as constituting the localization economies that make certain regions champions of innovation and others not. Three main externalities are typically distinguished which together – acknowledging the three main contributors – are dubbed *Marshall-Arrow-Römer (MAR) externalities* (Glaeser et al., 1992):

1 **Labour market externalities (also referred to as 'Matching')**
In the labour market, both workers and firms benefit from agglomeration. If a large pool of workers is available, firms have ample opportunity to find the right employees, even when facing competition from other firms. Similarly, workers can choose from several firms. And if a match between a firm and a worker is unsatisfactory, both have plenty of alternatives. Thus, since both firms and employees have better opportunities to meet their needs in agglomerated areas, labour markets are more flexible and work more efficiently in agglomerated areas. This is reflected in, for example, the fact that for the same job, wages are typically higher in urban areas (Yankow, 2006).

2 **Input-output relationships ('Sharing')**
If firms active in the same economic activity cluster together, they can share certain facilities from which they all benefit. Also, and perhaps more importantly, a side-effect of clustering is that transport costs for input and output are minimized since supply and demand are located in the vicinity.

3 **Knowledge spillovers ('Learning')**

Alfred Marshall is credited as being the first to acknowledge knowledge spillover effects. His book *Principles of Economics* (1920) includes the famous quote, 'the mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously' (p. 271). This quote, often shortened to 'Knowledge is in the air', illustrates how Marshall surmised that people and firms learn by seeing others perform certain tasks, i.e. localized learning and spillover of knowledge and information. Such knowledge spillover enhances the development of new ideas and innovation while also speeding up the diffusion of innovation. The agglomeration of activities facilitates such learning.

Figure 4.4 summarizes the notion of agglomeration economies and their elements.

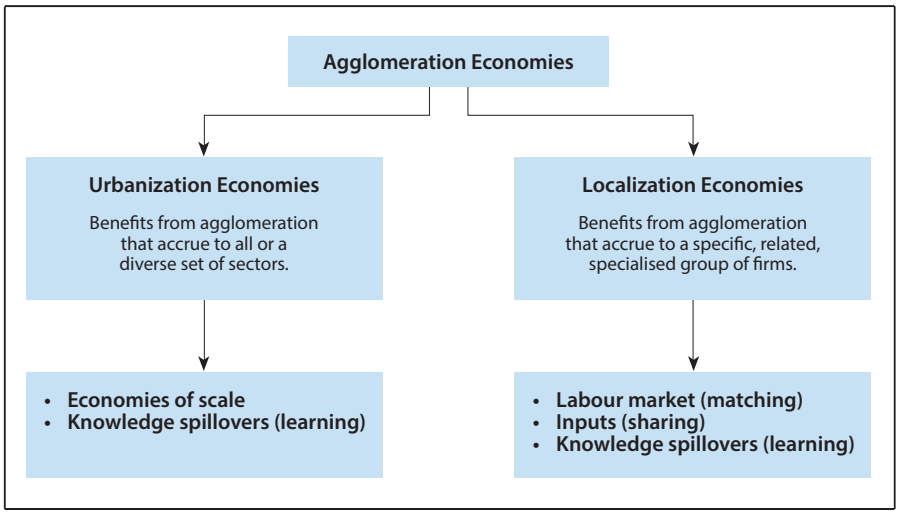


Figure 4.4 Agglomeration economies

Localization economies, driven by *MAR externalities*, imply that specialization induces innovation and growth. Thanks to specialization, firms can easily share workers and input-output relationships. Several car companies can, for example, use the same tyre supplier. Similarly, it is beneficial to the tyre supplier to have two or more car companies nearby. And since similar firms face similar challenges and share a common understanding of the product, they are likely to learn from the knowledge spillovers available to them. They can understand each other easily.

Particularly regarding knowledge spillovers, there are competing views which question the positive role of specialization. Specialization can also lead to *lock-in*, in the sense that knowledge is very efficiently transmitted between specialized firms and people, but no new (external) knowledge is introduced into the system. In the long run, this can stifle innovation. The alternative is to strive for *diversity* instead, so that firms and people with different sets of knowledge, information and experiences can learn from each other. The benefits associated with diversity in the econ-

omy are labelled *Jacobs externalities*. Jane Jacobs was an urban sociologist and the author of the highly influential book *The Death and Life of Great American Cities* (1969), which addresses the social fabric of cities and encompasses much more than the economy. Yet her plea for diversity as one of the drivers of a successful city – in a broad sense – also has an economic dimension: 'The greater the sheer number of and variety of division of labor, the greater the economy's inherent capacity for adding still more kinds of goods and services' (Jacobs, 1969, p. 59). In short, in Jacobs's view, a diversity of economic activities stimulates learning, innovation and ultimately economic growth.

In addition to MAR and Jacobs externalities, there is a third archetypical type of externalities, which was popularized by Michael Porter in his book *The Competitive Advantage of Nations* (1990). As a business economist, Porter studied companies' competition strategies and he realized that companies react to each other. If, for example, one company releases a new product, another company will quickly follow suit. In his book, Porter transposed this idea to geography by claiming that competition between firms is an important mechanism through which a cluster offers benefits to the firms in it. Clustered firms are much better informed on their close competitors' strategies and next steps, and as such, they will also quickly adapt. As a result, clustered firms will be more competitive than firms outside the cluster. Akin to the first two types of externalities, externalities based on competition have been termed *Porter externalities*. Arguably, Porter externalities can be seen as a special kind of knowledge spillover, one that does not foreground enhanced learning or even cooperation, but rather an alertness to react to the competitors' next move. Table 4.1 summarizes the three archetypical types of spatial externalities. The table suggests a clear-cut three-way distinction between the archetypes. Even though they represent different mechanisms, there is also overlap in the way the externalities have been understood. Jacobs externalities have, for example, also been associated with competition between different sectors (see De Groot et al. (2007) for a detailed discussion).

Table 4.1 Three archetypes of externalities

MAR externalities	Externalities that arise from economic specialization
Jacobs externalities	Externalities that arise from economic diversification
Porter externalities	Externalities that arise from competition

There has been quite a heated debate on which of the three externality types is the most important for regional economic growth. This body of literature follows in the footsteps of a highly influential paper by Glaeser et al. called *Growth in Cities* (1992). Their conclusion was clear: 'Using a new data set on the growth of large industries in 170 American cities between 1956 and 1987, we find that local competition and urban variety, but not urban specialization, encourage employment growth in industries' (p. 1126). Since this paper, studies have approached the same

matter in many different ways. Glaeser et al. (1992) looked at cities, but the matter is also relevant at the regional and even national level. Economic growth can be measured by employment growth (as in Glaeser et al., 1992), but also in terms of innovation performance, value added, productivity or GDP/RDP. In addition, the issue has been explored in many other countries besides the United States. To make sense of this flurry of studies and results, De Groot et al. (2016) produced a meta-study (a study of studies) in which they summarized the results of 73 publications – including many more individual analyses – on the question of how specialization, diversification and competition are associated with economic growth. Figure 4.5 shows the breakdown of their results.

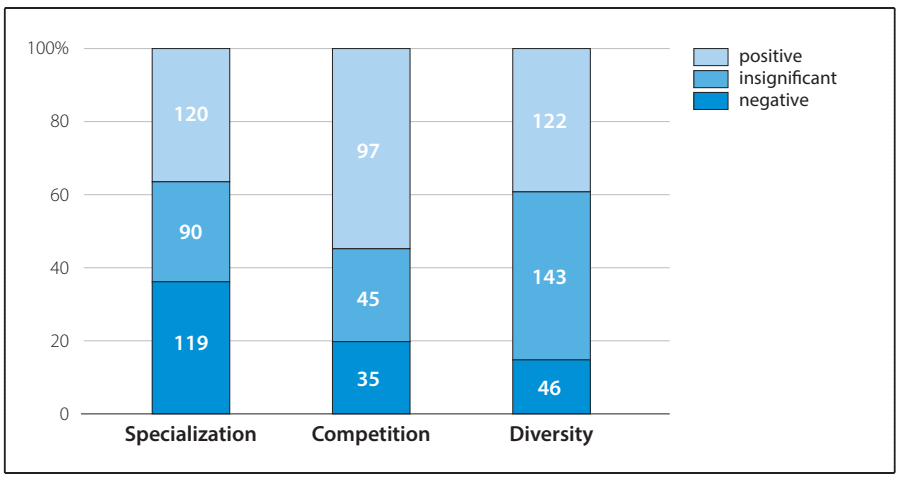


Figure 4.5 Which type of externality matters most? (De Groot et al., 2016)

The first takeaway message from the figure is that results are varied. For each of the archetypical externality types, there are analyses that find negative as well as positive associations with economic growth. Also, quite a few analyses do not suggest any relationship with economic growth; results were insignificant. The variation in results partially reflects differences in research choices and the set-up of the studies. But it also shows that the regional context matters and that results may differ across industries: certain industries benefit from specialization, whereas others thrive on diversity. In a further analysis of the studies, for example, De Groot et al. (2016) demonstrated that in rural areas, specialization appears to be more important, whereas in cities, diversity has the upper hand. Also, in the more recent studies included in the analysis, diversification is typically more important for growth, which suggests that the economy has changed in such a way that combining diverse skill sets is now more important for regional competitiveness. The policy implication, then, is that there is no one-size-fits-all approach and that local growth is based on local conditions. Investing in a specialized cluster of activities may work in one region, but other regions should instead invest in a diversification strategy.

The second main message is that diversity and competition are associated with economic growth more often than specialization. For specialization, positive and negative results are balanced, whereas for the Porter and Jacobs externalities, positive results are clearly more prominent. This corroborates the initial finding by Glaeser et al. (1992) that – on average – competition and diversity seem more conducive to economic growth than specialization. It must be said, however, that the distinction between diversity and specialization in particular is not so clear-cut. MAR externalities should not be seen as pertaining to one specific activity. Rather, they describe the benefits that come with the clustering of a group of interrelated activities. As such, MAR externalities also include at least some level of diversification. Similarly, striving for regional diversification does not necessarily mean maximizing activity in all possible economic activities or sectors. Rather, it is about not putting all your (economic) eggs in one basket, but having a diverse enough economy to avoid lock-in and having other activities to fall back on if one sector hits a rough patch. Specialization and diversity are then two seemingly contrasting notions that – in reality – are in fact different positions on the scale from fully specialized to fully diversified. Also, in a more diverse economy, specialization and diversification can go hand in hand with some specializations. The dichotomy between the two is probably less salient than the literature suggests. Embracing this idea and trying to reconcile both ends of the spectrum, the notion of *related diversity* has been introduced in the evolutionary economic geography approach (see Chapter 7).

Box 4.4

Borrowing and shadowing in settlement systems

By Evert Meijers, Associate Professor of Economic Geography at Utrecht University

The development of cities can only be meaningfully understood by acknowledging the relative location of the city. Cities are not isolated entities, rather cities' spheres of influence often overlap, thereby creating polycentric urban regions. Historically distinct and administratively and politically independent cities are becoming increasingly integrated in functional, political-institutional and cultural-symbolic terms. Such integration processes are referred to as 'metropolization', and are clearly visible in metropolitan regions like the Randstad in the Netherlands and the Rhein-Ruhr region in Germany, as well as in many smaller polycentric urban regions.

Economic theory stresses the importance of agglomeration benefits for growth; continued growth of large metropolises has consequently been key to many development strategies. With polycentricity being the norm, and large metropolises like London or Paris the exception in Europe, whether clusters of close-by cities can compete with large metropolises is an important question. Two issues are important here. First, it has been argued that while polycentric urban regions cannot match the agglomeration benefits of large metropolises, at the same time, they suffer less from agglomeration costs, such as congestion, dysfunctional housing markets and exposure to environmental pollution. Second, it has been shown that

polycentric regions that have moved further along the path of metropolization, and have therefore merged more in functional, political and cultural terms, manage to organize agglomeration benefits better (although 'city network externalities' seems a more appropriate term in this case). In other words, networks can substitute for the benefits of proximity.

The integration process in polycentric urban regions leads to specialization and hence a certain division of labour, in which the size and function of a place become disconnected. Cities no longer have a complete array of functions in accordance with their size, but smaller cities do have higher-order functions, functions they could not sustain if they were not near other cities, which is why this is referred to as 'borrowed size'. Conversely, competition effects of neighbouring cities might imply that certain functions one would expect to find in a place of a given size cannot be developed. In this case, the city is in the 'agglomeration shadow' of other places. Such processes of borrowing and shadowing not only apply to specialized urban functions, but to all that is associated with large metropolises, e.g. the presence of social movements. 'Borrowed happiness' also seems to exist, as life satisfaction is often higher in smaller cities located close to larger ones.

4.5 New Economic Geography: The core model

In his book *Geography and Trade* (1991), Nobel Prize laureate Paul Krugman formulated the foundation for what has become known as *New Economic Geography* (NEG), sometimes also called the *core-periphery model*. This approach aims to understand uneven economic development across space and its ideas draw on the notions of cumulative causation and particularly agglomeration benefits. NEG tends to be a technical and maths-heavy approach, but its main message is intuitive and in line with the common denominator of the approaches discussed in this chapter: economic growth is self-reinforcing and thus widens the gap between core and peripheral regions. While the model's main idea is rather intuitive, there are countless extensions and refinements of the core model. NEG is then best seen as a group of models based on the idea that agglomeration can lead to advantageous situations for workers and firms alike.

The core NEG model starts by assuming there are two identical regions, both of which have two industries. First, there is an agricultural sector, which operates under constant returns to scale (see Section 4.3). Second, both regions have a manufacturing sector, which operates under increasing returns to scale. That is, given a certain increase of the scale of production, the output increases more than proportionally. Another difference between the two sectors is that the agricultural sector is assumed to be immobile; it is attached to the land and cannot relocate. By contrast, the manufacturing sector is mobile, and firms will locate in the region that offers

maximal profits. Both regions have equally-sized populations that can freely migrate from one region to the other.

The self-reinforcing cycle begins when one of the regions obtains a small advantage over the other region, for example because one manufacturing firm moves to this region. The model does not specify how this region's initial scale advantage emerges, and NEG has been criticized for it. The model does explain how a self-reinforcing cycle of agglomeration takes shape, but does not address the equally critical question of where and under which circumstances such a process ignites. Apart from the small difference in scale, transportation costs between the two regions need to be low for the self-reinforcing cycle to take off. Akin to Ricardo's trade model (Chapter 2), transportation costs need to be low enough to allow goods to be transported easily between the two regions in the model.

Now that one of the regions has a somewhat larger scale of production in the manufacturing sector, firms in that region enjoy somewhat more intense agglomeration economies. More firms contribute to local knowledge spillovers, for example. Given that the manufacturing sector operates under increasing returns to scale, the productivity in the core region increases more than proportionally to the increase in scale. As a result, profits will typically be higher in the core region, which then attracts more manufacturing firms from the other region. This further increases the agglomeration economies in the core area, which pulls in even more manufacturing firms. This process repeats itself up to the point where all manufacturing firms are located in the core area. Note that the manufacturing products are sold in both regions, so transportation costs need to be low enough to accommodate this.

What about the workers? Obviously, if firms start moving to the core region, they need workers for their production process. Since the supply of workers in the core area is limited, labour wages go up. And because of the returns to scale, workers are more productive there, which translates into higher wage levels compared to the other region. These higher wage levels are not a problem for the firms as they also experience increased productivity and, consequently, higher profits. So the firms in the core area revert their increased profits to the wages of the workers they need. With the higher wage level in the core area (compared to the other region), it becomes attractive for workers to migrate there. This worker migration to the core area further fuels the agglomeration economies since the labour market increases in size, making matching of workers more efficient.

In short, firms are attracted to the core region because of higher profits resulting from increased productivity levels fueled by agglomeration economies. Workers are similarly attracted to the core area as they respond to the higher wages offered there. Together they create a self-reinforcing cycle so that all manufacturing firms end up in the core region along with the workers needed for this industry. The peripheral region is left with the immobile agricultural sector and the related workers. Manufactured goods are supplied from the core area. Figure 4.6 summarizes this outcome in a so-called bifurcation plot. Y stands for economic activity; moving to the right on the horizontal axis, transaction costs are slowly decreasing. At one

point transaction costs are low enough to allow for the concentration of economic activity benefitting from agglomeration in what is becoming the core area.

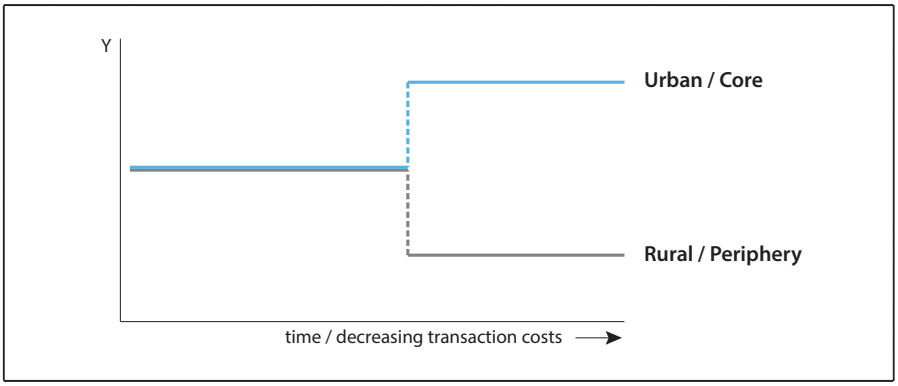


Figure 4.6 New Economic Geography bifurcation plot

The main outcome of the NEG model suggests that all mobile economic activity becomes concentrated in the core region. Moreover, this concentration of economic activity occurs more or less overnight once the self-reinforcing process driven by increasing returns to scale sets in (see Figure 4.6). Neither of these outcomes is very realistic in the sense that economic activity, if clustered, is by no means concentrated in one single conurbation of economic activity. Also, there are costs and other considerations involved for firms and workers to move to the core area. This will always take time and effort, which the NEG model does not taken into account. The model, then, does not describe reality, but that does not mean it is without value. It was never meant to describe reality – no model is – but rather to help us understand patterns that we observe. For example, it informs us about the possible effects of investments in infrastructure to connect peripheral areas to cities. An important argument for such investments is often to unlock peripheral areas so that economic activity can take place there while retaining easy access to the city. The NEG model suggests there may be a downside to this, in that it also unlocks the core area for mobile firms currently situated in peripheral areas. By investing in infrastructure, which translates into lower transportation costs, peripheral firms may be persuaded to enjoy the agglomeration benefits of the core city while still having easy access to their market in the peripheral area.

Similarly, the NEG model provides a framework in which agglomeration benefits (driven by the matching, sharing and learning arguments) can be offset against agglomeration disadvantages, which derive from negative externalities. Such negative externalities include pollution, congestion costs, and housing prices (see Figure 4.7). Spatial patterns of economic activities can be seen as a tug of war between centripetal forces of agglomeration (pull factors) and the centrifugal forces away from agglomeration (push factors). It must be said, though, that NEG models tend to champion the agglomeration advantages and downplay the role of negative ex-

ternalities. Also, the main takeaway for policymakers is often to support agglomeration benefits in core areas by investing in measures to curtail the negative effects rather than to invest in more peripheral regions to strengthen their agglomeration benefits.

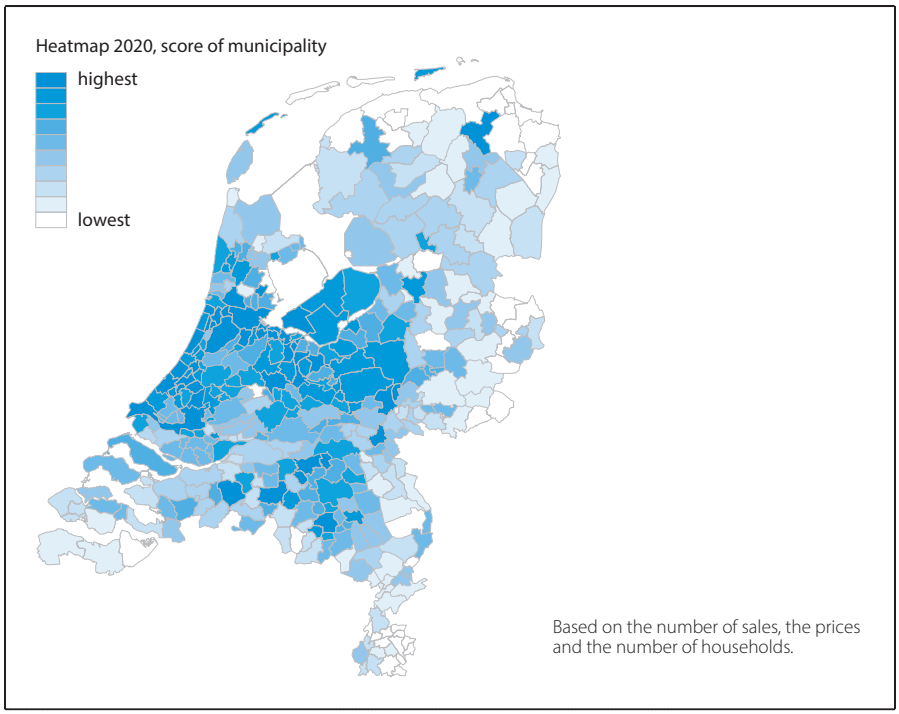


Figure 4.7 Heatmap of the Dutch housing market 2020 (bpd.nl)

4.6 Conclusion

It is hard to underestimate the influence of the ideas of cumulative causation and agglomeration economies as formalized in the NEG model , both academically and in practice. Academically, the celebration of agglomeration economies is probably best exemplified by Edward Glaeser's book *Triumph of the City* (2011) in which he argues that cities, 'our greatest invention', make us richer, smarter, greener and happier. Stimulating agglomeration economies and curtailing the diseconomies of agglomeration is also high on most regional and national economic policy agendas. Globally, the World Bank adopted the NEG approach in its highly influential *World Development Report*: *Reshaping Economic Geography* (2009). In this report, the World Bank champions the view that development unfolds along three dimensions – density, distance and division – and that policies should be geared towards optimizing them. Density refers to the agglomeration of economic activity in cities. Distance translates into transportation costs and investments should be geared to-

wards lowering transportation costs or, in other words, overcoming the friction of distance. Finally, division alludes to regional specialization in economic activities so as to maximize the effective use of regional competitive advantages.

Partially, the significance of agglomeration economies in many policy arenas echoes the increased belief in, and focus on, economic efficiency as part of a neoliberal policy agenda that tries to actively stimulate markets to address societal issues. One could say that NEG's success can be understood as riding the wave of political neoliberalism, as it speaks to this agenda quite neatly. However, framing NEG and the stress on agglomeration forces in a purely political sense would be misguided. It also reflects broader societal and economic trends. Importantly, there has been a massive shift in the structure of the world economy away from a predominance of manufacturing and agriculture towards the service industries. Service industries are much more dependent on human capital and knowledge spillovers, which makes them more responsive to the agglomeration of activities in attractive places with a large population. In addition to this, globalization has led to increased levels of competition between firms and – some argue – places (see also Chapter 2). To retain a competitive advantage over other firms and places, innovation is crucial. Innovation relies on creativity which places a different premium on the availability of knowledgeable and skilled workers. In short, particularly the sharing and learning externalities (see Table 4.1) are increasingly salient in our current economy. At the same time, De Groot et al.'s (2016) meta-study (see Figure 4.5) shows that the effect of agglomeration on economic growth is by no means guaranteed.

Regardless of the exact background of the salience of agglomeration forces in society, it carries a clear implication for the distribution of wealth across space; the distribution of wealth is increasingly uneven both across groups and across regions. This has repercussions for people's economic situation, but more importantly perhaps, it also reflects feelings of unhappiness and detachment in current society. We will explore these issues in more detail in Chapter 8.

5 How decisions are really made: The behavioural approach

5.1 Introduction

The approaches discussed in the previous chapter all assume that decisions are made rationally and that economic agents are fully informed (*homo economicus*). However, in our daily reality it is impossible for people to have all the relevant information readily available, let alone process all the information to reach optimal decisions. In contrast to the idea of the homo economicus, many decisions are made without giving them much thought. If we go shopping for groceries, we typically go to our usual supermarket, even though on a particular day, other supermarkets may have a better or cheaper selection of groceries. Similarly, entrepreneurs may not settle in locations where the difference between costs and benefits is greatest. Considerations that might appear irrational also play a role in the decision-making process. For example, social ties might bind an entrepreneur to a certain region, even though it would be economically more logical to move elsewhere.

In the 1960s and 70s, in response to the rational view of human behaviour painted by classicists and neoclassicists, psychologists developed a behavioural model with people acting on the basis of the available and perceived information. In this framework, economic agents do not necessarily aim for the most profitable solution. This alternative model of decision-making is discussed in Section 5.2. In 1967, Allen Pred interpreted this model of human behaviour in the context of firm location (Section 5.3) and in doing so the *behavioural approach* entered mainstream economic-geographical thinking. Following Pred's seminal work, to this day the behavioural approach in economic geography has remained prominent in firm location issues.

Rooted as it is in psychology, behaviouralism focuses on the individual as the main decision-maker. It is not factories that choose locations, it is their directors, managers, shareholders and/or works councils who decide whether and where to move production. Thus, behaviouralism acknowledges that personal considerations, beliefs and perceptions of the business owner may be just as pertinent to choosing a firm location as economic factors that pertain to the firm (Section 5.4). Rather than the outcome of a calculation, the choice of location results from a decision-making process in which personal motives can equally play a role. This is in stark contrast with the classical and neoclassical approaches that describe location-

al patterns as the outcome of natural laws. Note, in this respect, how entrepreneurs – as decision-makers – are completely absent from Von Thünen's and Christaller's classical models. So the behavioural approach and the classical and neoclassical theories also represent two different analytical frames. Classical and neoclassical theories are *deductive*: they seek to understand reality using the model as a starting point. The behavioural model, by contrast, is *inductive*: generalized conclusions are drawn from specific individual observations.

Place marketing and branding (Section 5.5) are practical implications that follow from the premise that information is principally based on perceptions and images. Understanding and, if possible, adjusting such perceptions (in place marketing) is therefore important.

5.2 Bounded rationality and heuristics

One of the main early critics of the concept of the homo economicus was Herbert Simon (1916-2001). A versatile social scientist, he was awarded the Nobel Prize for Economics in 1978. In 1960 he introduced the concept of *bounded rationality*, based on his belief that rationality only played a limited role in human behaviour. To make a fully rational decision, a person would have to identify and organize all the possible alternatives, determine the effects of each alternative, and draw a comparison to determine the most efficient approach. According to Simon, this is not only impossible, it is unwise, because the costs of gathering that much information and conferring with others would outweigh the benefits, not to mention the inordinate amount of precious time involved. According to Simon, people are not optimizers but satisficers (a combination of 'satisfy' and 'suffice'). If the outcome of a decision is deemed satisfactory, most people are prepared to accept it. Not everyone strives for the best possible outcome of an economic decision. In Simon's view, the homo economicus should be replaced by the *homo psychologicus*. Note that Simon did not challenge the idea of rational decision-making as such, but rather surmised that it would be impossible to reach an optimal decision given the impossibility of collecting and processing all the relevant information.

Simon challenged the feasibility of rational decision-making, but more recently rational decision-making has been challenged in a more fundamental way. People simply do not make optimal decisions – in an economic sense – even if they have the relevant information at hand. One important illustration of this is the idea of loss aversion, which is key in the work of Daniel Kahneman and Amos Tversky (1979). Loss aversion builds on the premise that people dislike losing something they possess. Put more formally, losses carry a greater weight for people than equally sized gains. As a case in point, repeated experiments have shown that in gambling, people are only willing to risk losing 20 dollars if they have a chance of winning at least 40 dollars. In *A Tale of Two Pizzas*, Levin et al. (2002) demonstrate loss aversion in a different way. The authors devised an experiment in which the

customers of a pizzeria in Italy and one in the American state of Iowa could choose between options: either a $5 Bare Bones Pizza to which they could add any number of 12 different toppings at $0.50 per topping, or an $11 Super Pizza with all 12 trimmings and the opportunity to remove ingredients and knock $0.50 off the price per topping. If both groups made purely rational choices they would end up paying roughly the same. However, this turned out not to be the case. Faced with the super pizza, customers found it hard to part with ingredients, while the bare bones pizzas were sparsely topped with extras.

The principle of loss aversion also holds beyond experimental settings, for example in real estate markets. Property markets are typically slow moving and can even be in long-term deadlock if property owners hold on to properties that have lost their economic value, but the owners are not prepared to take their loss. Similarly, price setting in commercial property markets builds on the insights of Levin et al.'s (2002) pizza study. Developers like to create buildings with extra facilities, and although tenants have the option to state which ones they do not need, they rarely do. Thanks to the additional facilities, the landlord can charge a higher rent.

The assumptions of the homo economicus are further challenged by the fact that people make decisions not only in their own interest, but also as part of a social group and in comparison to others. This has been shown in biology in studies on the behaviour of capuchin monkeys (Brosnan & de Waal, 2014). As a reward for returning a token, the monkeys were offered a piece of cucumber. The monkeys played along with this game until one of them was given a grape instead of a piece of cucumber. Monkeys are more fond of grapes than cucumbers, and from that moment on the other monkeys refused to cooperate. Refusing to continue the game makes no sense, economically or biologically, because it is still more beneficial to be given a cucumber than nothing at all (see Frans de Waal's TED talk 'Moral behaviour in animals' for an instructive video). The same mechanism becomes evident in the following experiment among people. Someone is given 100 euros, to be divided between herself and some else. If she can persuade the other to accept the way the money is split, she can keep her share. For the other person, any amount offered is a gain and, as such, any offer should be acceptable. In reality, though, if too large a share of the 100 euros is kept, the second person will walk away – apparently unhappy with the offer, even if it still is a gain. As a result, no deal is reached and no one gets to keep the money. This too is irrational, and it illustrates the role emotions play in the process of making choices.

In her book *Doughnut Economics* (2017), Kate Raworth summarizes the assumptions of the homo economicus and its alternative, for which there is no agreed-on term. As mentioned above, Simon called the counterpart the *homo psychologicus*. Raworth uses the term heuristic decision-making, which could perhaps be transformed to *homo heuristicus*. Table 5.1 lists the features of the two views on decision-making. An important addition by Raworth is the notion of *heuristics*, which we haven't discussed yet. Heuristics can loosely be defined as rule-of-thumb decision-making where we make mental shortcuts to arrive at quick decisions which

we know – from experience – typically work out well. Decisions then tend to be path-dependent. If you go to a supermarket once, you are likely to revisit it without giving it much thought. Once a heuristic choice has been established, it is difficult to change it. Producers anticipate this 'laziness of the brain' by offering new customers all sorts of perks, while they are typically much less generous to existing customers. So, heuristic decision-making involves making a decision and using it in other situations as well. This is in stark contrast with the homo economicus, who is assumed to re-evaluate each single decision every time.

Table 5.1 Features of archetypical decision-makers

Homo economicus	Homo heuristicus / homo psychologicus
Fully informed	Incomplete information
Factual information	Perceptions
Rational decision-making	Messy decision rules (heuristics)
Self-interest only	Group interest and comparison important
Goal is profit maximization	Goals can be diverse

Embracing the idea of the homo heuristicus leads to a very different view on economic progress and decision-making, one that is characterized by incomplete information, uncertainty and risk. In light of this, economic theory is faced with a fundamental problem: how can economic progress be made if neither the producers nor the consumers can make optimal decisions and they have no way of knowing what the consequences of their actions will be? One answer to this question is Simon's (1993) idea of docility, 'the tendency to depend on suggestions, recommendations, persuasion, and information obtained through social channels as a major basis for choice' (p. 156). People are open to advice because they know their bounded rationality prevents them from making an optimal choice. *Docility*, however, does not take away the uncertainty and risk involved in decisions. Also, advice can be misguided or partial. Using the notion of the homo heuristicus then implies that economic progress is conditional on agents that accept the uncertainty and risk involved in their decisions. In other words, entrepreneurs and risk-taking organizations are crucial for economic growth. Entrepreneurship will be discussed more extensively in Chapter 7. In the next sections, we explore how denouncing the homo economicus influences firm location decisions.

5.3 Allen Pred's behavioural matrix

Allen Pred (see Box 5.1) is considered the founder of the behavioural approach to firms' location decisions. By means of his so-called *behavioural matrix* (Figure 5.1), he systematically explored how the information available to business owners impacts on their location decisions (Pred, 1967).

Box 5.1

Allen Richard Pred (1936-2007)

The American geographer Allan Pred is one of the founders of behavioural geography. Born in The Bronx in New York as the grandson of Jewish immigrants from Poland, he studied geography at Penn State University and got his PhD at the University of Chicago. Chicago was renowned for its Economics as well as its Sociology Department. It was here that, during the 1920s and 30s, Robert Park started the Human Ecology School, where concepts from biological ecology were applied to the urban environment, e.g. the invasion and succession models of population dynamics in urban neighbourhoods. After obtaining his PhD degree, Pred moved to Berkeley, where he was appointed Full Professor in Geography at the age of 34. His early academic career was marked by theories on the historical development of American cities. In Chicago he studied Herbert Simon's behavioural economics. Pred married a Swedish woman and he and his family lived alternately in Sweden and the United States. In Sweden, Pred read about Julian Wolpert's study of behaviour and perception among farmers in central Sweden. Wolpert demonstrated clearly that the farmers made suboptimal choices and their actions were far from rational. Partly as a result of this theoretical cross-pollination, Pred developed his behavioural matrix (Figure 5.1). Also known as Pred's Matrix, it is perhaps the clearest example of how behavioural geography works.

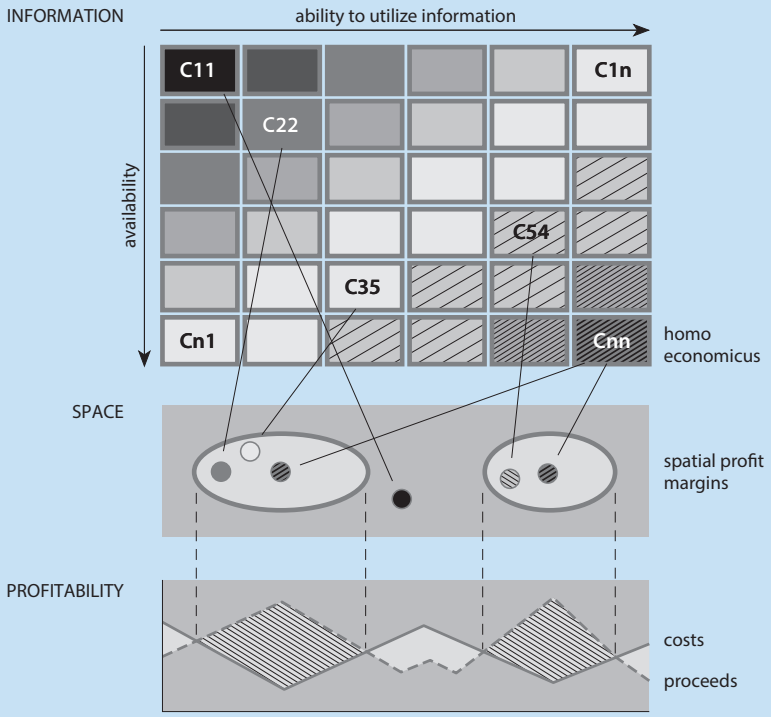


Figure 5.1 Allan Pred's behavioural matrix (adapted from Rodrigue, 2020)

In the behavioural matrix, firms are characterized along two dimensions: the amount of information available to them and their ability to process information. In the top left corner of the matrix, we find firms that have no information available nor any ability to process it meaningfully. These firms are basically sailing blind. At the other extreme, in the bottom right corner, we find firms with full knowledge and the possibility to process this information effectively; this is the homo economicus. Both extremes are purely theoretical and firms will typically be situated somewhere in the middle of the matrix.

The main value of the behavioural matrix lies in its usefulness as a conceptual tool. It has rarely been tested empirically. This dearth of robust measurable data makes it hard to place a business in Pred's matrix. Having said that, there are some general rules on where in the matrix firms can be found. A first regularity is that large firms tend to be relatively well-informed and they particularly have a greater ability to use this information. Large businesses have dedicated departments providing specific, frequently needed strategic information. As the decision to choose a new location occurs relatively sporadically, they may also hire external location consultants or call in an estate agent specializing in commercial property. Smaller firms, on the other hand, typically do not have the infrastructure to 'rationalize' the location decision and have to rely on information already available to them. Typically, this is local information, so it comes as no surprise that over 75% of new business start-ups are located in their current place of residence. Also, most firm relocations take place within the same municipality, i.e. across a very short distance. A second regularity is that the positions taken by enterprises will change over time, as they learn through interaction with their environment, including the market in which they are active and other enterprises. This enables them to make increasingly balanced decisions, at least with regard to their current location. Expressed in terms of the matrix, this means that firms, over time, move towards the bottom right corner when it comes to being informed on their current location.

In the bottom part of the model (Figure 5.1), Pred links the position of firms in the matrix (their level of being informed) to their location. He combines the behavioural matrix with the idea of *spatial margins to profitability* (Smith, 1966), which involves the notion that firms' costs and revenues vary across space. There is then an optimal location for any given firm, which is the location where profits (revenues minus costs) are the highest. Also, there is a set of locations where profits are greater than 0 (revenues are larger than costs). This set of locations is delineated by the so-called *margins of profitability* where revenues are equal to costs. Finally, there is a set of locations where costs exceed revenues and firms will eventually go out of business or relocate in the hope of finding a better location. Pred concluded that the better informed firms are, the likelier they are to find a suitable – i.e. profitable – location. It is important to realize that the location of firms relative to the spatial margins of profitability is not deterministic; even firms without any relevant knowledge may get lucky, but chances of this happening are slim. Similarly, larger firms may have a more 'rational' approach to location choices, but subjectivity re-

mains an important factor. To illustrate, in large businesses, employees have a say, via the works council, in the decision whether or not to move. Location choices depend on the capacity of the business to obtain a large quantity of good-quality information and utilize it in a meaningful way. Businesses want location choices to be simplified and reduced to understandable proportions. To this end, various objectives are ranked (incremental rationality), rules of thumb are developed (procedural rationality, heuristics) and preferences are made explicit (expressive rationality). All this implies that the eventual location choice is not only determined by the site qualities in relation to the organizational needs, but equally by the personal characteristics and organizational responsibilities of the decision-makers. Different businesses operating at the same location and in the same market can choose different locations when they decide to relocate.

Unlike the positioning of firms on the behavioural matrix, the location decision of firms has received considerable empirical attention. Understanding the considerations of firms for relocation are important for policies on business and industrial parks and regional economic growth policies. These studies typically take two main forms. In the first, firms are asked to value the business climate in places and in the second, relocating firms are asked for their considerations: Why did they move to a certain location?

5.4 Locational preferences and firm relocations

In the Netherlands, the main proponent of behavioural economic geography is Prof. Piet Pellenbarg. Having observed how dissatisfied many businesses were with where they were based, he investigated the reasons for their dissatisfaction and their decision-making process with regards to relocation.

Alongside Pred's behavioural matrix, the notion of *place utility* provides a conceptual framework for research into locational preferences and decisions. Place utility, as coined by Swedish geographer Julian Wolpert, reflects the extent to which businesses are satisfied with their current location, i.e. the extent to which the location enables agents to achieve certain strategic objectives. For residents, this is about how enjoyable it is to live there, but for entrepreneurs, it is all about economic results. In this light, place utility represents the extent to which a location meets the demands of the businesses based there. Wolpert (1963) emphasizes the relative nature of the concept; business owners compare and contrast the place utility of their location with that of alternative locations. Place utility is therefore both a function of the characteristics of the current location and what other locations have to offer. The perceived place utility provides the basis for the valuation of locations as well as potential business decisions that are derived from this. These may be decisions on investments – more likely by firms that experience a high perceived place utility – but also relocation decisions in case the perceived place utility is low.

Given the link between perceived place utility and firms' decisions, it is relevant to try and map differences in perceived place utility or simply the locational preferences of firms. In such an exercise, business owners are essentially asked to reveal their judgement of the spatial information available to them. Such judgements are partially based on characteristics of sites and the extent to which they match the requirement of firms. Logistic firms, for example, will likely value harbour-areas. On top of this, however, and true to the idea of behaviour geography, the valuation will be based on the business owner's perceptions of certain places and regions. The *regional image* (see Section 5.5) can then be an important predictor of the valuation of a place as a business location.

Mental maps allow us to visualize such place perceptions. A mental map is the cognitive image someone has in relation to a specific place. This includes, for example, how someone understands a city. In research, this cognitive image can be visualized by asking someone to draw a map of the city. If you ask a number of people, you will most likely get very different maps representing their different perceptions of the city. At the same time, there may be commonalities. For example, all maps may feature the city's main square or an important landmark. Also, the patterns may differ for different groups of people. For students, for example, the university buildings are likely to be important locational benchmarks, while for other groups they are probably less important. Note that mental maps are not necessarily explicit maps. They also include stereotypes or associations such as 'the far north' and 'inhospitable Siberia', or, to give some Dutch examples, 'remote Zeeland' or 'the overcrowded west'.

In Pellenbarg and his group's empirical work, business owners provide their mental maps of the Netherlands in terms of locational preferences. The business owners are asked to rate 70 Dutch places in terms of suitability as a location for

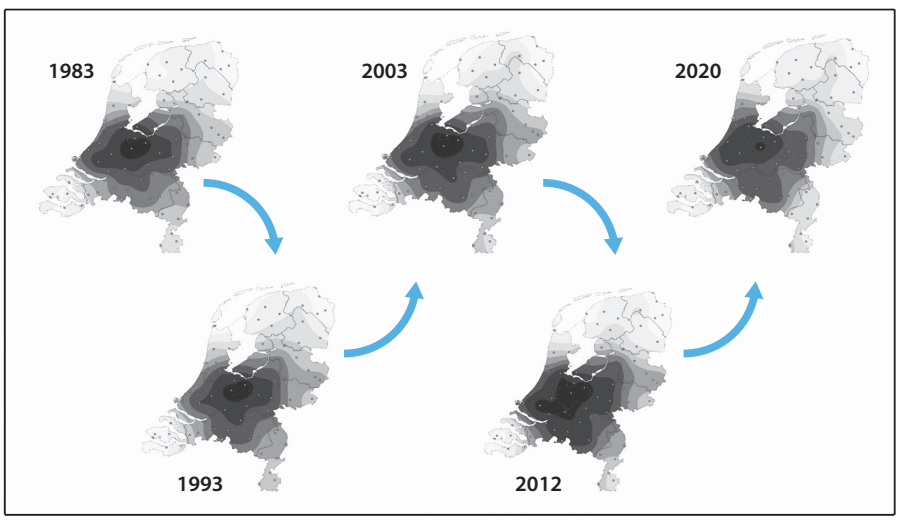
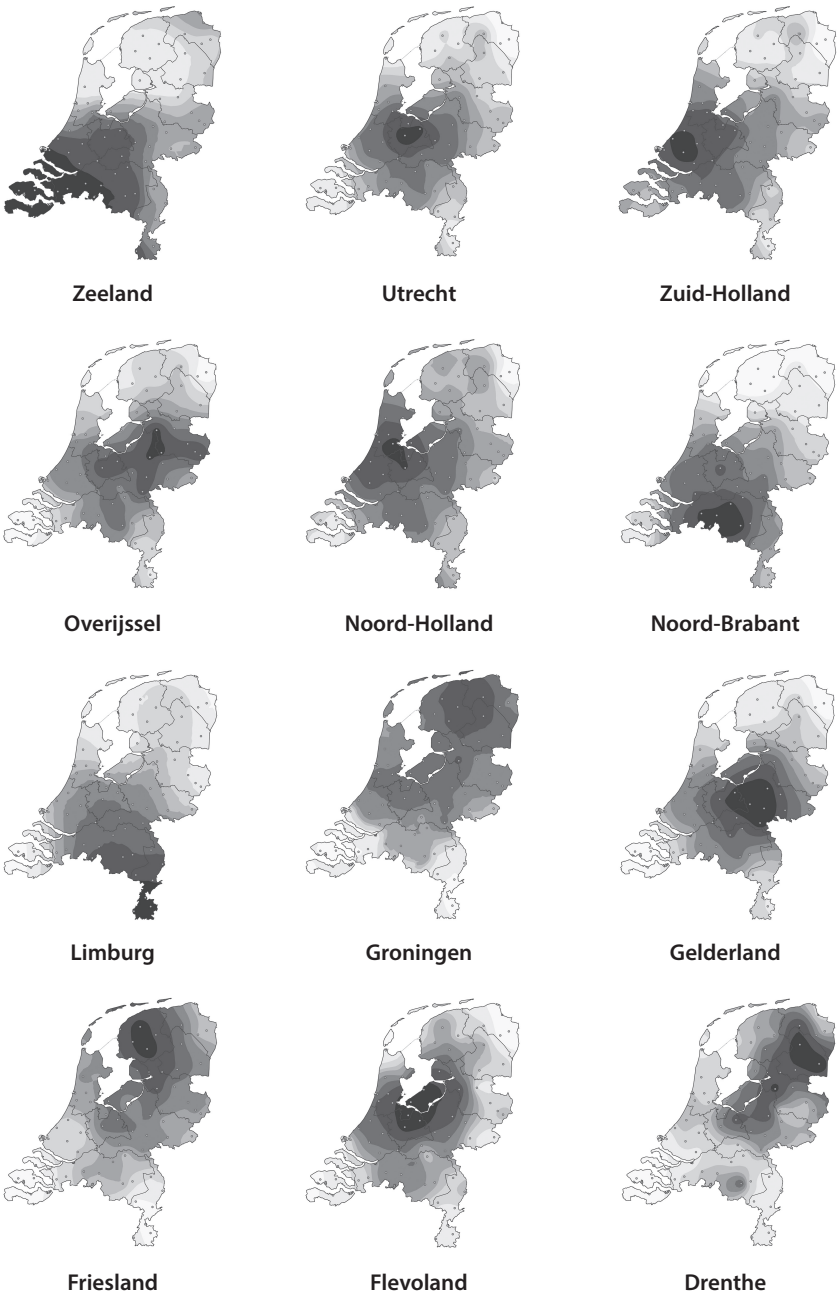


Figure 5.2 Locational preferences over time (Meester & Pellenbarg, 2006; Koster & Kamminga, 2022)

their firms. Using GIS interpolation techniques, these place values are then translated into a landscape of locational preferences of Dutch business owners (Figure 5.2). This study has been repeated regularly allowing for a comparison over time. Given the important changes in the economy in the 40 years the study has run (see Chapter 2), it is remarkable to see how stable the landscape of locational preferences has remained. In each study, Utrecht and the surrounding region come out on top and then the locational preference slowly tapers off towards the country's borders. It goes to show how persistent and sticky locational images are, even if Utrecht also continuously boasts important location advantages for firms.

Another aspect of spatial information is the decision-maker's experience. Particularly in the case of remote regions, perceptions tend to be subjectively biased (prejudices, stereotypes). The average entrepreneur is poorly informed about such regions; they are likely to be much better informed about the region they are currently based in, as that is where their experience is derived from. This explains the so-called neighbourhood effect, a tendency to value the familiar and nearby more highly than the far-off and unknown. This effect can also be seen in the Eurovision Song Contest, where judges usually award more points to performers from neighbouring countries or those they have cultural ties with. In the same way, Dutch entrepreneurs value their own and nearby regions more highly than those further away (Figure 5.3). Given that regional economic growth importantly depends on the competitiveness of local firms and their willingness to invest, trust in the local production environment is of crucial importance. Provinces that have a weaker neighbourhood effect (Groningen and the north of North Holland being clear examples) may then also find their economies hampered by this lack of trust.

Once a business decides to move, the process of finding a new location begins. Research into this process generally focuses on motivation factors. A distinction can be drawn between push and pull factors as well as factors that motivate businesses to stay where they are. Push factors motivate a company to leave an area, e.g. if the current location does not allow for expansion or is no longer sufficiently representative. A new location's pull factors motivate a company to relocate there. Examples would be good transport connections, including public transport, good parking facilities and the availability of subsidies. There are also factors that motivate businesses to stay in their current location, reasons to stay put after all, having considered the alternatives. These factors focus on the drawbacks to moving. An entrepreneur's fears of losing workers and of uncertain market prospects are powerful factors in this respect. Morkutė and Koster (2018) show that firms that relocate outside their original labour market area (so beyond commuting range) lose up to 50% of their employees after the relocation. It comes as no surprise then that firm relocations are relatively rare and typically take place over short distances. According to Stec Groep, a commercial business consultant that monitors firm relocations in the Netherlands over the long term, 75% of all firm relocations take place



NB: The maps show the locational preferences of business owners in a certain province.

Figure 5.3 The neighbourhood effect in locational preferences (Koster & Kamminga, 2022)

within 7 kilometres of the original location (Stec, 2020). Illustrating the same point, in the period 2000-2019, they documented only 20 to 55 interregional strategic relocation decisions per year. This is the relocation of a firm with at least 50 employees across a distance of at least 25 kilometres. Typically, firms are reluctant to move and certainly across large distances.

Relocation motivation factors change over time, although many remain the same. Pellenbarg and Van Steen (2003) report on a survey among fifty recently relocated companies in the Netherlands of varying sizes and from a range of industries. The main push factor across the studies was the opportunity for expansion. Firms relocate once they become too big for their current premises. Interestingly then, in terms of pull factors, the size of the new building is seen as less important than the quality, particularly in terms of appearance. This can be interpreted as a reflection of the ongoing growth of the service economy. The importance to entrepreneurs of being easily accessible to their buyers points in the same direction.

Over time, it has become increasingly complicated to determine what the dominant location factors are, especially since the 'spatial margins of profitability' are wider than in the past. Developments such as technological innovations, e.g. in transport, give businesses a wider choice of locations from which they can trade profitably. As is noted in Chapter 1, many businesses view the surroundings as one large urban field, and it makes no difference to them – in terms of market access – whether they are based in The Hague or the slightly less central Arnhem. By contrast, access to skilled workers may have become more important following the growth in the service industry and the increased importance of innovation and competitiveness. As such, even though good market access is guaranteed in more places than before, the access to skilled workers still ties firms to certain areas.

Apart from more tangible location factors, such as access to the market and good quality premises, entrepreneurs also take factors into account that are less easy to see or objectify. Such soft factors, as they are sometimes called, include the quality of the living environment, childhood memories, images, the location behaviour of other entrepreneurs. Some researchers feel it is the soft and not the hard location factors that determine the ultimate location choice.

Wim Meester (1999) observed that soft factors are often underrated when trying to understand firm relocation decisions. Survey respondents can suffer from *hindsight rationalization*, which is the bias that respondents feel obliged to come up with reasoned answers. This phenomenon, related to cognitive dissonance, is a substantial drawback of studies looking into motivations for certain decisions. Its existence has been demonstrated numerous times. For example, a weather forecast predicting sun and showers was seen by two groups. One group went to the beach, the other stayed home. The people who went to the beach said the weather wasn't really that bad (look, the sun is coming out again), and the ones who stayed home focused on the rain (oh no, not another shower). Both groups rationalized their behaviour after the event so that their actions seemed reasonable and reasoned. This is also frequently the case with location decisions. Entrepreneurs – true to the behavioural

approach – are social beings that make decisions on the basis of incomplete information, taking into account not only the firm's best interest, but also personal and professional circumstances, their experiences and their social environment.

Box 5.2

Hard and soft location factors

For his MSc dissertation at the Amsterdam School of Real Estate, Jeroen Jansen conducted a literature study of location factors. He compiled a list of 91 factors, which he divided into 80 hard and 11 soft factors. Frequently mentioned hard factors include size of the premises, accessibility and proximity of similar types of business. Jansen lists the following soft factors:

Premises:

1 Prestige, appearance, distinctive architecture

Immediate surroundings:

2 General character and liveliness of the locality

3 Attractively situated

Social economy:

4 Work ethic and general mentality of the local population

5 Internationally oriented

6 Reputation of the region

Living environment:

7 Attractive landscape

8 Visually appealing buildings and structures

Local authorities:

9 Accessible, trustworthy and vigorous

10 Quality of the information provided

Other:

11 Personal motivations

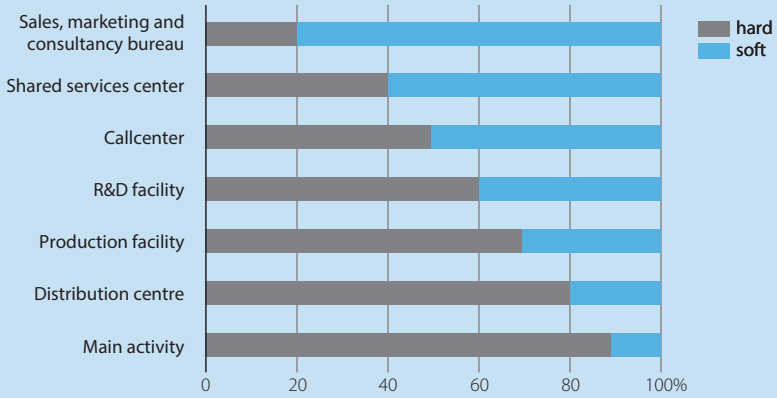


Figure 5.4 Hard and soft location factors per key activity (Stec, 2001)

Like hard factors, the importance of individual soft factors can vary from one firm or industrial sector to another. The research firm Stec (2001) differentiates between hard factors, such as accessibility and labour market, and soft factors, such as image and personal preferences. According to Stec, the importance of these two types of location factors varies per key activity.

5.5 Regional images and place branding

With the acknowledgment that spatial decisions are influenced by spatial perceptions and images of economic agents, it is a logical and small step to trying to influence these perceptions. The nudging of spatial images and perceptions is at the core of a field of policy studies identified by a number of names: *place promotion, place marketing* and *place branding*.

The promotion of regions and specific places has a long history. Roman Emperor Julius Caesar tried to persuade 100,000 poor residents of Rome to leave the city and settle in new colonies all across the Roman Empire. In his term in office from 1906 to 1911, Russian Prime Minister Pjotr Stolypin had 6,000,000 flyers printed to encourage Russian farmers to resettle in Siberia. In the Netherlands in the second half of the 19th century, the wealthy classes developed an interest in day trips to seaside resorts and the rolling hills of southern Limburg. On 22 February 1885, a regional tourist information agency in Valkenburg printed leaflets and placed benches in and around the town for day-trippers taking a walk. Affluent visitors were lured to the town by newspaper advertisements and murals on buildings.

Figure 5.5 Early 20th-century advertisement for the English seaside resort of Blackpool

Place promotion has been around for a long time, but it has become more prominent in recent times. Following the narrative of (global) competition and competitiveness (see Chapter 2), there is an incentive for regions to present and promote themselves. Or, in the words of Kotler, an American marketing expert who introduced the term place marketing: 'All places are in trouble now, or will be in the near future. The globalization of the global economy and the accelerating pace of technological changes are two forces that require all places to learn how to compete. Places must learn how to think more like businesses, by developing products and discovering potential markets' (Kotler et al., 1993, p. 346). The surge of place promotion efforts can be further understood as part of a trend where governments have become more entrepreneurial (Boisen et al., 2018). A place promotion campaign is a practical and tangible policy action that fits well with the notion of an entrepreneurial government.

Kotler found that marketing principles that applied to commercial products were also applicable to public services. In a world characterized by a global economy, cities, regions and nations are well advised to make good use of marketing techniques. One disadvantage they have compared to the commercial world, Kotler noted, is that they can't react as promptly to market developments. It is a lot easier for a soft drink producer to add a new flavour than for a city council to change the look of an entire city centre.

Kavaratzis and Ashworth (2005, p. 507) criticized the use of marketing techniques to sell places: 'very few marketing specialists have given much thought to its application to places treated as products, and, if they do, they too easily assume that places are just spatially extended products that require little special attention as a consequence of their spatiality.' According to the same authors (Ashworth and Kavaratzis, 2009), this is due to the 'sex appeal' of city marketing. Politicians and authorities like to create policies with catchy slogans. In addition, Professor of Place Marketing Gert Jan Hospers (2009) observed that the motivation behind place marketing (or place branding) is often the wish to 'put a place on the map', the thinking being that 'our area has so much to offer, but hardly anyone is aware of it'.

People develop feelings for a place and attach meaning to it through:

- the physical environment, including the built environment;
- the way they use places;
- a variety of representations of a place, as in the media, films and literature.

Within these three categories, a distinction should be made between the experiences of people themselves and those handed down to them. Together they constitute a mental map of a place. The aim of branding is to influence people's mental map and make it more fitting.

Conceptual confusion: Place branding, marketing, and promotion

Slogans and other promotional material are arguably the most visible and noticeable manifestations of how places present themselves (as illustrated in Figure 5.5). Also, promoting a place is often a flashy and tangible activity and is relatively easy to do. The allure and concreteness of promotion campaigns also evoke the idea that this is the core of place marketing strategies. Echoing this, the notions of place promotion, place marketing and place branding are often used interchangeably in a reduced interpretation of communicating about and advertising places. They are, however, conceptually distinct. Also, the simplified yet appealing conceptualization of 'place perception management' as 'promotional efforts' clouds some of the complexities involved and hampers its successful implementation. Figure 5.6 presents a conceptualization of the relationship between the notions of place branding, place marketing, place promotion and place development.

Box 5.3

Selling your Seoul: Why city slogans keep changing

Edited and abridged from The Korea Herald

Seoul city is moving to replace its eight-year-old slogan, 'I.Seoul.U', by putting two new candidates, 'Seoul, My Soul' and 'Seoul for You,' to an online vote. The city government has stated that a new slogan is needed as the current one lacks popularity and does not make sense. The city government felt differently under the previous mayor. When it chose the 'I.Seoul.U' slogan in 2015, the city said it was designed to showcase how South Korea's most populous city can bring individuals together. The slogan faced criticism and mockery at the time. Critics said it did not effectively communicate information about Seoul, in addition to its abstractness and grammatical errors. Seoul is not the only city in Korea where elected mayors bring forward new slogans – often done poorly and without reflecting a city's unique characteristics. In January, Busan introduced a new slogan 'Busan is Good', replacing its previous slogan of 20 years, 'Dynamic Busan'. Daegu ditched its 19-year-old 'Colourful Daegu' and switched to 'Powerful Daegu' last year.

Experts have pointed out the inconsistency in Korean cities' branding strategies, noting that changes in slogans often coincide with new leaderships looking to make their mark. 'It happens in many places where as soon as the mayor or minister of tourism changes, the first thing they do is abandon the previous logo or slogan and start a process to create a new one,' said Mihalis Kavaratzis, Professor of Place Marketing at Manchester Metropolitan University. 'That is very often unnecessary. It is a potential waste of taxpayer money and a waste of effort. It also signifies an inconsistency that is not welcome.'

'Most of the studies in academia find that logos and slogans are not working. The reasons: politics, change of power of governments, low budgets, no knowledge,' said Erik Braun, Associate Professor of Marketing and Tourism at Copenhagen Business School.

(Son, 2023)

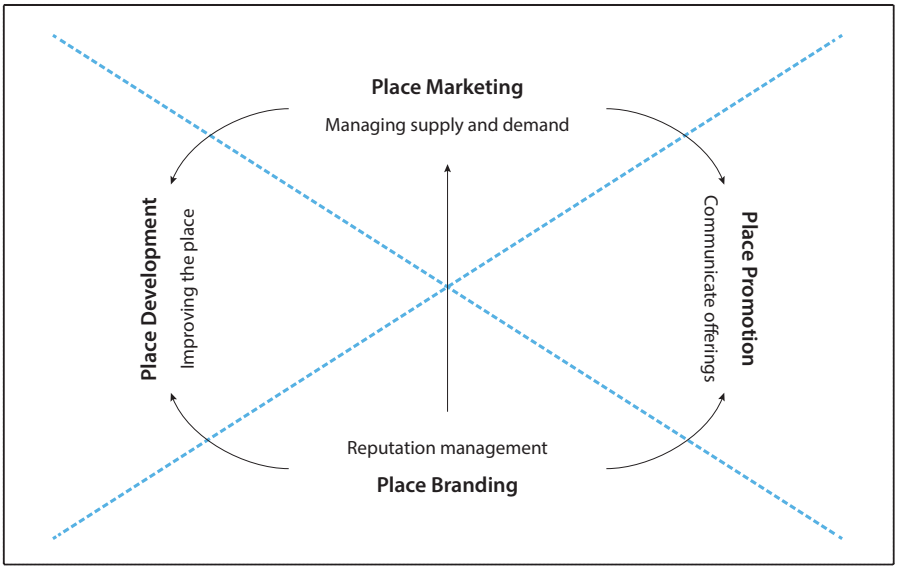


Figure 5.6 Place promotion, marketing, branding and development (Boisen et al., 2018)

1 *Place branding* is the most encompassing approach and involves the long-term management of a place's identity and image. Importantly, the vantage point is very much from within the place itself and any effort to nudge or foreground an image of a place is preceded by the questions, 'What do we consider to be our own identity and what do we want it to be?' In other words, what is the set of resources, common practices, landmarks, cityscape, people, institutions, businesses and culture available to a place, and what is the shared identity or identities that emanate from these? Place branding is then the concerted effort to effectively manage, use and communicate this shared identity.

2 *Place marketing* can be seen as the more practical translation of the place branding strategy into managing the place's images, or the alignment of demand and supply for different target groups given the place's branding strategy. That is, place marketing addresses the question of whether the offerings of a place fit the images and perceptions of the 'customers' or target groups. Note that a place can have many target groups – visitors and tourists, current and potential residents, businesses – with different sets of perceptions, images and uses. Place marketing requires the alignment of the 'product' of a place to the uses of the different target groups. The alignment of supply and demand involves both the communication and promotion and the development of the place itself. This mimics the original product marketing mix which includes both the P for Product and the P for Promotion. Place development and place promotion are then the tools available to implement the place branding and marketing strategy.

3 *Place promotion* involves the communication efforts vis-à-vis a place to selected target audiences. Both the city's identity (as the basis for its branding strategy) and the alignment of supply and demand (place marketing) may differ across the place's activities and target groups. A city may at the same time be regarded as an economic hotspot and an unattractive tourist destination even if it boasts some fine tourist attractions. This situation may inform a targeted place promotion that plays down the economic image (which is already known anyway and needs no added emphasis) and stresses the touristic product.

4 *Place development* is the second tool in the branding strategy of places, and is often overlooked. However, improving the product or investing in a place is a necessary condition to achieve the goals of a branding strategy. This does not only involve building landmarks, for example, but should be part of a larger strategy and a set of investments with a shared goal in mind.

Box 5.4

Place development - The Guggenheim effect: How the museum helped transform Bilbao

Edited and abridged from The Guardian

By the late 1980s, Bilbao was in decline and in an identity crisis with many parts of the city's heavy industry sector struggling to survive. Realising that Bilbao would have to diversify from its traditional economic bases, the Basque authorities embarked on a mega-project to overhaul the city, which included a €1bn programme to restore the polluted estuary and build a new metro network. In 1991, the Basque government and the regional authorities struck a deal with the Guggenheim foundation that would see the building of a new museum, designed by Frank Gehry.

As Gehry's building grew so, too, did confidence in the Bilbao project. A quarter of a century on, the Guggenheim is a glittering and essential part of the city's fabric, attracting almost 25 million visitors since opening its doors. Industry today is concentrated on the outskirts of the city and tourism now accounts for 6.5% of the city's GDP. But how much of the transformation can be attributed to the 'Guggenheim effect'?

'If people use the phrase "Guggenheim effect" to communicate the idea that cultural infrastructure can have a transformative effect then I'd go along with that,' says Vidarte. 'But they need to understand what all that involves. I don't like it when that phrase is associated with projects that have nothing in common with this one besides a spectacular building. This project was part of a much bigger plan and it fitted in with that plan and didn't happen in isolation – it wasn't done on a whim.'

(Jones, 2022)

The practice of place branding

From the above, it is clear that proper place branding needs a concerted effort from all the stakeholders. Also, it is a continuous strategic process rather than an ad-hoc policy measure. Ideally then, place branding should be a strategic and integral policy field that involves all departments in the relevant governmental organization. It is as much about the economy as it is about tourism and about the well-being and happiness of the own population. Also, since it builds on the local set of norms and values, place branding should be done in conjunction with the own population, existing business and other relevant stakeholders. This is a far cry from the typical (city) government where place branding (or rather place promotion) is often a separate unit that operates more or less independently from other units like economic affairs.

Kotler (1995) provided a first start for thinking about how to actuate place marketing (the term used by him) by distinguishing six overarching and archetypical goals:

- attracting recreational and business visitors;
- encouraging entrepreneurs to settle in the area;
- retention and expansion of existing businesses;
- promoting new enterprises and the growth of smaller businesses;
- stimulating export and outgoing investments;
- enabling population growth or attempting to alter the composition of the population.

Before local or regional policymakers choose one or more of the approaches, they need to do their homework. This often involves a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) as the starting point. Strengths and weaknesses describe the current situation and list the features of the place itself, and can typically be controlled by the government to some extent. Some relevant questions in this respect are: Does the city have flourishing businesses? What is the age structure of the population? Opportunities and threats describe ongoing developments the place may need to react to. Typically, opportunities and threats are beyond policymakers' control. They include megatrends like globalization, the increasing importance of knowledge workers, pandemics, etc. However, they can also include more regional developments, for example if the national government changes its regional policy or a neighbouring city builds an attractive residential area. Building on the results of the SWOT analysis, places can decide on their next moves.

Kotler (1995) illustrated the idea by zooming in on declining areas, and suggested that cities faced with economic and social decline revise their town planning (place development). They should improve infrastructure, sort out public services like education, fire and rescue and urban sanitation, and develop attractions. Only then is it useful to start investing in the city's image and promotion.

Ashworth and Voogd (1988) provided a complementary view on the strategic choices a place has, based on two dimensions (Table 5.2). When looking at the market side, places can focus on existing and new consumers. Regarding the supply of

services and facilities in a place, there is a choice between maintaining or strategically adjusting what is currently on offer. This leads to four potential strategies:

Table 5.2 Strategic choices for place marketing (Ashworth & Voogd, 1988)

		Services and facilities	
		Maintain	**Adjust**
Market	**Existing consumers**	Consolidation	Quality
	New consumers	Expansion	Diversification

The first strategy, *consolidation*, applies when a place attempts to maintain the existing level of services for its current residents. This can be an important strategy for areas with declining populations. By explicitly including the current residents, Ashworth and Voogd took a somewhat different approach compared to Kotler in terms of the main target groups. Hospers (2009) also stressed the importance of what he called *warm marketing*, or binding local residents and businesses: 'People generally move over short distances; 94% stay within the same region, 75% even within the same municipality' (p. 10). The second strategy, *quality*, may apply to areas where the infrastructure is outdated. City centre rejuvenation, for example, can make a shopping centre more attractive to shoppers. The third strategy, *expansion*, targets new markets for existing facilities. In 2011, Irish budget airline Ryanair started flying to Eindhoven Airport. The regional tourist information offices used the new connection to investigate whether there was any scope for encouraging Ryanair passengers to stay and explore the region. Finally, the fourth strategy, *diversification*, aims to bring new services to new markets. Examples include a purpose-built fashion outlet shopping village and a historic dockyard, both in Lelystad, the capital of the polder province of Flevoland.

Managing multiple brands

An important reason for the idea that place branding should be a strategic and encompassing activity rather than an ad-hoc and stand-alone policy measure, is the realization that any place needs to manage many brands at the same time. Venice is a picture-perfect tourist attraction, but also an industrial city and a place of residence for its population. So it needs to manage and balance all its images and brands to be an attractive place for all. Ashworth and Kavaratzis (2009) conceptualized this straightforward realization by perceiving brands as a way of communicating between the brand owner and the target group (Table 5.3).

This can get complicated quickly, since a place is not a singular and unambiguous product. A maker of energy drinks can claim his products contribute to the body's speedy recovery after exercising. A city, however, has far more types of users than an energy drink – shoppers, home buyers, entrepreneurs, tourists, students, etc. Also, places have multiple offerings all rolled into one and many users who only

Table 5.3 Branding as a communication process (Ashworth & Kavaratzis, 2009)

Brand identity	Brand positioning	Brand image
How brand owners want the brand to be experienced	The aspect of the product/service aimed at a target group that can demonstrate its competitive advantage	How the brand is perceived by the target group

experience the city for their own purposes. As a result, the residents of Venice may have a very different perception of the historic centre than visiting tourists. Using Ashworth and Kavaratzis's terms, brand identity and brand image may vary across the different stakeholders of a place, given the different target groups. Positioning local brands across the different target groups is then crucially important. According to Ashworth and Kavaratzis, a city can have multiple brands as long as they are anchored in the same set of norms and values. This is not always straightforward.

The complexity of maintaining multiple brands as well as the persistence of certain images and views is illustrated in the Province of Groningen campaign with the slogan 'Nothing tops Groningen' ('*Er gaat niets boven Groningen*'). This is an appropriate case for exploring the impact of place marketing and its complexities, as it is one of the longest-running place marketing campaigns in the Netherlands. The slogan and campaign were launched in 1989 and are still used today. This allows effects to materialize. Also, the image of Groningen and the campaign's impact have been regularly monitored. Finally, 'Nothing tops Groningen' is arguably the best-known slogan in the Netherlands. As such, it is likely that this campaign has had some effect.

In the first years of the campaign, the image of Groningen (the province and capital share the same name) was monitored by Piet Pellenbarg and Wim Meester, both from the University of Groningen (Pellenbarg & Meester, 2005). In 1988, they investigated perceptions of Groningen. Looking back on this period, Prof. Pellenbarg said: 'The Dutch saw the people of Groningen as dour. They knew the landmark Martini tower, but thought the city was smaller than it actually was.' Pellenbarg and Meester joined forces with a research bureau and a media company to translate the research findings into a marketing campaign and in 1989, the media company came up with the slogan 'Nothing tops Groningen'. The campaign was evaluated every two years, from 1989 to 2005. Its consistent message paid off. In 1992, more than 60% of the respondents thought the city of Groningen had a smaller population than it actually had. By 2000 this percentage had dropped to 44%. People became better aware of the city and the province. After 2000, the campaign placed less emphasis on the economy and the city itself, and underestimation of the city's size bounced back to 60% in 2005.

Typically, the evaluation studies indicated that the province of Groningen's weakness was its image in terms of employment and accessibility of business networks. It scored better in terms of recreation, education, culture and landscape.

This picture turned out to be very sticky. Figure 5.7 shows the perceived suitability of Groningen for different activities as documented in a recent survey, conducted as part of the image monitoring in 'Nationaal Programma Groningen' or NPG (Kantar, 2022). NPG is a large-scale investment programme whose aim is to improve socio-economic conditions in East Groningen, an area affected by earthquake damage following the extraction of natural gas. The graph shows the views of Groningen residents versus those living elsewhere in the Netherlands. Two takeaways stand out. People in Groningen have a much more positive view of the province on all aspects. This is in line with the neighbourhood effect as we saw it for locational preferences: out of sight, out of mind. However, the relative scores of the aspects are more or less similar across the two groups. Groningen is most appreciated, by both groups of respondents, as a place of study and least for work and doing business. One exception is its score as a place of residence: people from outside Groningen give a relatively poor score, given their scores for the other dimensions. Once again, this goes to show how different target groups may have different images and views.

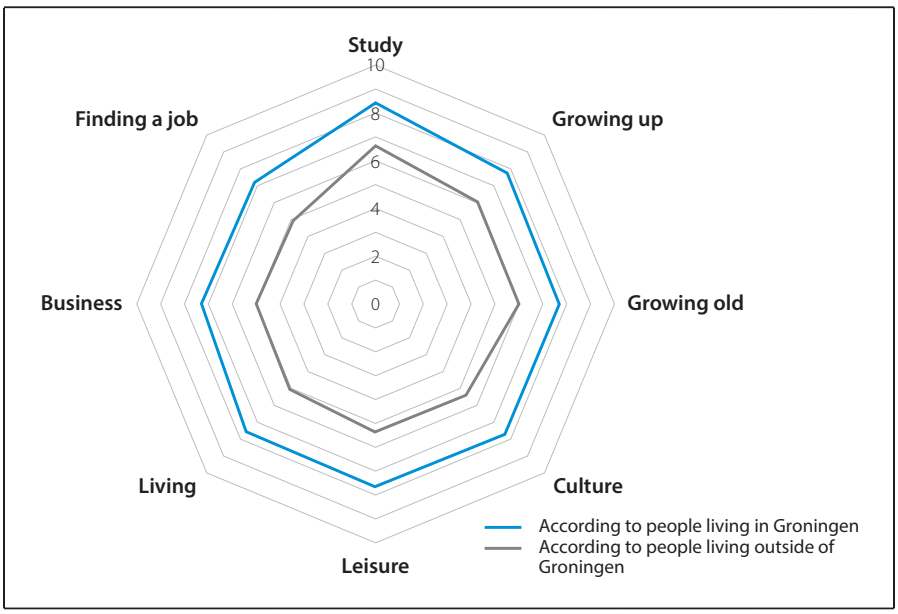


Figure 5.7 To what extent is Groningen considered a suitable place for …

During the 2000s, the provincial authorities also started to use the slogan 'Nothing tops Groningen' to boost tourism. Pellenbarg had his doubts about the effectiveness of targeting entrepreneurs and tourists with the same slogan. He felt promoting the region as one offering space and tranquillity ran counter to promoting it as an attractive place for businesses to set up shop. He cited the example of the southern province of Zeeland: 'It promoted itself with the slogan "Living and working in a green oasis". So make up your mind, do you want more tourism or more jobs? Personally I think the latter is more important.' Assessing this idea empirically, Koster

and Kamminga (2022) indeed showed that entrepreneurs who associate Groningen with green and tranquillity tend to rate the province lower as a place for locating their business.

In short, the example of Groningen shows that certain images can be sticky and can contradict each other. Place branding, easy as it may seem at face value, requires a strategic, comprehensive and longer term perspective if it is to be effective.

5.6 The hunt for the creative class

Over time, the relative importance of different target groups for city marketing and city branding has changed. In the 1970s and 80s, for example, large manufacturing firms were typically watched by regional governments. Currently, there is a strong focus on attracting bright and talented people. This focus reflects societal trends – knowledge has become a more prominent factor for local economic growth – and was arguably instigated by the publication of Richard Florida's influential book *The Rise of the Creative Class* in 2002.

Florida argued that creativity is the most important economic driving force, and creative industries and creative people working in them are the engine of local economic growth. There has been much debate about how to define the creative class – Florida himself counted 40 million creative professionals in the United States in a total labour market population of about 150 million. Florida distinguished between three different subgroups in the creative class (Table 5.4).

Table 5.4 The creative class as defined by Richard Florida (Van Aalst et al., 2005)

Super-creative core	Bohemians	Creative professionals
Computer programmers, mathematicians and engineers; medical and other social professions; schools and libraries; artists, media workers, designers and professional athletes	Commercial designers, sculptors, photographers, writers, painters, composers, musicians, singers, actors, choreographers, dancers and film directors	Managers, financial service providers, the legal sectors, healthcare and sales managers

Florida posited that the best way to stimulate growth is to try and attract creative people to a city by investing in educational institutions, research and development and, most prominently, in an attractive living environment for the creative class. Once the creative class had arrived, they would start businesses and attract business to the city interested in hiring them. In Florida's theory of local economic development *jobs follow people*. Note the contrast to the NEG and Perroux's growth pole model (Chapter 4) both of which build on the idea that *people follow jobs*. The idea of jobs following people appealed strongly to policymakers, if only because it gave them concrete policy measures within the remit of their responsibilities: invest in

the living environment, provide cultural services, stimulate an attractive and appealing city centre, guarantee appropriate housing. In terms of the place branding model (Figure 5.6), Florida's theory suggested investing in place development to boost economic performance. Following this logic, the Amsterdam City Council invested nearly 40 million euros in creative hubs, where artists and creative-industry-related businesses can find relatively cheap workspace. The idea behind it is that creative individuals are inspired by each other's presence. Rotterdam tried to attract creative residents by selling renovated subsidized housing in older areas to new creative professionals. Testifying to his popularity, by late 2010, Florida's speaker's fee had risen to 40,000 dollars, and his company, the Richard Florida Creativity Group, advised cities and nations worldwide.

Although in policy terms, Florida's suggestions for development were often narrowed to investing in an attractive living environment, the theory is broader in scope. For regional economic growth, Florida argued, three Ts were required: *Talent* (a talented, creative and skilled population), *Tolerance* (a diverse community with a 'live-and-let-live' mentality) and *Technology* (the technological infrastructure needed to fuel an entrepreneurial culture).

Like the creative class itself, how to measure the three Ts had been the subject of debate. Florida used a number of different indices, the Creativity Index being the most encompassing as it collapses the three Ts into one overarching measure which can then be used to compare cities and other places. It is made up of four equally weighted components:

- the share of the creative class in overall employment (Talent);
- the per capita number of patents (Technology);
- the presence of high-tech industry (Technology);
- the percentage of gay people in the overall population (Tolerance).

In his research, Florida showed that American cities with high scores in the Creativity Index outperformed those with lower scores in terms of employment growth and, more generally, economic growth. Gerard Marlet (2009), who provided empirical evidence for the Dutch case, reached similar conclusions. Cities with ample cultural services, a tolerant gay-friendly environment and attractive living conditions are generally magnets for the creative class, whose presence, in turn, induces economic growth.

Florida's theory has met with quite strong academic opposition. Some researchers have argued that Florida's evidence is tenuous and his argumentation weak. Glaeser (2011), for example, pointed out that the correlation between the percentage of highly educated workers and economic growth is stronger than the one between the presence of gay people and bohemians and economic growth. Some definitions of the creative class are so wide that 47% of the Dutch working population would belong to this class of professionals. This makes it hard to maintain that a specific and relatively small group of professionals fuels economic growth. Adding to the list of criticisms, the *causality* of Florida's argument was challenged. Was it

not the case that economically well-off cities were able to invest in, for example, cultural amenities rather than the other way around, as suggested by Florida? A chicken-and-egg issue! Marxist economic geographers didn't so much challenge the empirics of the theory, as questioned its implications. By focusing on one specific class of workers, cities would alienate themselves from other groups and, following Florida's approach, would instigate *gentrification*. Or, to put it explicitly, not everyone relishes having an opera house and the city has a duty to provide services for all its citizens. The sole focus on talent and the creative class does not serve the city as a whole.

In his book *The New Urban Crisis* (2017) Richard Florida was himself critical of his earlier work. Echoing the criticism of Marxist economic geographers, he pointed to the fact that the creative class increased the differences between groups of people and between cities. Addressing the criticism on the empirical underpinnings of his theory, he pointed to the fact that only a few 'superstar cities' like New York, San Francisco and Los Angeles really profited and were able to embed the creative class. He proposed seven pillars and spatial instruments to improve the quality of cities in a more balanced way. These include: reforming zoning and 'building zones' to increase cities' density and prevent 'vertical sprawl'; investing in public transport; providing more affordable housing in central areas; paying more attention to the middle classes, for instance by making 'service jobs' more attractive; upgrading 'low-wage service jobs' to 'family-supporting jobs'; fighting poverty; and investing in sustainable and prospering cities worldwide, where local communities should be given more support. But compared to *The Rise of the Creative Class*, his tone is less optimistic than in 2002.

In the 2000s, the creative class as a driver of economic growth was a big hype. Accordingly, many place marketing strategies were firmly geared towards attracting the creative class. Even though this specific focus has now largely disappeared, we still see that place marketing and place branding typically address people, also in relation to economic growth. This is a clear break with earlier periods when (large) firms were foregrounded as drivers of economic growth. As such, one could argue that Florida still has an important legacy in how policymakers think about city growth and their target groups for marketing campaigns.

5.7 Conclusion

The behavioural approach in economic geography is a reaction to the normative character of classical location theories and embraces the intuitive idea that decision-making is not rational. The behavioural approach is applied mainly in the fields of business relocation and place marketing or place branding. Following the behavioural approach premises, we can appreciate the idea that the same business environment can be rated differently by different businesses. Acknowledging this does not, however, necessarily provide new insights into how people and firms ac-

tually make their decisions and how policymakers can respond to this. The behavioural approach has been criticized as yielding for mostly descriptive studies, and more interpretation than explanation. The reasons businesses rate the same locations differently often remain elusive. The consequences of differences in perceptions are also hard to explain. Most businesses are not at ideal locations. Though the locations meet some of their requirements, inevitably they also have drawbacks. For his study on behavioural geography, Pen (2002) conducted an electronic survey among international experts, demonstrating that the number of economic-geographical research projects with a behavioural approach had declined. Each scientific approach, the experts said, has its own life cycle. After a while, an approach becomes unfashionable and, in accordance with time-honoured academic tradition, a new theoretical trend takes over. Pellenbarg and Meester (2005) wondered how it is possible that in economics, behaviourism is clearly on the rise, while in economic geography, so few proponents remain.

The promotion of tourist and emigration destinations is a form of place marketing that has been around for over a century and is closely connected to the behavioural approach. From the mid-1980s, place marketing began to find more formal, organized applications, as authorities became more and more market-oriented. Behavioural economic geography was among the first academic disciplines to develop theories and carry out empirical research into place marketing. Methodologies and terminology borrowed from consumer marketing gradually became the predominant investigative tools. Place marketing has also attracted a great deal of interest from many other disciplines, and has a proven relevance for policymakers. At the same time, the field of place branding and place marketing still lacks a solid analytical basis, particularly when it comes to assessing – over time – the effectiveness of place marketing for nudging behaviour across different target groups.

6 Why rules matter: The institutional approach

6.1 Introduction

Economic agents – people, firms and governments – operate in a context of uncertainty. As illustrated in the behavioural matrix (Figure 5.1), firms can never be sure if a specific place is indeed the best location for them. Similarly, entrepreneurs do not know for sure whether their newly introduced product will take off. Moreover, because of irrational or opportunistic behaviour and differences in the knowledge available to sellers and buyers, the outcomes of economic transaction are also uncertain. As an illustration, think of reported scams in online markets like eBay, Marktplaats, Alibaba and many other trading sites. Even without foul play, your purchase may not turn out to be as expected. In short, when embracing the concept of the *homo heuristicus* (see Chapter 5), economic transactions are shrouded in uncertainty and this implies a certain amount of risk. How should one deal with this?

One approach is to simply accept the risk involved. As an illustration, one of the main economic functions of entrepreneurs is that when launching new ideas they accept a certain amount of risk. Often, they do not succeed, but if they do, the reward is big. Another approach is to agree on collective rules that govern economic transactions and decisions. In other words, the risk involved in economic transactions is mitigated by drawing up a rulebook that all agents are supposed to follow. The rulebook may not take away all the risks and uncertainty involved, but it provides a framework that establishes some trust in a good outcome. Having such a rulebook in place guarantees an online purchase can be returned if it is not up to standard. Introducing such rules does, however, lead to new uncertainty. Are the rules applied properly, are they enforced if someone breaks them? Also, is everyone equally informed and equipped to act according to the rules? These rules and regulations governing economic transactions are called *institutions*.

Economically, institutions serve two purposes. Firstly, buyers and sellers can continuously make informed and reasoned decisions. Agreements underlie everything on a day-to-day basis, economic activity is largely routine-based and institutions safeguard this strategy. An important aspect is cost-effectiveness. Secondly, institutions serve the communal interests. Society has to be able to rely on rules being followed and laws obeyed. So institutions come with sanctions. They function the same way as traffic rules, without which there would be far more accidents and traffic wouldn't flow as well. We live in a highly regulated society, although both the nature and the extent of this regulation vary per country and region.

Institutional economic geography explores the emergence and establishment of institutions as well as their impact on economic development. Institutions are relevant to economic decision-making and economic development in various ways. Firstly, we can ask how economic agents make decisions in the face of the institutions in place. Basically, how do people and firms play the economic game? Secondly, the quality of local institutions influences the potential for economic growth. You can imagine entrepreneurs feel more secure in places where institutions are well-developed and upheld. Economic transactions are smooth in such places, trust is high, and people and firms feel safe to invest in the economy. Thirdly, some rules and regulations are geared specifically towards investing in the economy and developing it. In the remainder of the chapter (Sections 6.3 and 6.4) we will address these three aspects of institutions in relation to regional economic development. The next section (6.2), however, first introduces more formally the relevant terms and notions in institutional economic geography.

6.2 Institutions, the rules of the economic game

The institutional approach originated in business management and sociology. In business management, the rules pertain to managerial decision-making in the production process and in customer service. In sociology, the focus is on the regulating effect of customs, norms and conventions, and the way people conform to them and how they interact, given the institutions in place. In both perspectives, institutions are central in governing the interaction between agents. From an economic sense, this is the interaction between buyers and sellers, but also firms working together on a new product. The effort that goes into establishing and maintaining such interaction can be thought of as *transaction costs*. In an economic context, *transaction costs* can then be defined as all costs incurred in the transfer – or, in fact, transaction – of goods or services between economic agents (see Figure 6.1).

Note how this definition implies that *transaction costs* are more encompassing than the notion of *transportation costs* that underlies the classical and neoclassical models as discussed in Chapter 3. Transportation costs are part of transaction costs, but there are also other costs involved that need to be taken into account when making an economic transaction. The Dutch business economist Bart Nooteboom (1994) summarized these additional costs in three main elements of transactions:

- *Contact:* A transaction means there are two parties, a supplier and a recipient. Naturally, there has to be some sort of existing relationship between the two for the transaction to be possible. This means the recipient has to incur costs to find a supplier and the latter incurs marketing costs. Buying a book online, one first needs to find it; this takes effort, time and, in an economic sense, comes with costs.
- *Contract:* Most transactions come with terms of delivery. To avoid buying faulty products or to ensure payment, the parties draw up a contract, thus incurring contract-related costs.

- *Control:* To make sure the transaction runs smoothly, the two parties agree to carefully monitor how well the agreed terms of delivery are met, leading to evaluation costs. At the higher level of a society, this involves the strength and rigour of the judicial system. To what extent can the contract entered be enforced if one of the two parties breaks it?

To explore the importance of transactions and transaction costs for companies, Van Dalen and Van Vuuren (2003) assessed what the actual size of the transaction sector is; people in the labour market tasked with ensuring smooth transactions of goods and services. Despite its central role in the economy, there has been little empirical research into this and there is no clear definition of the sector. Van Dalen and Van Vuuren employed the following transaction cost definition: 'All costs ensuing from the transfer of rights of ownership'. With this as a starting point, they reached the substantial figure of 1.8 million people working in the transaction sector at the time, i.e. nearly 29% of all people working in the Netherlands. Given the expansion of the online market place, it is safe to assume this figure has only increased since. Particularly companies with an international outlook employ huge numbers of staff to monitor transactions, which makes sense, since long-distance trading can involve significant risks and effort.

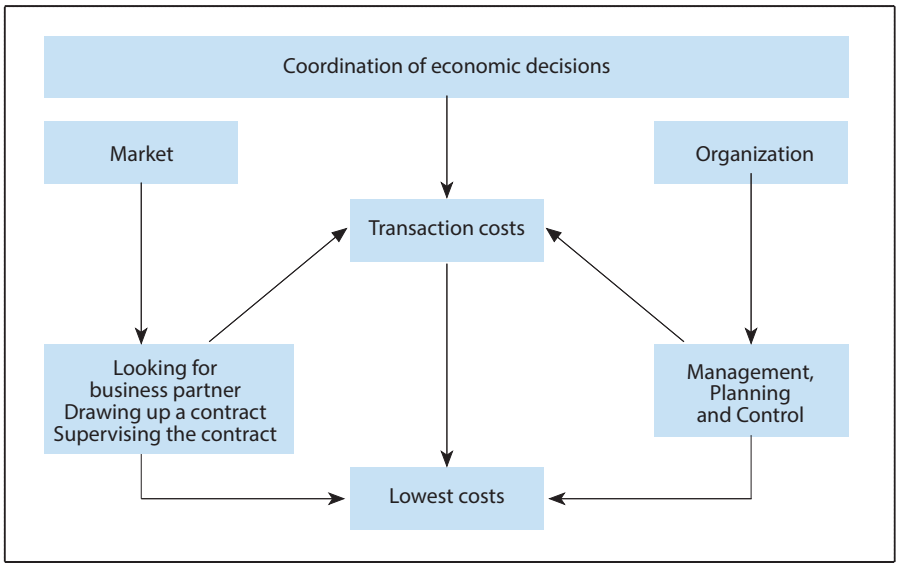


Figure 6.1 Transaction costs, the buy-or-make decision

Institutions help minimize the costs which are additional to the costs of the actual transportation and thus reduce transaction costs as a whole. With this in mind, the shrinking world (Figure 2.6) is not only the result of technological progress minimizing transportation costs. Global institutions and trade agreements have been just as important in lowering transaction costs and thus contributing to a shrink-

ing world. It is also easy to imagine that transaction costs can be much higher than transportation costs if, for example, two countries have very different legal systems. Though the world may be reasonably flat in terms of transportation costs, it is much less so in terms of transaction costs.

Box 6.1

Why firms exist

In 1937, British-born economist Ronald Coase published 'The Nature of the Firm'. In this article, he theorized why firms exist using the idea of transaction costs. It took a while before this idea was embraced fully and in 1991 (54 years later!), he received the Nobel Prize for Economics.

As the starting situation, Coase imagined that every producer would buy all necessary input and resources on the market, and would also outsource marketing to the market. In this situation, an entrepreneur has no need for any organization per se. He has to arrange for the goods to be delivered and to be shipped away, and that is it. The difference between the costs for the input and the revenues from the output is his profit.

In this theoretical starting situation, there are no production costs, but the entrepreneur does have significant transaction costs, since all functions are organized on the market. And, these transaction costs may prove to be prohibitive. If he is exclusively dependent on suppliers, he runs the risk of being poorly informed. Having many different suppliers implies many different contracts, each bringing its own additional costs. Also, to avoid repeated search costs, repeat transactions are easier to organize on a more structured basis. To avoid these transaction costs, the entrepreneur may be better off organizing some of the functions in an organization that he controls. This would add production and internal management costs, but it lowers transactions costs on the market.

Coase theorized that entrepreneurs are principally confronted with two different allocation mechanisms: externally (on the market) following supply and demand; internally (within the company) implying planning and transfer prices. Firms therefore exist because the internal costs of organizing production are offset by the costs of organizing it on the market. Without transaction costs, there would be no firms, and there would be no need for institutions monitoring compliance with internal and external agreements.

Institutions are there to keep transaction costs in check. So what are institutions and how do they evolve? These questions form the core of Douglass North's work, which is summarized in two aptly named publications: *Institutions and economic growth: An historical introduction* (1989) and simply *Institutions* (1991).

North – another Nobel Prize winner in Economics (1993) – drew a distinction between two types of institutions: *formal* and *informal institutions*. Formal institutions are the written-down rules, legislations and regulations that govern economic transactions. With this, formal institutions are also *external institutions*, in the sense

that they are imposed by authorities. They are upheld and enforced via the judicial system (through fines, for example). Informal institutions, by contrast, are the unwritten rules that govern economic transactions, including norms, values and conventions. In comparison to formal institutions, informal institutions are much harder to understand, grasp or learn, particularly for outsiders. They can be regarded as *internal institutions* formed in a bottom-up manner through collective experiences. Even though 'breaking' informal institutions is not officially upheld through the judicial system, there may be important social consequences if this happens. People may be shunned if they break the social code. Similarly, firms may not be asked for a second assignment if they prove unreliable.

North saw the process of institutionalization as a necessary condition for the evolution of the market economy and economic growth. As countries modernized, the initial barter economy was replaced by a market economy. This loosened the ties between producer and consumer and formal institutions were installed to replace informal ones. North argued that in the West, there was a close connection between the institutional development of the democratic decision-making process and that of market regulation, which led to relatively high economic growth in those countries. The certainty provided by widely-accepted and stable institutions, following the democratization process, allowed for safe investments and, consequently, economic progress.

North differentiated between a few stages in the modernization of society vis-à-vis institutions. Initially, the split between producers and consumers caused by the modernization process and the evolution of a market economy led to increased uncertainty for both suppliers and buyers. It also provided ample opportunity for free-rider behaviour (consuming without paying). These effects prompted an increased awareness of the need for formal institutions, which were best imposed by democratic governments. In modern societies, there was a strong call for efficient government, even if it meant higher taxes. Producers and consumers traded taxation for regulation. Market regulation went hand in hand with a continual increase in labour divisions between people individually and within businesses as a whole, which became more and more specialized. This specialization coincided with the integration of business activity, leading to the development of large-scale companies. To prevent monopolies, institutions such as competition authorities were founded. In the Netherlands, over a million people now work at these regulatory institutions, and companies such as KPN and Microsoft have become aware of the clout that competition authorities have. International trade was also increasingly bound by regulation, sometimes to prevent protectionism, at other times to protect key industrial sectors, such as food production, from foreign competition. There was also a steady increase in regulation protecting working conditions, e.g. laws forbidding child labour and regulating working hours. The result of all this regulation is that in modernized countries, the interests of authorities and industry ended up running in parallel. To avoid complete convergence of their interests, North advocated a renaissance of informal institutions, which could act as a brake.

Transaction costs, institutions and geography

Transaction costs are importantly influenced by geography. Most obviously, transportation costs – as part of the transaction costs – increase with distance. However, less tangible aspects that are important for transaction costs also have geographical dimensions. Search costs, for example, will be much lower if two trading firms hail from countries in which the same language is spoken. Institutions also differ across space, and bridging institutional differences for the benefit of an economic transaction translates into added transaction costs. Even if these are not geographical features per se, they often do have a geographical pattern. Institutions have formed over time in response to localized situations. In places where water is available in abundance, there will be different attitudes and rules on how to use it compared to places where water is scarce. The idea that institutions to some extent reflect the local culture is most prominent in informal institutions developed in and reproduced by communities that face the same challenges. They follow the norms and values of that society. Conversely, formal institutions are often based on informal ones (see North's theory) and thus also reflect local circumstances. Since nearby regions are more likely to face similar circumstances, their institutions are also more likely to be similar.

With the aim of structurally mapping geographical differences in cultural systems and the connected institutions, Dutch organizational psychologist Geert Hofstede conducted a huge survey of 117,000 IBM workers across the globe (Hofstede, 1980, 2001; Hofstede et al., 2011). Based on this survey, he distinguished six underlying dimensions of cultural differences:

1. Collectivism vs. individualism: how do communities weigh the interests of the group versus the freedom of the individual?
2. Power distance: to what extent do communities accept hierarchical differences?
3. Femininity vs. masculinity: do feminine or masculine values prevail in a community?
4. Uncertainty avoidance: to what extent are communities willing to accept risk?
5. Short-term orientation vs. long-term orientation.
6. Indulgence vs. restraint.

Interestingly, the six dimensions reveal patterns in the value systems across the world. Figure 6.2 shows the global distribution of feminine and masculine values in the culture system, with the blue shaded countries embracing more feminine values. Here, for example, managers seek consensus more explicitly than in more masculine cultures. By contrast, in masculine countries, confrontational communication is more likely. Understanding and bridging such differences is important for effective communication. Meyer (2014) explored such cultural differences in the context of effective management and communication in international firms. Cultures characterized by a large power distance, for example, expect managers to provide answers to all questions staff members may have (55% in Italy), whereas in more egalitarian cultures, managers are expected to facilitate staff in finding the an-

swers (in Sweden, only 7% expect managers to have all answers). In fact, in egalitarian countries it can even be hard to figure out who is in charge. 'Legend has it that, when the Prince of Franks sent an envoy from southern Europe to negotiate with the Vikings, the puzzled envoy returned confused and disheartened, complaining: I could not figure out who to talk with. They said they were all the chiefs' (Meyer, 2014, p. 128).

Though insightful, the cultural schemata should not be seen in absolutes and can quickly result in stereotyping that impedes interactions rather than accommodating effective communication. Also, Hofstede's and Meyer's studies use country-level information, while countries may not be the best geographical units to describe cultures. Cultures are community-based and countries typically include multiple communities. In the Netherlands, small as it is, there are clear cultural distinctions between the Catholic south and the Protestant north. The reverse also happens; communities sharing a culture can be separated by international borders.

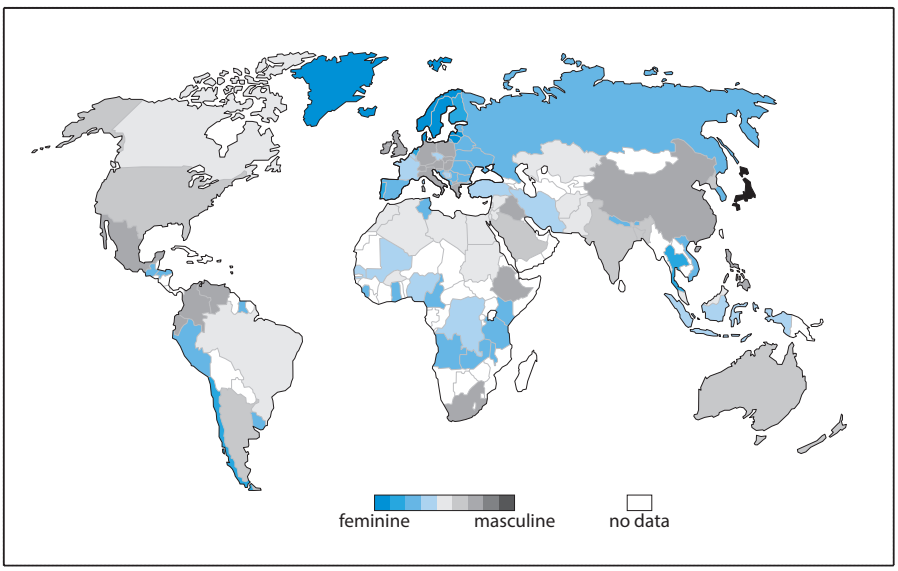


Figure 6.2 Masculinity Index (geerthofstede.com)

Cultural differences are arguably most manifest in informal institutions, but the importance and acceptance of formal institutions also follow cultural value systems to some extent. According to Fukuyama (2011), the 'rule of law' concept, the extent to which societies set store by legislation and their institutions, is vital. The yearly updated Corruption Index (Figure 6.3) shows how prevalent bending the formal institutions is across the globe. Again, these differences add to uncertainty in transactions reflected in added costs.

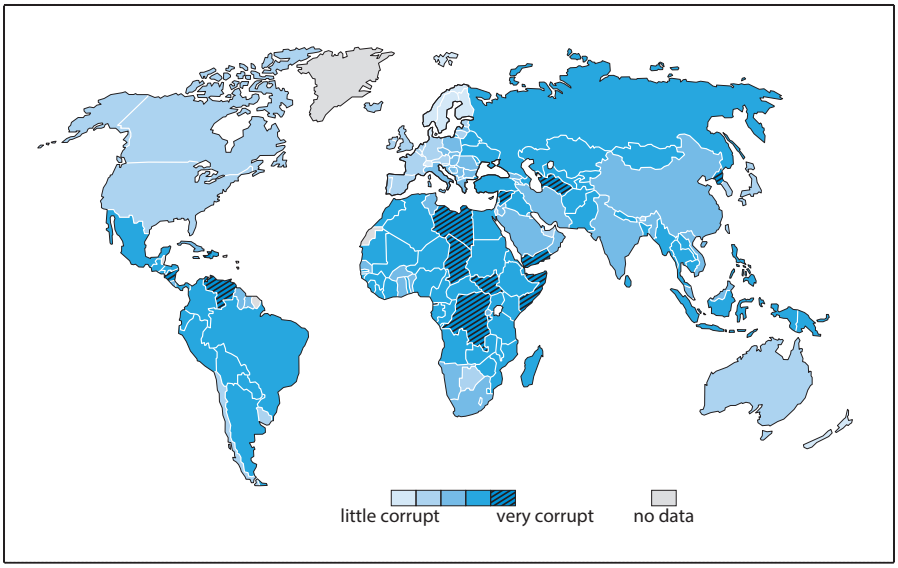


Figure 6.3 The Corruption Index, an example of institutional differences between countries (Transparency International, 2022)

The perspective of cultural similarities rather than differences between countries and regions has given rise to the concept of *embeddedness*, referring to the connection between close sociocultural ties and flourishing trade relations. Being on friendly terms with another nation makes lengthy negotiations unnecessary, and the partners are better informed about the market developments. This also applies in situations where production is partly outsourced, since known suppliers are treated with greater understanding. In turn, embedded suppliers deliver on time and in accordance with the agreed price and quality, without the outsourcing company having to check or monitor them. Sometimes a main contractor and subcontractor join to engage in innovative activity, which strengthens the ties between them that they both value so highly. In economic-geographic terms, the key aspect of embeddedness is not so much the advantages of reduced operating costs or increased information density, but the greater ease of joint learning experiences and the mutual loyalty it fosters. Learning experiences like this are less frequent in purely commercial relations like those between main contractors and jobbers – the suppliers of simple, standardized products or services. The embeddedness approach may be based on partnerships rather than business contacts and their ensuing costs, but it recognizes the difference between costs and benefits. Firstly, trust-based relations inhibit opportunistic behaviour, thus reducing the need to spend money on transaction costs. Secondly, social ties are a necessity for many small businesses that lack the financial resources to innovate and export. Thirdly, a network based on social relations is generally highly flexible. Since there are relatively few contractual obligations, the business partners can easily adapt the objectives they have agreed upon. Fourthly, social network partners often adopt an open attitude towards each

other that fosters collective learning processes. In short, regional embeddedness reduces transaction costs and, consequently, leaving the network causes firms to incur additional costs. This mechanism partially explains the neighbourhood effect in locational preferences (Chapter 5).

In summary, there are geographical differences in place in informal institutions as instigated and supported by regional differences in culture, among other things. For any given firm, with its own value system, there will be higher or lower transaction costs given the 'institutional gap' between two places. Allen Scott used the notion of cost theory to explain what he called *new industrial spaces* (Scott, 1988). According to Scott, the need to minimize transaction costs prompts businesses to base themselves in each other's proximity. There are a number of advantages, since this reduces the costs of finding relevant information and allows them to find fast solutions to technological problems, exchange specialist skills, organize their activities in tune with each other's production schedules and so forth. Yet Manshanden (1996) emphasized that the aim of transaction cost theory is not to explain why businesses are located where they are, but first and foremost to gain insight into industrial organization issues. He conceded, however, that proximity leads to transaction cost reduction, stating that businesses 'swap transport costs for transaction costs' (Manshanden 1996, p. 122). This mainly applies to low-value services. Distance is less of an issue for high-value knowledge-based services where investments are often transaction-specific.

6.3 Playing by the book? Game theory

Wherever there are rules involved, people may try to break them for their own advantage. In board games, people cheat and students sometimes bend the rules in exam situations. Sometimes, this is foul play; in other cases there may be a difference in information or, more formally, *information asymmetry*. Some people – or economic agents – are better informed and may use this to their advantage. These ideas are also explored in the context of the institutional approach, for example in game theory.

Exploring the effects of information asymmetry, George Akerlof (1970) wrote a seminal article on the market for 'lemons'. In the article, he theorizes on the market for one make of car (with the same basic characteristics) in which he distinguishes four categories: new dream cars (cherries), new cars that turn out to be defective (lemons), and used cars of the same two types. If a car is new, neither the buyer nor the seller knows whether it is a cherry or a lemon. In the used-car business, the seller typically knows much more about the vehicle than the buyer, particularly if the seller is also the owner of the car. The information between buyer and seller is then asymmetrical. What does this mean for the market?

Since the buyer cannot reliably determine the quality of the car (is it a cherry or a lemon?), the seller does not have to adjust the price to reflect the difference be-

tween cherries and lemons. In fact, if the seller signals the quality difference in the price, lemons are less likely to be sold, and probably the seller is particularly keen on selling the lemons. As a result there is no difference in the price between cherries and lemons, Akerlof posits.

This phenomenon often crops up in the real world in the form of 'cherry picking', for example when insurance companies prefer healthy, low-risk clients to higher-risk ones for whom they devise all sorts of barriers. The same is observed in public transport, where concessions are easier to sell in densely populated than sparsely populated areas. In short, information about what is really happening in the market is unevenly distributed across agents, who therefore take steps to eliminate this asymmetry. For businesses this means incurring transaction costs, and they prefer locations where reliable information is abundantly available. Institutional economics can explain the increasing importance of credit rating agencies such as Standard & Poor's, Moody's and Fitch. Governments have grasped this and make every effort to provide information, catch the eye of investors and influence the decision-making process.

Economist Oliver Williamson (1975) also explored opportunistic behaviour in the market, specifically the question of whether all partners invest proportionally in the communal network. The partner who makes the lowest transaction-specific investments can put pressure on the other partners by threatening to leave the collaborative network. For example, if companies decide to jointly develop a new aircraft, it is easier for a tyre specialist to leave the partnership than a company specializing in wings, since wing production is limited to aircraft manufacturing and is more dependent on the network. If a business invests in its own machinery to be able to meet its partners' demands, this is a clear sign it is committed to the partnership. This commitment can go too far, and the effects of making transaction-cost-specific investments cannot be undone without incurring losses. This poses a problem if a business, prompted by market developments, set its sights on other technologies or products. The partners' rights can be protected via internal or external institutions, or in the extreme scenario by subsuming the partners into a larger organization. Combining property rights in a larger or even a new organization is a tried and tested means of averting risks due to transaction-specific investments. In the event of uncertainty, it allows the business to consider replacing a market transaction by an organizational transaction via the internal organization rather than the external market. An entrepreneur might wonder: Should I buy the required product from a third party or manufacture it myself? (The buy-or-make decision, see Figure 6.1.) Market and investment-related risks may be greatest in volatile or knowledge-intensive markets, and companies need to be able to provide fast and flexible responses to whatever opportunities there are. They are, therefore, constantly faced with the need to make buy-or-make decisions.

There is a constant question: do businesses use institutions to guarantee quality or do they cut them out of the process to be more cost-effective? Businesses tend to focus more on reducing transaction costs if the number of transactions increases, if

there is uncertainty about the direction the market will head, or if there are transaction-specific investments. These are investments made to ensure the smooth operation of a transaction, e.g. extensive screening of potential suppliers or in the case of knowledge-intensive services. Generally speaking, a reduction in transaction costs is considered a positive thing leading to reduced costs and greater efficiency. This said, many businesses survive by providing intermediary services. Eric van Damme (2003) is far from optimistic about the future of the traditional business broker, citing the example of a TV advertisement for Dell computers using the slogan 'We have knocked out the third man', a reference to Dell's successful practice of not using stores and delivering directly to the customer. Lately, however, Dell has rethought its approach, since not having a presence in stores appeared to sometimes be a disadvantage. Another example is that of the estate agent who sees his business dry up because the internet now enables buyers and sellers to find each other without his intervention. The rise of the internet substantially reduced consumers' costs of researching their purchases, diminished the importance of distance and location, and put immense pressure on the intermediaries. As a result, competition between providers has intensified and new types of intermediaries have emerged, such as the 'DIY estate agent'.

Game theory

Game theory is the field in economics that studies how decisions are made given the institutions (the rules) in place. The outcome of the game is the result of the players' abilities to make the best possible use of the rules of the game (the institutions). Institutions contain both sanctions and rewards, and the players weigh up these factors as well as trying to anticipate the behaviour of the other players. We call these 'institutional practices'. Rules change and new players join in, making it a dynamic game, all the more since these factors raise the stakes. Economic behaviour, institutional economics says, is always strategic, never impulsive. Applied to location-related behaviour, it states that businesses choose the locations that best fit their corporate strategy. So location is the direct result of strategy.

The simplest 'game' in the theory is played by two players, both of whom are fully informed. Their chances of winning are equal, so there is no point making upfront decisions to collaborate with the other player. Take the game of poker, where players always play against and never with each other. The outcome of the game depends on the strategies of each player, not on the information they have. Theoretically, this identical starting position prompts players to opt for the same optimal strategy. But since they know this will not yield more than half the maximum profit, the temptation is to depart from the original strategy, especially if it confuses the opponent, who then also changes track. The winner is the one who chooses the cleverest alternative strategy. In economic terms, this means that by making optimal use of the rules of the game, buyers and sellers can create advantages for themselves and tailor their strategies accordingly. Institutional economists view private property as the best possible way to ensure that all the players stick to the rules. It

is in everyone's interest to do so since it is the best way to protect property. Moreover, since they stimulate cooperation, institutions such as right of ownership have a favourable effect on collective interests. Institutionalists emphasize that this is not only in the collective interest, it is in everyone's individual interest. The assumption is that the sum of the actions of individual players does not necessarily result in the optimal collective outcome. Players who only play to win disadvantage each other. A frequently used example is the *prisoner's dilemma* based on a crime with two suspects. There is not enough evidence to sentence either of them, so the prosecution makes a proposal to each of them without the other knowing. If one suspect betrays the other and the other pleads not guilty, the first one goes free and the other is sentenced to ten years in prison. If both plead guilty, they are both sentenced to five years. If neither of them cooperates and both plead not guilty, they are both sentenced to six months for lack of evidence. So for the two suspects collectively, silence is the best tactic. Individually, however, the best strategy is to betray the other one. Denial of guilt is risky. If the other suspect cooperates, you get a ten-year sentence.

A real-world example of a prisoner's dilemma is in the context of climate action. Zooming in on two countries, China and the United States, both recognize the importance of reducing greenhouse emissions. Rather than finding the best way to reduce CO_2 emissions, China and the United States choose the cheapest option: do nothing. If the US were to invest in finding costly solutions, it would harm its competitive position vis-à-vis China if China made no effort to reduce its emissions. In addition, China would benefit from the US reduction in CO_2 emissions. Equally, if China invested but the United States did not, the same would happen. The result of this prisoner's dilemma is that climate change negotiations are very sluggish.

6.4 Institutions and location choice

The previous sections have explored how institutions come about and how they govern interactions between economic agents. We have also discussed how institutions vary spatially. With this in mind, it comes as no surprise that institutions play an important role in firms' locational and investment decisions and, consequently, in regional economic development. Institutions play a dual role in the location choice. First, by partially defining the external environment in which firms make their decisions. If these conditions are more favourable, making the right investments is more likely. In this respect, Rodríguez-Pose & Di Cataldo (2015) showed that European regions with higher quality government boast more innovation. The regional institutional set-up then provides the context in which firms make decisions. Firms, however, also have their own organizational features and internal rules. Their locational decision can thus also be seen as finding a match between the institutional context and the internal institutional set-up. Studies on the inter-

nationalization of firms in particular have explored the internal rule book or strategy. The choice of location follows from a firm's strategy.

To conceptualize firms' international investment decisions (also Foreign Direct Investment, or FDI), Dunning (1988) developed the eclectic paradigm or OLI framework. He found that the decision to commit to FDI is part of the organizational strategy and its competitive advantages. The OLI framework distinguishes three advantages from which it derives its acronym:

- *Ownership-specific advantages (O):* company-specific know-how determining whether it can hold its own in the face of competition;
- *Location-specific factors (L):* advantages of the business environment of a country or region;
- *Internalization of ownership-specific advantages (I):* desire to keep company-specific know-how within the firm, rather than relying on alternatives such as licensing.

Essentially, the OLI model means foreign direct investment, whether by takeovers or greenfield plants, is only attractive if a company has a viable product to offer, if production conditions are favourable and/or if a company's interests are best served by foreign production. The framework's core idea is straightforward, but its important contribution is to highlight that there are more factors involved in the decision to invest in a certain country than just its business environment or investment climate. In neoclassical economics, the external conditions (e.g. access to markets) are considered to be the deciding factors in location decisions. The features of the firm making the decision are not considered. Dunning recognized that a firm's organization and strategies (O and I) are an integral part of this decision. In his framework, internal factors are important for the decision of whether or not to invest, and the subsequent location choice is based on external factors, just as in the neoclassical view.

This leads to the follow-up question of where to invest. In answering this, again the institutional approach stresses the importance of the internal strategy. If the strategic goal is to expand the market, firms seek out new markets (Håkanson, 1979). If firms need to streamline or expand production, production costs will be leading (Vernon, 1966). Vernon showed a spatial version of the *product life cycle* concept frequently used in marketing research, which can be described as the length of time from a product first being introduced to consumers until its removal from the market. A product's life cycle is usually broken down into four stages: introduction, growth, maturity and decline. A clear example of the theory can be found in the music industry. At first, all music was played live; later it could be recorded and played on a record player using LPs or singles, and still later music cassettes came into fashion, followed by CDs and DVDs, which in turn were replaced by streaming platforms like Spotify. Figure 6.4 describes the relationship between the product maturity and the appropriate FDI strategy.

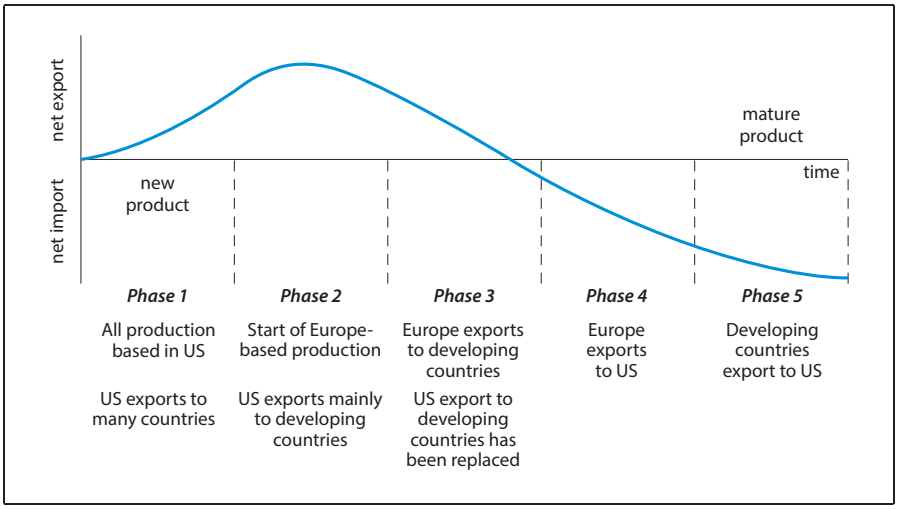


Figure 6.4 FDI and product maturity

If a Scandinavian company like IKEA sees investment opportunities on the German market, it will only look for locations in Germany, but to gain access to the EU market, South Korean consumer electronics firm Samsung has a number of countries and regions to choose from. This institutional approach to location choice means the question of where to settle cannot be addressed in isolation. It is an integral part of a company's overall business strategy. Following this line of thinking, the chosen location will be the most highly organized one where institutions provide the best business conditions. In choosing a location, businesses consider regional variations in institutions, such as benefits provided by national and regional authorities (tax breaks, installation aid, innovation subsidies, protection against corruption, etc.) and a favourable business climate, where authorities and other institutions are sensitive to the interests of business and industry. But a match between the firm's characteristics and local (informal) institutions is also important. In this respect it is telling that the Spanish clothing store Zara has a strong foothold in Mexico, Colombia and Venezuela, more so than in several European countries that are much closer in terms of distance.

Foreign Direct Investment

The size of the investment reflecting a firm's level of involvement in a foreign market can vary substantially. Export via direct mailing requires the least investment and full in-house production requires the most. A company envisioning the latter can set up its own new facility (greenfield investment) or take over an existing foreign firm (mergers & acquisitions), or the parent company can invest in existing facilities abroad (brownfield investment). Companies are apt to commit to FDI (through greenfield investment and acquisitions) if the market there offers attractions and is cost-effective in keeping the cross-border activity within the company.

FDI is highly concentrated. Research by British international business and strategy expert Alan Rugman (2005) shows that the 500 largest multinationals account for 90% of all foreign investments, while according to Dutch international economists Brakman, Garretsen and Van Marrewijk (2006), mergers and acquisitions have come to account for nearly 80% of all FDI. Incidentally, they are all takeovers in developed countries. In rapidly developing countries such as Brazil, Russia, India and China (the BRIC countries or Big Four), most investments are still of the greenfield variety. The substantial increase in the number of international mergers and acquisitions has to do with increased liberalization and in particular with the financial markets opening up. Technological innovation also generates acquisitions since young innovative businesses are snapped up by established ones with a strong position on the existing markets. By taking over new businesses, they also acquire the innovations. In addition, takeover trends follow economic trends. In periods of stagnating growth, foreign investments are the first to be slashed, though in growth periods, businesses keep an eye on foreign markets. Research by Wall et al. (2011) has also has shown that the global geographic range of FDI expands in periods of economic growth (see Figure 6.5).

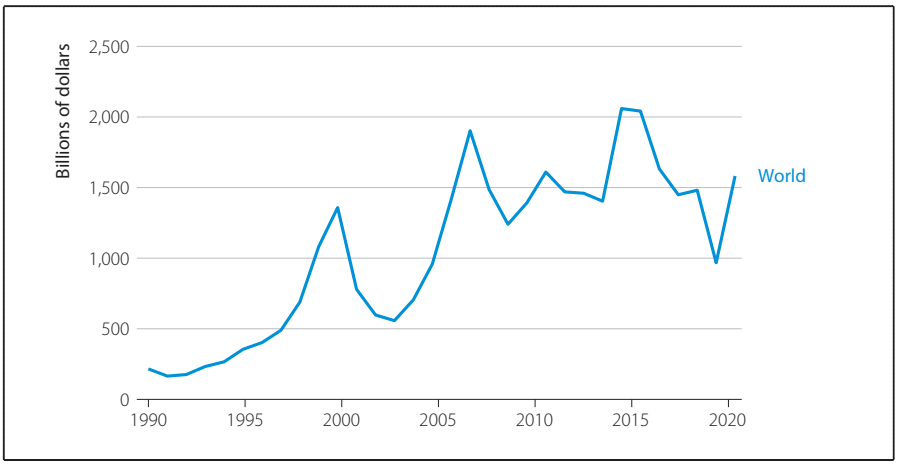


Figure 6.5 Global foreign direct investment flows over the last 30 years (UNCTAD, 2022)

Businesses try to maintain control over the entire production chain (vertical integration) via mergers and acquisitions, using them to construct barriers to protect their markets from newcomers. Yet here again, institutions have a role to play. Dutch and European competition authorities guard against excessive integration, leading to monopolistic or oligopolistic markets that could lead in turn to unfair competition. Patent offices are there to protect the intellectual property rights for innovations, giving young innovative businesses a stronger negotiating position should larger ones make a takeover bid. Although businesses mainly look at who they are dealing with, they also note where the potential partner is located. The underlying reasons are generally market- or product-related. They could also be mo-

tivated by a desire to make use of existing knowledge, gain access to local resources or imitate the behaviour of the main competitors with regard to location. Although the foreign market is in principle a global one, in practice international mergers and takeovers mostly occur between neighbouring countries. Of the approximately 2,000 international mergers and takeovers of Dutch businesses in 2010, 55 were with companies in Germany and 53 in the UK. The US was in third place with 52 and Belgium and France came fourth and fifth with 42 and 30. In other words, there is clear 'distance decay' on the international merger scene, suggesting that also in this respect, institutions have an important role to play, as was also pointed out by Hofstede. There are other ways to enter a foreign market as well (Figure 6.6). This all depends on the size of the potential market and the amount of money a company is prepared to pay to enter the new market, which is also dependent on the institutions in the foreign market. For instance, China prefers joint ventures where the foreign company brings in the capital and the local firm the knowledge about the market and the institutions.

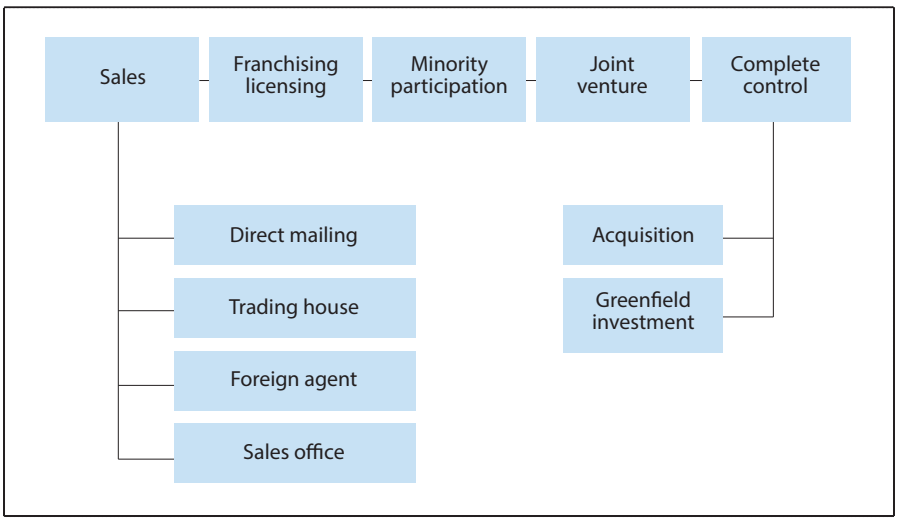


Figure 6.6 Different modes of foreign expansion

Despite a wealth of empirical research, it is difficult to pinpoint which institutions are most influential when it comes to attracting foreign direct investment. It is, therefore, also hard to say which country scores highest on which institutional aspects. Within countries, there are regional differences in terms of the provenance and destination of foreign investment. Wall and Van der Knaap (2011) have shown that in Europe, urbanized regions are dominant. Particularly the regions dominated by London, Paris, Madrid, Barcelona, Milan, Rome, Munich, Frankfurt and Düsseldorf are the peaks in the European investment landscape. The conurbation in the western Netherlands known as the Randstad is a significant player in this, despite its comparatively small size. This is a good illustration of the institutional-

ly characteristic openness of the Dutch economy. A slight qualification is in order here: more investment flows into the North Wing of the Randstad (the Amsterdam-Utrecht region) than the South Wing (the Rotterdam-The Hague region); the North Wing attracts a great deal of investment from the United States and, within Europe, particularly from the Paris region. In terms of inward and outward foreign investment at the European level, it is worth noting that Western European urban regions are far more dominant for outward than inward investments. And they maintain their dominant position, with most relative changes occurring among regions jostling for position at the bottom of the list.

The locational decision-making process

According to institutional economics, businesses will choose the locations with the most favourable conditions in organizational terms. But what does this mean? A look at relocation and the importance of the institutional aspects makes it clear. In institutional economics, relocation revolves around three questions:

- What strategic regulation is helpful in choosing a new location?
- To what extent does regulation affect the decision-making process with regard to relocation?
- Is the anticipated embeddedness in the region an important motivating factor in a company's decision to establish itself somewhere?

Cees Jan Pen (2002) applied the institutional approach to industrial relocation. Like McNee (1960) and Krumme (1969), who laid the foundation for the 'geography of enterprise,' he examined the significance of strategic considerations in relocations and expansions and found that internal considerations are the main driving forces. For example, whether a business expands is linked to the strategic issue of whether its aim is internal growth. If so, sooner or later it may find itself bursting at the seams at its present location. In the Netherlands, the state maintains tight control over the industrial location opportunities, largely determining the options open to businesses and thus their relocation behaviour. In addition to the construction of new industrial parks, another important state-related factor in industrial relocations is regulation, e.g. provisions in planning documents. According to Pen, the frequently heard 'lack of space' argument should be seen as directly resulting from businesses' growth strategies, and governments are well advised to look at their actual business strategies. He also notes that decision-making about relocation is more protracted (on average 27 months) than about expansion (17 months). This is mainly because relocations are mostly carried out by larger, growing businesses whose decision-making tends to be somewhat sluggish. In Pen's research, the anticipated institutional embeddedness in the region is addressed via a detailed analysis of two high-profile relocations: the 2002 move of Philips' Domestic Appliances and Personal Care Division from the northern Dutch town of Groningen to the more central Amersfoort, on the edge of the Randstad, and the move of Grolsch Brewery from Groenlo to Enschede, both in the east of the Netherlands. For Philips, the

main reason for the move was to attract and retain highly educated personnel. The Randstad was deemed to have more to offer in this respect. Resistance to the move came mostly from less skilled workers in Groningen, who were of far less strategic importance to Philips. In 2007, the divisional headquarters moved to Amsterdam and in 2008 it was combined with the Consumer Electronics Division to form Consumer Lifestyle. As a business location, Amsterdam fits this division's international outlook.

6.5 Conclusion

Institutions play an ever more important role in modern life. With products becoming increasingly complex, there is often an imbalance in the provision of information. It is up to institutions to provide sufficient information. This obviously involves transaction costs and businesses are constantly caught between the need for reliable information and the price of this information. The rise of the internet and the virtually limitless opportunities it offers for sourcing information have sharpened the lines of this conflict. What it means in practice is that businesses like to stay put, especially if they have good relations with local and regional policymakers. If they do move, they look for locations with the best institutional match for their business needs. The regional institutional quality is a salient factor for a firm's locational and other strategic decisions and the ensuing economic growth. Countries with weak institutions, e.g. those plagued by corruption, find it difficult to attract foreign investment. Cultural differences between countries also play a role in deciding where to invest, as research by Hofstede has shown.

Institutional Economic Geography explores how the rules of the economic game inform decisions and frame the possibilities for regional economic development in a broader sense. Institutions can change over time, but as they are formed in a specific context and culture, they evolve slowly. Reflecting this, the approach is rather static in outlook and mostly focuses on how the current set of institutions influences behaviour. In Chapter 7, we will discuss the evolutionary economic geography (EEG) approach, where understanding change is key. EEG adds a dynamic perspective on economic development, while taking on board insights from institutional economic geography. Most prominently, it embraces the idea that change always happens in an economic, cultural and institutional context that is typically slow to adapt. Development is then also typically slow and dependent on the current situation.

7 The slow pace of change: Evolutionary economic geography

7.1 Introduction

Charles Darwin's theory of evolution is widely known, yet it may come as a surprise that the evolutionary approach is becoming increasingly popular in economics. Darwin's key concepts are *adaptation* and *inheritance*, and in economics, Darwin's notion of 'survival of the fittest' means businesses that adapt most successfully to changing circumstances have the best chance of survival. This ability to adapt is passed on to other businesses, leading to changes in the numbers and types of 'populations'. As in nature, there is a great deal of variation in the economy with numerous different survival strategies and starting points. *Selection* occurs via markets and institutions. Businesses that respond most effectively to changes in the competitive environment and the institutional context are most likely to be economically successful. *Innovation* (commercial renewal) and *imitation* (learning from each other) play key roles in evolutionary economics. At the population level, they trigger the emergence of new types of businesses and business activities. Forty years ago, there were no ICT businesses in the Netherlands but numerous shoe factories. Incidentally, the emergence of a new sector does not mean every business in the sector will be successful. On the contrary, businesses in new sectors tend to engage in fierce competition with each other. Sooner or later, every new sector experiences a 'shakeout' (see Figure 7.1). At the beginning of the 21st century, many ICT businesses went under. Innovation remains a matter of trial and error and businesses often have no way of knowing whether their new product will succeed. This highlights the pivotal role of entrepreneurs in evolutionary economic geography. In Darwin's original theory, change is governed by random variations in species' DNA – change is governed by chance. In the economic pendent, change is a conscious yet uncertain activity carried out by entrepreneurs.

In business, the concept of inheritance means successful adaptations are formalized by being incorporated into how the business is run. We encountered these routines in the previous chapter. Institutions provide a way of dealing with uncertainty. Businesses often incorporate these institutions into their internal procedures, and their fear of the competition means they guard them zealously. Routines can be seen as a business's DNA and are often described as 'competencies'. Competencies

comprise the knowledge and skills that accumulate in businesses over time, and they are the weapons businesses use in the economic selection process. The routines are passed on via imitation and inheritance. Examples of inheritance are spin-offs, i.e. subsidiaries created with the help of the parent company. Spin-offs often focus on a particular competency that has insufficient growth space in the parent company's routines. A highly successful example of this is microchip manufacturer ASML, a Philips spin-off.

Evolutionary economics not only explains firms' location choices from the perspective of adaptation and inheritance, it also refers to coincidence. As in behavioural economics, agents are seen as only partially rational. As noted in Chapter 5, according to proponents of this approach, businesses are content with options that classicists or neoclassicists would view as suboptimal. Due to the tendency to aim for the satisfactory rather than the optimal, the spatial margins for a location are fairly wide, and businesses would even be able to survive beyond them. Evolutionary economics builds on this insight and gives it a dynamic interpretation.

In this chapter, we will discuss new business activity, focusing on the concept of chance (Section 7.2). Then innovation and the theory of long economic cycles will be addressed (Section 7.3), followed by the concept of clustering (Section 7.4). Finally, we will take a look at the policy implications of the evolutionary approach (Section 7.5).

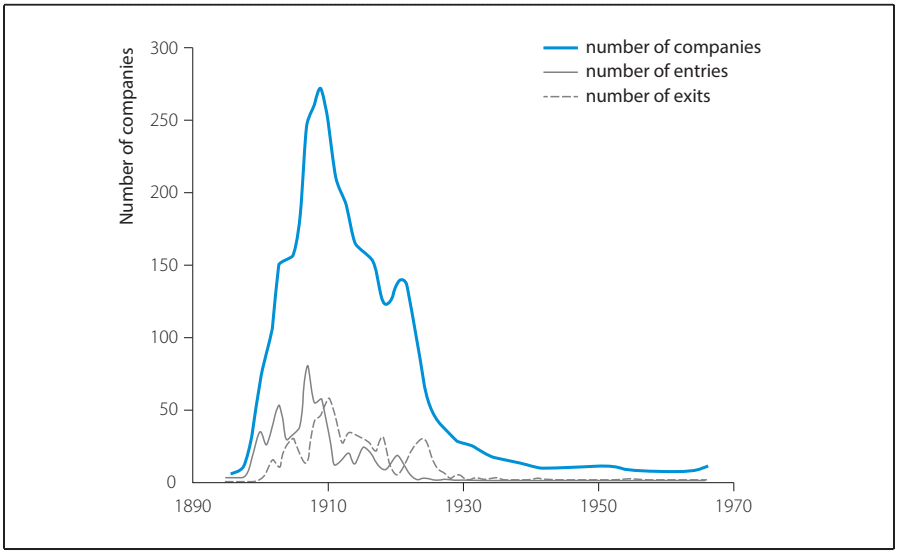


Figure 7.1 The shakeout phenomenon in the US car industry (Klepper & Simons, 1997)

7.2 New business activities

In economics, renewal emerges as innovation (see Box 7.1). It can be innovation within existing businesses or the creation of new ones and economic activity. This *entrepreneurial view* of innovation was introduced by well-known economist Joseph Schumpeter. Schumpeter distinguished five types of innovation:

- *Process:* new production processes such as the use of robots;
- *Product:* new products such as the iPhone;
- *Organization:* new organizational models for business and industry such as the mobile office made possible by the laptop and cell phone;
- *Market:* new target groups or markets such as the young Chinese population;
- *Input:* new raw materials such as soya for biofuel.

Innovation requires courage and investments, and so not every entrepreneur can try his hand at it. It also creates unrest, disturbing the balance on the market. In short, innovations have a selective effect. The businesses that are the first and the best to apply an innovation have a temporary head start and a monopoly. Innovations can push existing businesses over the edge if there is no longer room for them on the market due to the innovation. This process is known as *creative destruction*: new creative ideas destroy the status-quo. In Schumpeter's view, innovation and entrepreneurship are crucial to ensure economic development through the creative destruction process they ignite. Schumpeter's notion also shows that the economy should be viewed from a dynamic perspective. Incremental and radical change are both seen as unavoidable. This makes evolutionary economic geography a distinctively dynamic approach as it focuses on change.

Box 7.1
Joseph Schumpeter

Figure 7.2 Joseph Schumpeter (1883-1950)

Economist Joseph Alois Schumpeter from the Czech part of the Austro-Hungarian Empire is generally viewed as having been instrumental in the development of the evolutionary approach to economics. His concept of 'creative destruction' is widely regarded as one of its key aspects. Schumpeter compared the economy to a forest where storms blow down the weak trees, making way for new saplings. In due course, they too grow old and weak and get blown over. This is the cycle of 'the perennial gale of creative destruction'.

Creative destruction occurs if there is an important new scientific discovery, a crisis, sudden competition or innovation. For a long time,

Canon, Nikon, Fuji and Kodak were each other's main rivals. In recent years, cameras in smartphones have turned Samsung and Apple into formidable competitors as well.
The shifts from agrarian to industrial to service and knowledge-oriented economies have transformed countries, and Schumpeter was the first to view innovation and entrepreneurship as sources of progress. A product of his time, he saw them both as essential ingredients, even the driving forces of a capitalist economy. Through innovation, entrepreneurs create a continual process of creative destruction that helps strengthen the economy.

Along with Karl Marx, Schumpeter was the first economist to devote attention to the dynamics of the free market, noting that the capitalist system is never in a state of equilibrium. As his work appeared in the early 20th century at a time of severe economic crisis, his argument that crises are necessary to reinvigorate economies was not always enthusiastically received.
In 1918, he was appointed Finance Minister of Austria. Austria was in dire need of reorganization and Schumpeter proposed a range of options: raising taxes, forcing banks to buy government bonds, selling the Austrian gold reserves or making drastic budget cuts. Austria had been forced to pay massive war reparations and Schumpeter felt its only option was to print more money, now called 'quantitative easing'. The resulting rampant inflation made him highly unpopular and he was forced to resign.
It was not until the new millennium that his ideas began to enter mainstream thinking. The rapid growth of businesses like Facebook, Amazon and Google had a drastic effect on the world economy, and Schumpeter's prediction that capitalism would ultimately be the victim of its own success is especially relevant at a time when national governments are having to prop up much of the banking sector. He prophesied that if something like this occurred, people would turn their backs on free-market economics and call for more state involvement.

(Van Driessche, 2010; Janssen, 2011)

In the evolutionary approach, when and where innovative activity occurs is not a given. It is often a matter of pure chance and has been referred to as 'windows of locational opportunity' (Storper & Walker, 1989; Boschma, 1997). Accordingly, the development of innovative activity in a certain location unfolds in two key stages: an initial phase, when the innovations emerge, and a second phase, building on the initial phase, when they establish themselves and prove their worth. In the first phase, chance is a factor since it is uncertain which businesses will innovate and which will not. Chances are they will be spin-offs or entrepreneurs who have earned their stripes. Evolutionary economics holds that innovative activity builds on existing activity and does not appear out of nowhere. The likelihood of inno-

vation occurring anywhere depends on the regional distribution of existing businesses and industrial sectors, but it is impossible to predict where it will happen or how many businesses will be involved. If there are no particular location-specific requirements, it can occur at any number of locations.

Evolutionary economics assumes that in the second phase, innovative entrepreneurs can only rely on existing conditions to a limited extent and have to create new ones (new skills, knowledge, markets etc.). They cannot simply use the existing local or regional business environment and have to deploy their own creative capabilities.

There can only be a clustering of innovative activities if innovative businesses have developed into a fully-fledged sector, making it hard to predict whether a particular business or innovation will be successful. However, the subsequent processes can be predicted, as they are '*path-dependent*'. The term path dependence is used to indicate the evolutionary idea that development is always dependent on current conditions; regions and firms alike build on the existing routines available to them. For example, chance played an important role in Philips' success as a manufacturer of light bulbs and televisions, but it is no coincidence that the Dutch electronics industry clustered around Philips in Eindhoven. The same applies to Steve Jobs' invention of the personal computer in his parents' garage and the clustering of high-tech firms in Silicon Valley, the region where his parents lived (see Figure 7.3). Similarly, early car brands were typically either engine companies or companies building horse carriages that used their respective expertise in developing the first cars.

Figure 7.3 Garage in Los Altos where Steve Jobs and Stephen Wozniak built the Apple 1, the first personal computer, in 1976

Clusters of related activity develop if businesses enjoy local benefits derived from competing with and stimulating each other. The name and reputation of the locality can also be a benefit. Classical economists would say clustering yields tangible results for businesses, driving costs down and profits up. An evolutionary economist would be more interested in the dynamics of knowledge exchange among businesses and the accompanying learning curves. Businesses that can learn from each other seek each other's company by basing themselves in the same vicinity (clustering) or collaborating from a distance (networking).

Richard Nelson and Sidney Winter linked the role and behaviour of small, innovative businesses to the sluggish decision-making of large multinationals. In *An Evolutionary Theory of Economic Change*, their well-known book published in 1982, they cited the ideas of Herbert Simon, the founder of the behavioural approach to location theory (see Chapter 5), and of Schumpeter, discussed above. In a nutshell, Nelson and Winter's theory is as follows:

- In businesses, decisions are always made in the context of a certain starting situation. As this situation influences the decision-makers' perception, it sets the boundaries within which their bounded rationality takes shape.
- Most decisions made within a business are routine decisions governed by routine behaviour. Like all humans, entrepreneurs avoid taking risks, preferring to walk the well-trodden paths of well-defined decision-making procedures. Changes in this routine behaviour, whether enforced or not, are often perceived as threatening.
- Despite the dominant role of routine, businesses have to be on guard. They may not be open to change, but the world around them changes constantly. To hold their own in the face of competition, they will have to innovate. Even if they do engage in change by innovating, most of the accompanying decisions are still routine decisions.

Box 7.2

Spin-offs and start-ups: Different geography

In his 2006 thesis, Sierdjan Koster demonstrated how the regional distribution of spin-offs in the Netherlands differs from that of regular start-ups (see Figure 7.4). There are numerous spin-offs in the southern province of North Brabant and the Amsterdam and The Hague regions, whereas start-ups appear to prefer more central locations, such as the Utrecht region. In addition, there is much more location variation in spin-offs than start-ups, suggesting that regional conditions are more important for spin-offs. One such condition might be a large concentration of successful innovative businesses that can serve as parent companies. The presence of many similar small businesses (earlier spin-offs) can also be a factor.

As a result, businesses, especially large ones with a slow pace of change, gradually adapt to changing circumstances and evolve. This is why dynamic young people who develop something new in large corporations are likely to break away and set

up their own businesses, the spin-offs alluded to above. Large corporations enable these entrepreneurs to learn the ropes and scout out the market, but do not give them enough space to fully develop their creativity. Young entrepreneurs spot opportunities that elude their employers and this scenario can prompt an 'innovative spin-off'. Or a young entrepreneur might feel the existing market is large enough to accommodate more businesses of the same type and start a smaller version of the parent enterprise, stealing part of its market. We could call this an 'imitative spin-off', but in practice it is hard to distinguish between the two types.

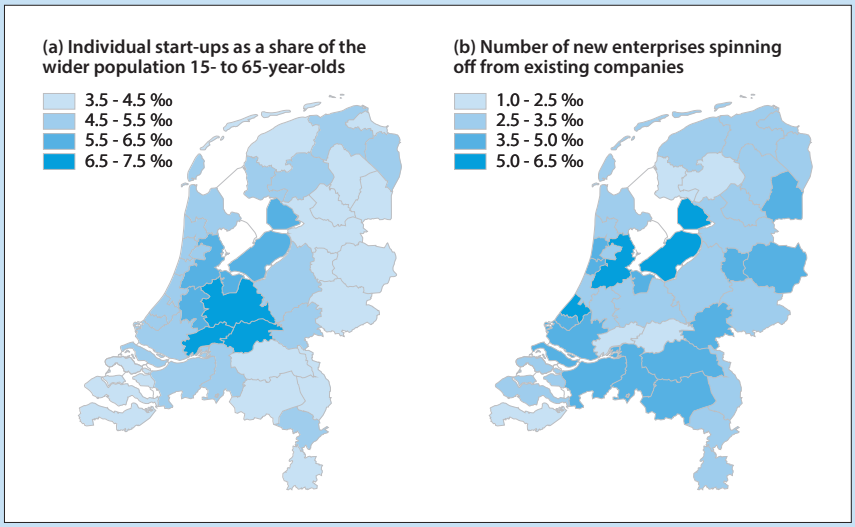


Figure 7.4 The regional distribution of start-ups and spin-offs in the Netherlands (Koster, 2006)

In the context of location choice, the most relevant evolutionary aspect is that there is pronounced stability in the regional pattern of economic growth and activity. Once a region has become a core region, it tends to maintain this position. There has, however, been a paradigm shift from primarily geographical to more relational in economic geography as a result of the recent rise in networking (Bathelt & Glücker, 2002). Michael Storper (1997) viewed modern economic geography as the study of interconnections between three key concepts: technology, organization and territory. The interconnections have less to do with costs or financial economic relations than with 'untraded interdependencies', i.e. non-tradable, often implicit knowledge or skills that are not easily transferable, as in informal institutions and social or cultural conventions. Randstad, an employment agency for temps, encountered this phenomenon when it set up branches in France. The offices were furnished and the French labour market looked promising, but nothing happened. The Dutch management assumed French employees would show initiative and simply get on with it, but instead they were waiting for instructions from their superiors (see also Chapter 6 on the relevance of cultural differences for busi-

nesses). When it comes to knowledge or skills that can only be transferred face-to-face, pleasant locations where people can meet in comfort are by far the preferred venues, and many cities therefore invest in stylish meeting places. A good example is the Amsterdam business district known variously as the South Axis and the Financial Mile. As a consultant based there puts it: 'There is a real business vibe here'.

As noted above, networking is not new in economic geography; we have long known that 'no business is an island'. Smaller businesses have to call on each other more often than large multinationals, the latter being in a better position to internalize numerous relations (see Dunning's OLI model in Chapter 6). However, many large businesses are returning to their core activities as part of their strategies. To them, maintaining relations with other businesses is vital. For practical reasons, businesses often network with regional counterparts (regional networks). If the supply of a vital part, e.g. a car engine, stagnates, it can jeopardize the entire production line and thus the entire enterprise, leaving the director with no other option than to send his workers home temporarily. Working with suppliers in the same region reduces the danger of this happening.

Box 7.3

Fuji: the one that looked ahead

'Fuji looked ahead and won', read the headline. The article explained why the iconic Kodak is all but bankrupt, while its one-time Japanese archrival Fuji is thriving. Once dominant in the photographic film market, Kodak watched its consumers defect to digital photography, leaving rolls of film on the shelf. Confronted with the same problem, Fuji decided to limit the production of photographic film to one location. It did all it could to squeeze as much profit as possible out of the old technology and invested in researching new products, a decision not made lightly. In the words of Peter Struik, MD of Fujifilm Europe, based in Tilburg in the Netherlands, 'No one wants to kill the goose that lays the golden eggs.' What Fuji did was focus on cosmetics and medicine instead. This may seem like a weird decision, but its know-how in molecular technology and coating made the switch possible. Henk Volberda, Professor of Strategic Management and Business Policy at Erasmus University in Rotterdam, says the explanation for Fuji's success and Kodak's demise lies in Kodak's Anglo-Saxon business model. It was mainly aimed at its stakeholders and had a short-term perspective. Fuji's strategy was much more long-term, and via targeted staff transfers it provided room for creativity.

(Groenewegen, 2012)

Regional networks are not only important to small enterprises. René Wintjens (2001) demonstrated how large Japanese and American businesses gradually developed regional networks in the Netherlands. In particular, foreign businesses based in the south of the country obtain goods, services and knowledge right there in the region. Naturally, the extent to which this occurs depends on the freedom they are

given by their foreign parent businesses. This can be explained from an evolutionary perspective (Boschma et al., 2002). Opening a new branch means uncertainty, so it relies on the parent company and procures its staff and supplies internally. At a later stage it sources products and services locally. The extent to which it does so depends partly on how well the new branch is doing. Profitable branches are often given more freedom to develop regional networks and generally do not hesitate to do so. The ones that do exceptionally well continue to grow, sometimes even outgrowing the region. Successful businesses can become integrated in Europe-wide networks and continue to tap into their own regional labour and knowledge markets, playing a regional as well as an international business board game, as it were.

7.3 Boom and bust: Innovation and the theory of long economic cycles

Innovation played a significant role in Schumpeter's theory and the evolutionary economic geography approach that sprung from it. In Schumpeter's approach to innovation, the time factor closely parallels economic waves. Economic recessions, in Schumpeter's view, stimulate and even challenge entrepreneurs to innovate. Innovations can be profitable in these periods because the market is saturated and ready for something new. New products tend to trigger imitations and speed up the ensuing economic growth. Eventually this enables the economy to climb out of its slump and begin a new boom period. Evolution then follows a more or less fixed pattern of growth, stagnation, decline and again growth. There are several incarnations of the idea of wave-like evolution pertaining to different levels in the economy.

Arguably the most encompassing model of wave-like evolution are the so-called Kondratiev waves. These waves describe global patterns of growth and decline instigated by key innovations, such as the steam engine that triggered the Industrial Revolution. This is an extreme form of evolution, since the existing economic equilibrium was disturbed by a minority of innovative businesses (early adopters), who introduced new ways of working. Innovations like the steam engine are called '*radical innovations*' and lead to entirely new production regimes. By contrast, '*incremental innovations*' are relatively small modifications to existing technology though their impact can be great. Since many other businesses soon imitate the innovations, they can have a cumulative effect.

Box 7.4

Kondratiev's *long wave theory*, and how it led to his death

In 1920, after a short stint working for the Russian government at the age of 25, Russian economist Nikolai Kondratiev (1892-1938) founded the Institute of Conjuncture, a centre for the study of business cycles. Born into a peasant family, he was one of the men behind the first Russian agricultural five-year plan. His essay on long economic cycles was published on 6 February 1926 and expanded into a book in

1928. Following extensive research, Kondratiev concluded that economies moved in waves of about fifty years. Each of the long waves (we are currently in the fifth, and according to many in a winter season, waiting for spring) is associated with a fundamental technical breakthrough. The waves themselves can be divided into seasons. Winter represents a depression, autumn a recession, spring a recovery and summer a period of economic boom. Using data going back to 1789, Kondratiev based his analysis on the prices of raw materials such as iron, and on the wages of agricultural workers in England, France and the U.S.

Figure 7.5 Nikolai Kondratiev (1892-1938)

Kondratiev predicted the Depression of the 1930s, but interestingly enough, his theory also said the capitalist system would survive and recover. This went directly against the communist conviction that capitalism's inevitable fate was to be overthrown by the proletariat and replaced by a communist utopia. In 1930 he was arrested and sent to a work camp. He was executed on 17 September 1938. However, his theory lives on and still has many proponents.

In 1972, banker David Rosenau and journalist James Schuman rescued Kondratiev from oblivion and introduced his theory into modern economic thinking. Fifty years after the 1929 Wall Street Crash, they predicted the same would happen in 1979. It didn't until 1987, but this did not reduce the renewed interest in Kondratiev's ideas. In 1992, the International N.D. Kondratiev Foundation was founded by the Russian Academy of Sciences to stimulate and reward research in the same vein.

Kondratiev himself did not explain why the economy moves in cycles of growth and contraction, but his later proponents held that the driving force behind the cycles was innovation. The first upward Kondratiev wave was associated with the invention of the steam engine and the onset of the Industrial Revolution. However, as the steam engine was introduced across the board, economies contracted, resulting in a worldwide downward wave.

The second wave was linked to improvements in infrastructure and transport networks, the construction of railways and introduction of steam-powered ocean liners. The third wave was triggered by the invention of the combustion engine and the fourth by the post-World War Two durable synthetic materials. The widespread introduction of semi-conductors and information and communication technology is generally seen as triggering the fifth wave (see Figure 7.6).

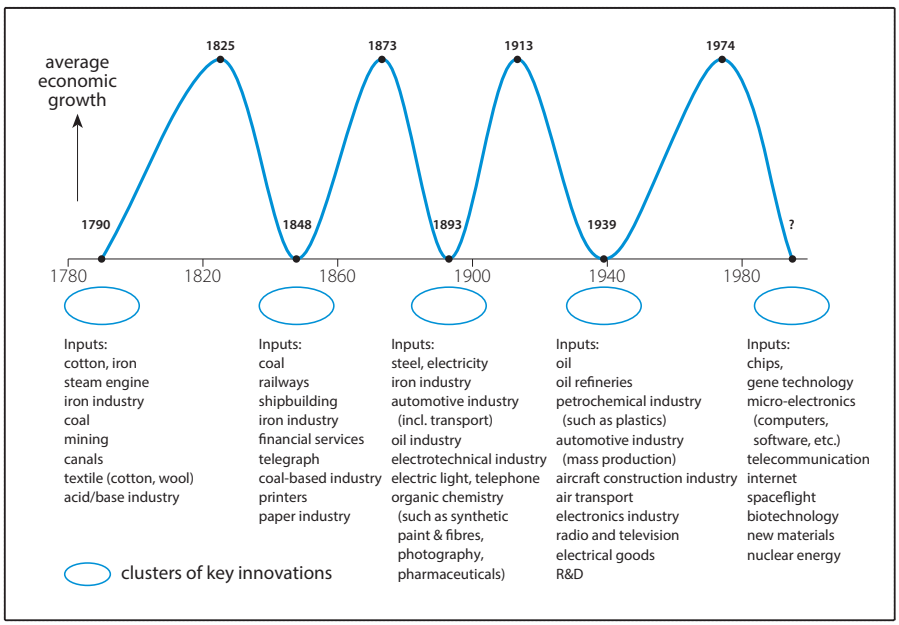


Figure 7.6 Kondratiev's long wave theory (Boschma et al., 2002)

The 2008 and subsequent recessions fit neatly into Kondratiev's system, implying that some day, recovery would come with the advent of a technology that would be fundamentally new but was at the time impossible to predict.

The product life cycle (PLC)

At the level of products and sectors, wave-like development is described in the so-called product life cycle (see also Chapter 6) that follows products from their introduction to their inevitable demise. The PLC distinguishes four or five phases in the life of a product after its development (see Figure 7.7). The first phase is the introduction of the product. Following innovation, a product is launched in the market. At first, demand is typically low and producers are looking for the product's version that best suits the needs of the public or at least the one that catches on. This becomes the standard, or *dominant design*, of the product. Typically, this design remains the benchmark throughout the product life cycle, even if more practical options are available. There may be, for example, path dependence in production facilities geared towards the dominant design, prohibiting the adoption of new versions. Even if electric flying were technically feasible for large aircrafts, flight operators are likely to carry on using fossil fuel airplanes – at least for a while – since they have invested in them. The production process may also be path-dependent, locking in the dominant design. In addition, consumer behaviour is typically slow to change. Following the concept of the *homo heuristicus*, consumers tend to repeat

decisions once they have made them. This is why delivery services for supermarket products tend to lure consumers with very low prices, only to raise prices as soon as they've gained market share and driven other suppliers from the market. Given the struggle for dominant design, it is the most turbulent and uncertain phase of the PLC. Rather than following a steady linear pattern, this struggle tends to progress in leaps and bounds as the numbers of businesses adopting the innovation swell or shrink, servicing an expanding or contracting proportion of the market. As they grab a growing share of the market, other companies are left behind. There is now little point for them in investing in the innovation, as they have missed the chance to make a profit.

If a product catches on, phase two kicks in; the take-off or growth phase. The product has been accepted by the public and demand is on the increase. Phase three, consolidation or stagnation, begins when demand for the product plateaus. New consumers may still arrive, but demand mostly involves replacement purchases. In this phase of the PLC, there are typically only a few large suppliers, and making the product cheaply is important for them. Suppliers try to prolong this phase as long as they can, for example by expanding to new international markets, investing in marketing or making small modifications to the product (incremental innovation). Finally, and inevitably, the product is replaced by a new alternative, which leads to decline (phase four). Sometimes a fifth phase, that of obsolescence is identified.

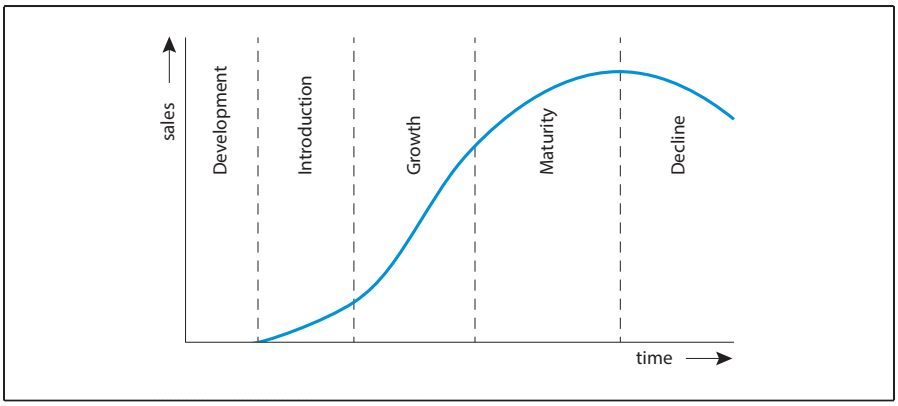


Figure 7.7 The product life cycle

The boom and bust of places

Places can also follow wave-like development patterns. Following a period of cumulative growth, regions can end up in either a positive or negative spiral. The latter applies particularly to regions with a one-sided production structure when the market becomes saturated with goods produced in that area. Formerly flourishing industrialized regions, like the British Midlands and the Belgian Walloon region, have been receiving financial aid from the EU for years, because they fell behind

economically. Another telling example is the highly concentrated American automobile industry with Detroit as its capital (Figure 7.8).

Figure 7.8 Western part of the abandoned Packard Automotive Plant in Detroit, Michigan

In steadily declining areas such as the Belgian Walloon region, the evolutionary approach has something to offer. An analysis of the situation there reminds us of the example of Kodak (Box 7.3). Kodak failed to keep a watchful eye on market developments and change its strategy in time. As a result, it declared bankruptcy in 2012 (and re-emerged as a much smaller company), while archrival Fuji continues to flourish to date, thanks to its timely switch to cosmetics and medication. There is a similar situation in regions with traditional primary industries where the extreme focus on the predominant industry hampers change. This is known as a *regional lock-in*, within which Grabher (1993) distinguished a *functional lock-in*. In Detroit, the steel industry and automobile industry are so inextricably linked that the relations have become rigid, each leaving the other very little room for change. As suppliers do not need to worry about selling their products, they do not feel a need for market research or marketing. The lock-in is also cognitive in the sense that rather than welcoming external knowledge, new information is made to fit in with the existing internal knowledge (comparable to cognitive dissonance referred to in Chapter 5). There can also be a *political lock-in*, a kind of pact between regional authorities, employers and workers, all of whom do everything in their power to maintain the status quo, thus hampering economic renewal.

Spatially though, there is much more variation in the extent to which places find themselves in decline or on the rise. In fact, the typical economic situation is one of stability, one reason being that businesses are not in the habit of moving. Paris

plays a vital role in the French economy; it always has and almost certainly always will. The same applies to London in England and the Randstad region in the Netherlands. There seem to be forces at work in the economic space that ensure the continuation of existing structures. In a dynamic sense too, some places are able to continuously innovate and stay ahead of the competition. Research into patents and innovation demonstrates an extraordinarily consistent pattern. According to a study by Acs et al. (1994), in 1982, a mere ten US states were responsible for over 80% of the new innovations, and one by Andersson and Koster (2011) demonstrated that in the long run, some regions generate far more new businesses than others. Regarding the Dutch situation, Koster and Hans (2017) found that entrepreneurial activity is consistently highest in the Utrecht area (Figure 7.9).

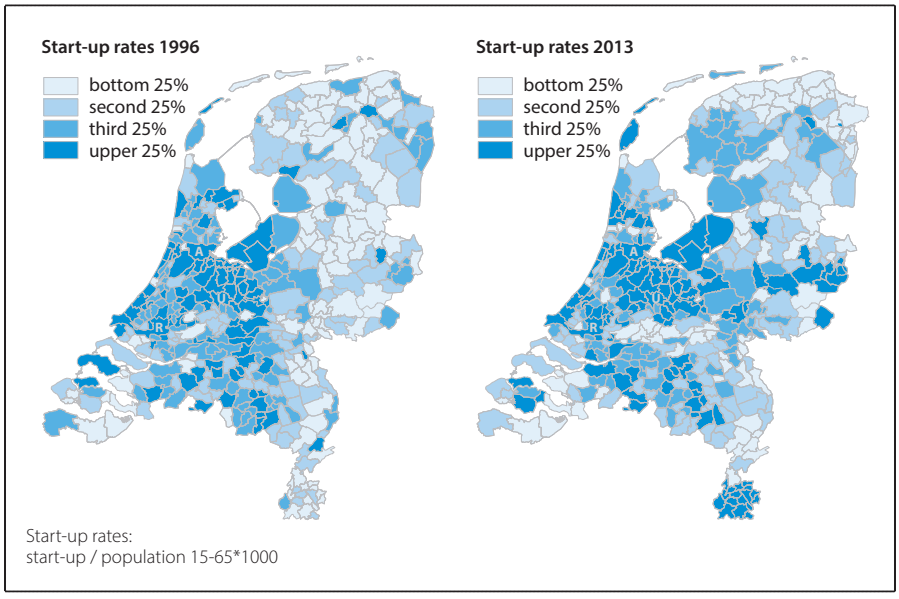


Figure 7.9 Start-up rates in 1996 and 2013 (Koster & Hans, 2017)

If conditions for innovation are consistently better in certain regions, they will be able to maintain their favourable position. The assumption in evolutionary economics is that in any given region, not all companies will successfully adapt to the changing business environment. Evolution means selection and only those that adapt will survive. This approach advocates *evolution*, not *revolution*. In the context of this book, the most relevant aspect of evolutionary economics is the idea that regional patterns of economic activity and growth display great stability. Areas that are traditionally part of core regions are likely to maintain that status. This is because they have managed to secure a central position in the national and international economic world and are the most innovative and entrepreneurial, have the most varied production structure, and benefit most from new transport systems. All of which protects the regional economy from turbulence in the business envi-

ronment. By influencing the environment, regional authorities can stimulate the process of adaptation.

The success of regions like Silicon Valley and the Third Italy is ascribed to their ability to innovate. This derives from their strong networks of small and medium-sized enterprises (SMEs). A crucial factor is proximity, which fosters the collective learning process. The main reason for this is the workers' high level of mobility. In geographically constrained, rapidly growing and tightly knit entrepreneurial communities, the leap from one company to another is easily made, they can learn from each other and innovation is continuously stimulated.

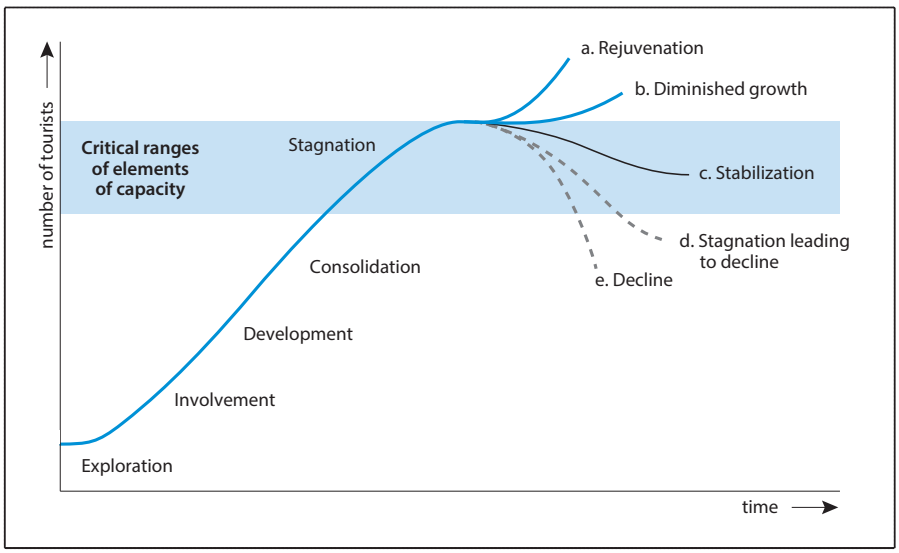


Figure 7.10 The life cycle of a tourist destination (Butler, 1980)

In 1980, British geographer Richard Butler applied the product life cycle to tourist destinations (Figure 7.10). The *exploration phase* of his Tourism Area Life Cycle (TALC) is characterized by relatively unknown destinations with limited facilities visited by only a few adventurous, independent tourists. They use the local facilities and interact frequently with the local population. Daily life there is virtually unaffected by the advent of tourism and the economic and social effects of individual tourists are negligible.

Once visitor numbers begin to rise and patterns become discernible, the *involvement phase* begins. Some local residents become involved with tourists and start to provide facilities for them. Interaction between tourists and residents becomes more frequent, and tourists begin to have a social and economic impact on the people involved with them. In this phase, tourism begins to be organized and local authorities may be approached with requests for changes in the local infrastructure to improve tourist access. Bhutan in the Himalayas is currently in this phase.

The *development phase* is next, with regional authorities starting to collaborate with national and international travel organizations to produce targeted place marketing. There is less and less local control over the development of tourism. The region's natural and cultural attractions are actively promoted, new attractions are created and small-scale accommodations are replaced by larger ones, including chain hotels. The look and feel of the region change dramatically and not all locals are happy with the changes. In the peak season, tourists can outnumber local residents and extra workers need to be brought in. The region also begins to exhibit more variation in terms of types of tourists. Vietnam is in this phase at the moment.

Then comes the *consolidation phase*, with growth slowing down, although visitor numbers can continue to rise. As the regional economy is now mainly focused on tourism, the tourist industry tries to find ways to make the tourist season as long as possible and market the destination to new potential visitor groups. Chains and tour operators hold strategic positions, and traditional facilities make way for amenities for tourists. The level of tourism may lead to irritation among the more traditional local residents, particularly those with no involvement in it and whose livelihood does not depend on it. The Moroccan city of Marrakesh is currently in this phase.

When tourist numbers peak, a region enters the *stagnation phase*. It is operating at full carrying capacity, and social, economic and environmental problems begin to emerge. The area has a well-defined image but is no longer fashionable. It relies on repeat visits and specific interest groups such as conferences. There is surplus accommodation capacity and the region's natural and cultural attractions are overshadowed by newly created attractions such as casinos and the hospitality industry. The region's image shifts from popular tourist destination to mass tourism destination. The Spanish Costa Brava and the Turkish Aegean coast are good examples of regions in the stagnation phase.

Once it reaches the *decline phase*, a region is no longer able to compete with newer attractions or other regions, e.g. Turkey's rise as a tourist destination was at the expense of Greece. Visitor numbers drop and rather than vacationing, tourists come for day trips and short-term stays. The level of facilities declines, property frequently changes ownership and hotel chains pull out. This happened in coastal resorts like Brighton and Blackpool in the UK and Noordwijk in the Netherlands.

7.4 Clustering as a result of evolutionary processes

It is hard to predict where innovative business activity will occur and chance certainly plays a role. That said, innovation tends to be concentrated in urban regions. Large cities are particularly attractive to services like banks, fashion designers and publishers, and more basic industrial activity can generally be found in smaller towns and cities (Boschma & Frenken, 2011).

Box 7.5

Clusters and networks

The issue of why certain activities are spatially concentrated was at the heart of economic geographic research (e.g. Marshall, 1920; readdressed by Porter, 1990). A few more comments can be added to the information about clusters and networks in previous chapters. *Clusters* are spatial concentrations of related businesses that may or may not have a collaborative relationship. Classic examples are Silicon Valley and the less well-known Third Italy (see Box 7.6). Clusters emerge as a result of external conditions, natural resources, such as locally available raw materials, anthropogenic resources, such as airports, or urban resources, such as the density, quality and variety of other producers or providers and consumers. Concentration is a condition for clustering but concentration alone is not enough to create genuine clustering. We only refer to clustering if there is a self-reinforcing process among the related businesses. Brenner (2004) distinguished three such self-reinforcing processes:

- direct contact and collaboration between firms;
- the creation of favourable local conditions, from which more and more businesses benefit as conditions grow ever more favourable;
- the fostering of support services that challenge businesses and help generate better and more innovative products.

Unlike clusters, networks do not require spatial concentration. The term networks mainly refers to businesses that work together. Not every business, incidentally, is interested in being part of a network. Some prefer to operate strategically or financially on their own and are called 'stand-alones'. Others swear by regional informal knowledge exchange ('local buzz'), and highly specialist businesses are often forced to network at the international level ('global pipeline'). It is generally accepted that a combination of local buzz and global pipeline is the most fruitful. Information obtained nearby is cheap and fairly reliable, but an international outlook prevents a business (and, by extension, a region) from becoming inward-looking or, in evolutionary terms, from lock-in.

Box 7.6

The Third Italy, success through clustering

Italy has a rather negative reputation as a country plagued by soaring government deficit, corrupt politicians, sluggish state companies and unstable government. Not a good foundation for a flourishing economy, it would seem. Yet despite the sometimes difficult conditions, Italy witnessed strong economic growth in the 1990s, mainly thanks to industrial centres with small and medium-sized family-run businesses in the provinces of Emilia-Romagna, Veneto, Friuli and Tuscany in northern and central Italy.

The late 1970s were the years of the Third Italy, following the First Italy (the industrialized north with towns like Milan and Turin) and the Second Italy (the agricul-

tural south). Rather than a geographic area, the Third Italy is characterized by an organizational structure for entrepreneurial activity with family-run SMEs that are successful in the export markets. They tend to be manufacturers of shoes, clothing, furniture, machinery and ceramics.

Figure 7.11 The Third Italy: Emilia-Romagna (Williams, 1995; UNIDO, 2012)

Third Italy businesses can adapt rapidly to changes in the market and can both compete and collaborate with each other. They tend to cluster; the towns of Carpi and Prato are known for their ready-made clothing, Arzignano is famous for its shoes, Manzano is a major centre for furniture production and Sassuolo is home to over 300 manufacturers of ceramic tiles. As a result of family ties and social relationships within the businesses, the workers feel secure in their jobs. They value them more than membership in the often polarizing trade unions that represent the interests of workers in the industrial North. Rather than aiming to achieve internal economies of scale, First Italy businesses tend to maintain flexible outsourcing. Economic developments in the Third Italy underpin the concept of industrial districts in economic geography as well as Michael Porter's 'diamond model'. According to UNIDO (2012), the Third Italy's success results from:

- geographic proximity of small and medium-sized enterprises (SMEs);
- specialization per sector;
- predominance of SMEs;
- high level of collaboration between companies;
- competition based on innovation;

- a sociocultural identity based on mutual trust;
- active trade organizations;
- supportive regional and local authorities.

To explain the observed clustering, evolutionary economic geographers analyze the extent to which new businesses emerge and existing ones disappear in the long term. Heebels and Boschma (2011) used a dataset about publishers covering the period from 1880 to 2008. One important outcome was that the Amsterdam publishing cluster had less to do with the city itself than with a number of highly successful publishers that in turn produced successful spin-offs. Once again it is clear that the number of start-ups in a given region largely depends on the number of existing businesses. This also explains why clusters, once established, have such longevity. Even in the absence of locational advantages, the presence of numerous potential parent companies for spin-offs guarantees continued growth. The trickiest but most interesting question is of course: why do clusters emerge in one region but not in another? This question is addressed in various ways in every chapter of this book. Classicists and neoclassicists hold that clusters emerge where costs are lowest and yields are highest. Behaviourists hold that image plays a major role. The previous chapter shows how clusters are underpinned by institutions.

Evolutionary economists tend to view clusters from the perspective of Klepper's life cycle concept. In his seminal study of the automobile industry, Klepper (2007) concluded that clusters are the result of a snowball process. By inheriting routines that work well, companies that have spun off from a successful parent company stand a better chance of survival than their competitors, and since they tend to settle near the parent company, they reinforce clustering. There are two important consequences of this approach. Firstly, there is regional path dependence at play. This means regions have varying chances of generating a successful new sector. Regions with an abundance of innovative businesses are more likely to undergo continued growth. In short, the local presence of numerous technologically similar industries is a major advantage. The Dutch twin towns of Bunschoten-Spakenburg are a good example, where fishmonger Arie van de Groep turns fish waste and confectioneries past their sell-by date into gas by means of anaerobic digestion, an innovative way of creating renewable energy by fermenting food waste. The fishmonger's anaerobic digester is the largest in the country. With a capacity of 800 cubic metres of green gas, he is able to provide renewable energy for much of Bunschoten-Spakenburg and nearby Eemnes and Baarn. Stedin is the energy company responsible for transporting the gas, and the provincial authorities are investigating possibilities for a biogas hub to connect the various providers of biogas to the natural-gas network. In addition, regional authorities are looking into whether roadside grass clippings can be turned into gas. All of which demonstrates how related sectors can set a whole chain of developments in motion.

Although a variety of related sectors is advantageous, it by no means guarantees success. In addition to path dependence, something else to be aware of is that

clusters can also thrive without any discernible locational advantages. Studies into e.g. fashion, sofas, automobiles and automobile tyres have shown that clusters alone cannot enhance a new enterprise's chances of survival. What clinches the matter is mainly whether the spin-off has a successful parent company.

The evolutionary approach sets great store by innovation, and research from this perspective focuses mainly on firms with the potential to develop into successful parent companies. Numerous ideas have consequently been developed in this context. One of them is the incubation hypothesis, first formulated by Hoover and Vernon in 1959 and then elaborated upon by Leone and Struyk (1976). According to these theorists, innovative activity occurs in low-threshold markets that do not require high capital expenditures. To be successful, innovative enterprises need to be able to communicate easily with clients (face-to-face contact) and suppliers, and require specific capacities from their staff, such as a flexible and communicative attitude. Innovative enterprises also benefit from urban locations, where property, labour and transport costs are lower, and risks can be kept to a minimum by enabling businesses to settle near their customers and suppliers.

Urban areas in particular are viewed as offering reliable and favourable conditions and in incubation theory, they are considered the ideal setting for innovation. Incidentally, this does not include city centres, where property prices are too steep. For innovative businesses, the combination of information density and low property prices makes older buildings in the zones just outside the centre the ideal location. As Jane Jacobs (1969) famously put it, 'Old ideas can sometimes use new buildings. New ideas must use old buildings'. Incubation theory is dynamic and after a while, it says, successful innovative businesses tend to move out of urban centres. The initial locational benefits cease to be advantageous, as businesses make a name for themselves in the market, build up a reputation, develop their own information networks and no longer depend on local information. In addition, their internal growth means they physically outgrow their location in expanding markets operating beyond the local scale, though they still need to safeguard their accessibility to customers and suppliers. Most of them move to the urban periphery or even further out to easily accessible locations, freeing up space for new economic activity. Thus the incubation nature of the original urban location is maintained.

Although nowadays many towns and cities have an incubation policy, incubation theory has been sharply criticized in academic circles (e.g. De Jong, 1987). It is often unclear, for example, what the geographic range of incubation theory is. Are we talking about buildings or blocks, about streets as Jane Jacobs said and Aart Jan van Duren (1995) investigated, or about municipalities or even entire urban regions? Where should the line be drawn? In addition to theoretical and geographical points of criticism, practical objections can be raised. As a result of the urban renewal of post-industrial towns and cities, old factory buildings have either disappeared or been renovated as heritage monuments, driving up the rent. Without hefty state subsidies, they would be unsuitable as incubator spaces. Nevertheless, incubation theory is still relevant and is actively used in the development of science

and technology parks on the urban periphery, where we find dedicated incubation facilities.

7.5 Policy implications

The policy implications of the evolutionary approach are somewhat contentious. On the one hand, the approach is criticized for being too theoretical and conceptual to be useful in policymaking. One policy implication that stands out is that there is no quick policy fix for economic growth. The path-dependent nature of growth limits both the speed of and the scope for growth paths. This implication typically does not sit well with policymakers. On the other hand, the evolutionary approach is the conceptual foundation for the European Union's current regional policy (see also Chapter 8), the *Smart Specialization Strategy* (S3). To be eligible for funds to support the regional economy, each European region has to meet the conditions set out in the framework. Evolutionary economic geography is thus frowned upon in policy circles, while at the same time it is crucially important in Europe.

The Smart Specialization Strategy encapsulates two mechanisms in evolutionary economic geography: path dependence and entrepreneurship. To make regions aware of their development path, they are required to argue their main strengths and major economic activities. The idea is that knowing the regional strengths is the starting point for economic development. The future development paths of regions are summarized in *Regional Innovation Strategies* (RIS). The second element of S3 is that within the regional strengths and aims as formulated in the RIS, entrepreneurship and innovation should be stimulated. Note that this implies S3 embraces the uncertainty and risk involved in innovation processes and does not necessarily formulate end goals. It is about accommodating or facilitating the entrepreneurial process.

The ideas underpinning smart specialization are introduced in the book *Smart Specialisation: Opportunities and Challenges for Regional Innovation Policy* (2015) by Dominique Foray. In the European Commission, the idea was introduced in the *Barca Report* (2009), also known as *An agenda for a reformed Cohesion Policy*. Foray demonstrated that smart specialization often occurs spontaneously and without policy intervention in private companies which are well capable of selecting and coordinating innovation. However, smart specialization policy means that public agents (i.e. the state) must have a proactive role in the 'entrepreneurial discovery process'. Or in the words of Foray: 'The main goal of a smart specialization policy is to concentrate resources on the development of *those activities that are likely to effectively transform the existing economic structure through R&D and innovation*' (p. 3).

A central concept of the book is entrepreneurial discovery, conceived as a collective experimentation process that must be carried out within the framework of strategic interactions between the government and the private sector. The idea of

smart specialization is closely related to the work of Dani Rodrik in rehabilitating the role of the state in industrial policy. Foray breaks down the new industrial policy into five generic principles or challenges for smart specialization policy design:

1. solving the identification problem of which activities to support in order to increase the likelihood of entrepreneurial discovery;
2. building an inclusive strategy, so that all the ideas and proposals are given equal consideration at the outset;
3. establishing a robust process to evaluate and assess ex-post progress;
4. determining an exit provision after a certain time period, e.g. through the use of sunset clauses for industrial support schemes;
5. addressing probable coordination failures to prevent emergent trends from becoming new drivers of regional economic growth.

Ron Boschma and Pierre-Alexandre Balland (2022) took up the first challenge and advocated an approach that would give policymakers tools to analyze their regional economy and identify current strengths and future opportunities. From an evolutionary perspective they started by observing that new activities, new technologies and new sectors and occupations do not start from scratch. History matters. Regions develop new activities related to existing activities, as Neffke et al. (2011), amongst others, showed. This is often referred to as the principle of *relatedness*. Insight into the regional competences can be used to decide which activities are promising for the region. Regions can then, in a path-dependent fashion, build on the regional competences available. In addition to the current competences, the level of complexity of these regional competences also steers development. Complex activities like artificial intelligence (AI) are difficult to copy and imitate, because they are based on advanced knowledge and bring together various competences.

Using the concepts of relatedness and complexity, Boschma and Balland (2022) demonstrated which activities were most promising in the different regions, given their current competences. They applied the model to three key technologies that attract a lot of interest from Dutch policymakers: artificial intelligence, hydrogen and mRNA. Based on relatedness they estimated the technological diversification pattern of all twelve Dutch provinces using patent data from the OECD REGPAT database. This a very rich database containing detailed information on about 250,000 technologies. By using co-occurrence the amount of relatedness was determined. In addition to relatedness, a region's chances were assessed by looking at the complexity of its technologies. Figure 7.12 shows which technologies are promising in the province of Gelderland, i.e. biotech, pharmaceuticals, food and organic chemistry are promising, but investing in digital technology is probably a long shot. This is in contrast to the province of North Brabant where digital technology fits the portfolio well.

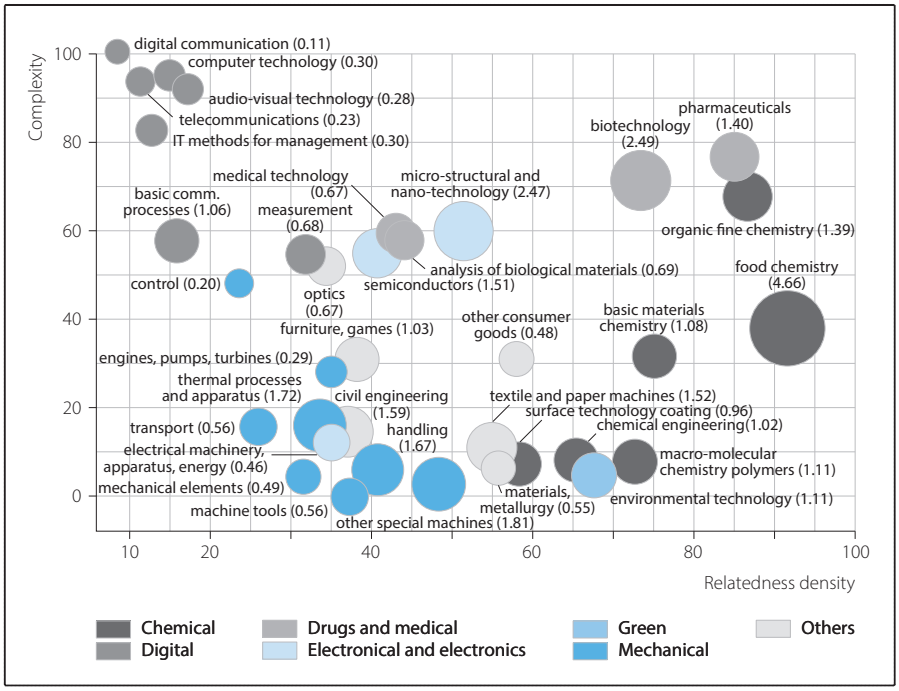


Figure 7.12 Most promising technologies in Gelderland (Boschma & Balland, 2022)

Box 7.7

AI at the basis of smart specialization framework

By Pierre-Alexandre Balland, Associate Professor of Economic Geography at Utrecht University

Balland and Boschma's relatedness and complexity model essentially works in the same way as modern artificial intelligence algorithms such as Amazon's 'Customers who bought this item also bought...'. Amazon's disruptive model defines products as related if they are frequently bought at the same time, instead of looking at traditional product classifications. This same idea underlies product or technology space by defining relatedness in an agnostic way as an outcome-based measure. Not only Amazon's but most recommendation systems (content-based filtering & collaborative filtering) that have powered the first wave of the AI revolution by predicting what we will want to listen to (Spotify), watch (Netflix) or buy, share the algorithmic principles at work in the smart specialization framework. It is all about making personalized recommendations by extracting information from complex network structures. The relatedness/complexity smart specialization framework goes beyond one-size-fits-all policy and prioritizing the industry or technology that best fits the specific ecosystem of a given region. Fundamentally, this framework is a recommendation system for industrial and innovation policy.

7.6 Conclusion

In the evolutionary approach to regional economic development, history matters. Whether a region grows economically is more a matter of the business community's ability to adapt to changing circumstances than the region's business environment. Economic growth is cyclical, and the economically successful regions are the ones where businesses are able to adapt to and anticipate the cycles. Regions with multifarious related industries stand a particularly good chance of surviving the changes accompanying economic cycles in terms of innovation and competition. Above all, evolutionary economics teaches us that the future of a region is partly determined by its point of departure, since continuity plays a major role. Successful clusters largely derive from innovative companies that in turn yield successful spin-offs. It is not surprising that local authorities do their utmost to create gems of this kind by providing incubator and start-up facilities. The evolutionary approach has really taken off in economic geography, mainly as a result of mounting dissatisfaction with the drawbacks of classical and neoclassical economics, and the fact that it better reflects economic continuity and change. As in nature, the key to survival is the ability to adapt. In terms of industrial location choice, this means we need to devote far more attention to a business' starting position. Many new businesses are actually spin-offs. Successful microchip manufacturer ASML, a Philips spin-off, is still based in Eindhoven, the home of Philips. In light of this spatial continuity, it may be more useful for policymakers to focus on boosting the regional economy than to try to attract new businesses.

8 Stimulating regional welfare and well-being

8.1 Introduction

The previous chapters have introduced some of the main models, approaches and theories in economic geography. These approaches uncover the mechanisms that underpin the decisions and behaviour of economic agents (people and firms). Using these insights, we can assess how regional socio-economic differences develop and transform. However, the models and approaches are not a goal in or of themselves. Economic geography is ultimately an applied science in the sense that its goal is to apply the theories to improve the socio-economic position of regions, as well as of the people living there and of the firms active there. This goal is most explicit in regional economic policies where governments try to improve the situation in various regions. Although regional economic policies are often organized at the national level, the European Union also has a strong regional policy, known as the *Cohesion Policy*. About one-third of the European budget is allocated to strengthen European regions, illustrating its importance as a policy field at the European level. This chapter will explore the different goals and applications of regional economic policy.

Applying the insights from economic geography to drafting regional policies (at all levels) introduces some interesting normative questions. For example, should regional policies strive to close the gap in development between regions, or is a certain degree of inequality between regions acceptable or even preferable? And, if so, how large can this gap be? Although economic geography theories provide valuable input to these questions, the answers are in the end normative and political. Even determining what economic value and development is, has proven a contested issue. Recently, we have seen a shift towards a more comprehensive view on socio-economic development. Using only 'hard' economic measures such as income, employment and gross domestic product (GDP) falls short as a basis for policy, since it does not include other relevant dimensions such as sustainability, well-being of people or health.

The results of the 2023 Dutch provincial elections are illustrative of the salience of these issues as well as their normative nature. The elections resulted in a landslide victory for the Farmer–Citizen Movement (BBB). The party positioned itself as a movement that takes the interests of people in rural areas to heart, not in the least the farmers. This position paid off. BBB capitalized on a long-felt neglect of the area outside the Randstad, the country's economic centre. Their victory can be perceived as a manifestation of the discontent regarding the inequality between the core of the country and the rest. Indeed, BBB had greatest support in the most rural

areas. The party also protested against stricter rules for farmers with regard to nitrogen emissions aimed at protecting nearby nature. The cap on nitrogen emissions, following from European legislation, is an example of viewing development in a more comprehensive way. The election results showed that such new approaches to economic value are also political and have supporters as well as antagonists. It goes to show that economic value is a contested notion.

This chapter will explore the application of economic geography in the motivation and execution of regional economic policies (Sections 8.4, 8.5 and 8.6). However, before discussing the evolution of regional policies in the Netherlands and beyond, we will look at how regions and countries are compared (Section 8.2) and reflect on what economic value actually entails (Section 8.3).

8.2 Comparing regions and countries, GDP and competitiveness

British physicist Lord Kelvin once said, 'If you cannot measure it, you cannot improve it.' Though developed in the context of physics, the idea has also firmly taken root in economics, in what is sometimes called the empirical turn. The desire to measure economic output and success was further fueled by the continuing integration of countries in the early 1900s, which instigated a need for comparability. There had been many attempts to identify the size of the economy, but the most impactful and widely used measure was introduced in 1934 by the Russian-American economist Simon Kuznets: the gross domestic product (GDP). To date, the GDP is widely used to determine the size of economies, and by extension to be able to compare economies' size and growth rate.

Simply put, GDP measures the total value of all goods and services produced within a country's borders. For example, a farmer sells wheat to a flour mill, which produces flour that is sold to a bakery, which produces bread that is sold to a grocery store. At each stage of this production chain, value is added to the original input, as the product becomes more valuable and useful to consumers. GDP is the sum of all value added in the process. If inputs are imported from another country, only the value added within the country's borders contributes to the GDP. Similarly, to measure economic activity across regions within a country, the Gross Regional Product (GRP) can be determined.

Although the GDP is widely used to determine the size of the economy, this is not as straightforward as it seems. An important drawback is that it does not account for non-market activities like unpaid work or the informal economy. It can lead to odd situations, for example, if a professional housekeeper marries her landlord and continues to perform the same household tasks, the GDP goes down. Given that women still perform most household tasks, the example illustrates that their contribution to the global economy is, by definition, underestimated. This feature also undermines the role of GDP as a comparison tool, since the size of the informal economy differs significantly across countries.

Apart from the question of which activities should be included as meaningful (or priced) economic activities and which should not, the interpretation of what the GDP represents is a contentious and more fundamental issue. By definition, GDP measures *only* the size of the economy, but given its measurability and seemingly comprehensive nature, it has grown to be regarded as a prime indicator for many economic policies. In fact, Kuznets himself said, 'The welfare of a nation can scarcely be inferred from a measure of the national income'. Or, as former American senator Robert Kennedy said, 'GDP measures everything, except that which makes life worthwhile'. The focus on GDP thus neglects those elements in the economy or society at large that, given its narrow scope, do not produce any value. Nature is a case in point, as it is not a traded good and thus provides 'free' input to the GDP. In fact, natural disasters, such as oil spillage from tankers, increase GDP because cleaning up the pollution is paid for on the market. Similarly, economic activities related to warfare are included in the GDP.

The distribution of the GDP across the population and across regions is not taken into account either, even though this contributes to overall welfare. The east of Groningen is an interesting case. Based on the value created by the natural gas extracted there, GDP per capita in this area was among the highest in European regions. Yet at the same time, the area had - and still has - some of the highest poverty rates and the lowest incomes in the Netherlands. On top of this, natural gas extraction has induced earthquakes that have caused structural damage to buildings in the region. The economic value produced in the region does not necessarily benefit the people and firms residing there, whereas the do have to pay some of the costs.

It goes to show that GDP is just one indicator of socio-economic development. Also, despite its objective reputation, which activities are included in the GDP is based on choice rather than natural law. Following these criticisms, using more comprehensive measures of development has been proposed. We will explore these in the next section. At the same time, in keeping with a narrower view of economic growth, there have been attempts to enrich the concept of the GDP using the notion of competitiveness.

Competitive regions

As globalization took off and more and more businesses started operating on a global scale, a narrative emerged on the competitiveness and business climate of regions and countries. This narrative built on the classical and neoclassical tradition where competition in costs and quality was considered key in the competition between countries. Also, just as with the GDP, the ideas fit the desire to compare regions and countries. Is the business climate more attractive to logistics companies in the Netherlands than in Belgium? Was the American Intelligent Community Forum's 2011 decision to award the Dutch town of Eindhoven the status of the world's Intelligent Community of the Year justified?

In this context, in 1979 the World Economic Forum (WEF) announced its intention to measure countries' competitiveness. The aim of this international think

tank, founded in 1971, is to stimulate the world economy. At its annual meeting in Davos, Switzerland, politicians, entrepreneurs and academics exchange ideas about the way forward. Every year in September, the WEF publishes a Global Competitiveness Report.

The 2011 edition of the Global Competitiveness Report compared 142 countries on the basis of 113 statistical indicators such as the quality of the infrastructure and the educational level of the population. To make the indicators comparable, multi-criteria decision analysis is used, a statistical technique for standardizing different types of indicators. Of the 113 variables, 78 derive from surveys conducted in each of the countries described. The remaining variables are collected through international institutions such as the IMF and the World Bank.

Until 1988, the WEF published the *World Competitiveness Yearbook* in conjunction with the Swiss International Institute for Management Development (IMD) in Lausanne. In 1989, following a disagreement about the best way to measure competitiveness, the two institutions went their separate ways. The WEF sets more store by how entrepreneurs judge the national economies (78 indicators based on research into perceptions, 35 macro figures), and the IMD places more value on actual numbers (116 perception indicators, 132 hard data). Moreover, the combined hard data weigh more heavily (2/3) for the IMD than the data from the perception research (1/3).

The WEF maintains that the growth potential of GDP per capita determines a nation's competitiveness. The IMD is more focused on the quality of the business environment. Despite these differences, the WEF and the IMD ranked the same 16 countries in the top 20 for 2011, attesting to the view that both rankings measure the same underlying concept. In the 2022 IMD World Competitiveness Ranking, for the first time in the ranking's 34-year history, Denmark took the top spot, having come 3rd in 2021. It performed outstandingly in the business efficiency factor and the productivity and efficiency and management practices subfactors (all 1st place). Switzerland went down to 2nd place (from 1st) and Singapore rebounded to 3rd (from 5th). The Netherlands has always been in the top 20 and now takes 6th place. The WEF's latest Global Competitiveness Index (2019) ranked Singapore top of the list, with Switzerland, the Netherlands and Denmark ranking in the top 10.

Recently, though, focus has been less on the list and more on specific themes. Sometimes the rankings do not allow for any relation between certain variables. The Dutch did not do so well with the IMD in terms of working hours, but scored well on women in the workforce. Compared with the international norm for workforce participation (a minimum of one hour a week), the participation of women in the Netherlands in 2010 was very high (72%). In Europe, only Denmark scored higher with 74%. Nowhere else in the EU did as many women work part-time that year (74%) as in the Netherlands. Germany was second with 45%. Whether Dutch women had an easier time making the arrangements needed to enable them to work part-time was beyond the scope of the analysis.

Another indicator that is difficult to interpret is the tax burden. Though they were viewed as negative in the listings, it may well be thanks to high taxes that

Scandinavian countries were able to develop a strong innovation profile. Through its investments, the Finnish Funding Agency for Technology and Innovation Tekes enabled Finland to be one of the few European countries to comply with the Lisbon Treaty (3% of GNP to be spent on R&D). The way a country spends its taxes may be more important than the actual tax levels.

A final word of criticism pertains to the data collection for the surveys conducted by the IMD and the WEF. The IMD had the data collected by alumni from its own Business School. In 2011, the compilers of the World Competitiveness Yearbook received 4,935 survey results from 59 countries, an average of 48 per country. The WEF received 14,039, varying from 34 for Surinam to 422 for the United States. So quantitatively and qualitatively, this is a relatively small sample and it would be tenuous to draw far-reaching conclusions from it. For example, in 1999, the holiday destination Mauritius, with a population of 1.2 million, scored higher than South Korea, with a population of 48 million, in terms of its research environment – a somewhat puzzling outcome (Van Hoof, 2012).

However, Stéphane Garelli, Director of the IMD World Competitiveness Centre, claims the rankings are continually improving. He argues that the IMD Index not only measures economic achievements, prosperity and power, it also reflects a prolonged period of research and the accumulation of knowledge and insights. Businesses compete and create wealth, but the context in which they do so is determined by governments. Garelli (2011) takes the example of East Asian nations. He stresses the importance of education and knowledge development for competitiveness. 'In recent years, the results highlight the formidable efforts that East Asian nations have made to improve education. In addition to being competitive (temporarily) because of cheap labour, they aim to develop their competitiveness level so that it is based (permanently) on an educated workforce. Knowledge is perhaps the most critical competitiveness factor. How that knowledge is acquired and managed is each nation's responsibility' (Garelli, 2011, p. 491). For that reason alone, countries compete. It is not enough to look at nations' export positions at the level of goods or services. However, as Garelli points out, 'in the early 1980s the world had changed. In addition to trade, foreign direct investments (FDIs) had become a major force in world economics. Nations discovered that there was a new avenue to prosperity and this was precisely by attracting FDIs. This argument was subsequently vindicated by the remarkable success of Singapore, Ireland or Dubai, which based the early stage of their competitiveness on encouraging foreign investments.' Having said that, he cautions that 'as any business leader has experienced, a similar operation with identical products, technologies and processes can perform very differently in country X or Y' (p. 492).

Following the success of these national rankings, both in terms of publicity and policy development, recent decades have also witnessed a proliferation of regional rankings. This became possible due to the improved availability of regional comparative statistics, e.g. as a result of the work of Eurostat. In 2010, the European Commission's Joint Research Centre developed the EU Regional Competitiveness

Index (ERCI), which compares 268 European regions at NUTS 2 level (provinces in Belgium and the Netherlands, *Regierungsbezirke* in Germany, counties/unitary authorities in the UK). With 68 variables, there are fewer variables than at the national level. Using a rich set of indicators, ERCI measures a region's ability to offer firms and residents an attractive environment to live and work in. The 2022 edition of the index builds on an updated methodology and is referred to as RCI 2.0. The results are shown in Figure 8.1, with the province of Utrecht topping the list.

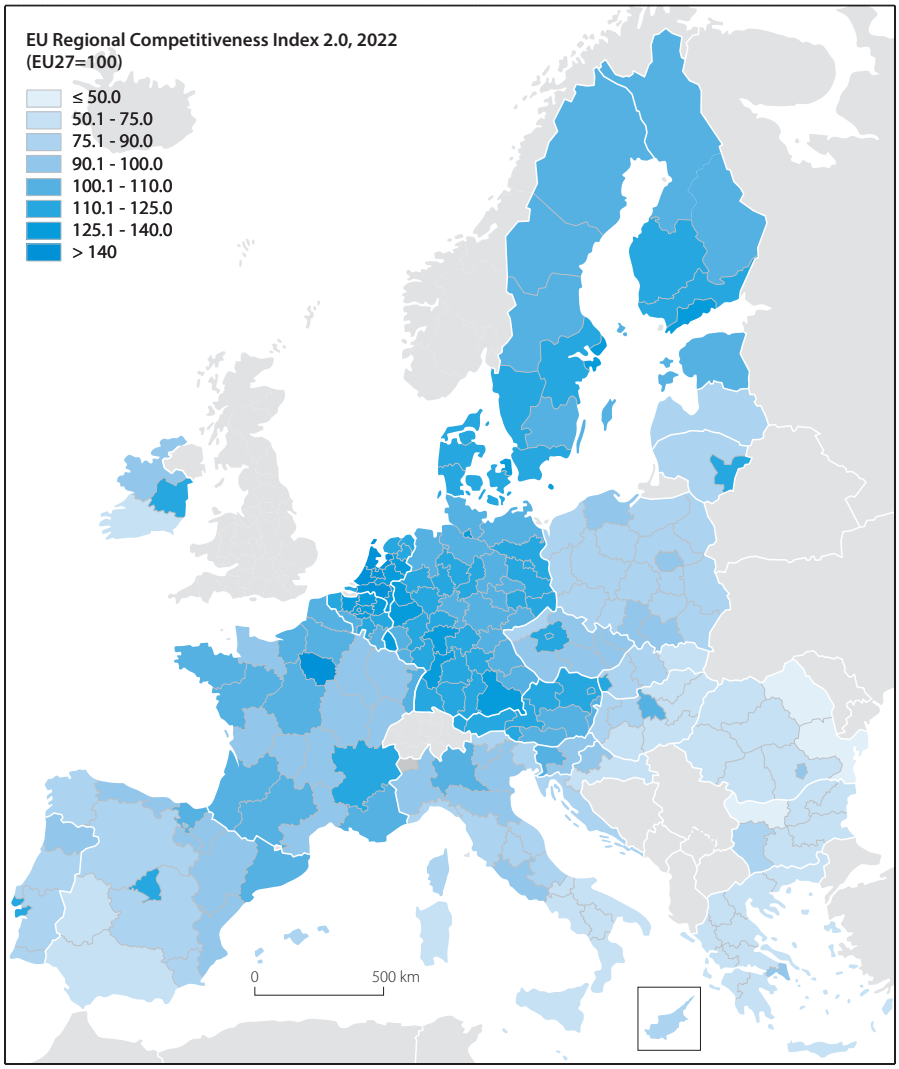


Figure 8.1 Regional Competitive Index 2022 (https://ec.europa.eu)

One of the employees of a Dutch regional development organization tasked with attracting foreign investors drew attention to the relative importance of the competitiveness rankings. 'We mainly used our high ranking to influence the media;

I don't know a single entrepreneur who came to us because of our high ranking. Having said that, this sort of information may get stored in an entrepreneur's subconscious. If he finds himself looking for a new location a few years later, he may end up with us after all.'

The concept of the competitiveness index has been criticized by various authors. The most prominent among them is Paul Krugman (see also Chapter 4), who was adamant that countries do not compete with each other in the same way corporations do. Companies tend to grow at the expense of their competitors, but economic growth in one country can be highly beneficial to growth in another. He called politicians' obsession with competitiveness dangerous, saying it arises from nationalism and can lead to a call for privileges for strong industrial sectors and to protectionism. In her paper *Everyone's a 'winner': problematizing the discourse of regional competitiveness* Gillian Bristow (2005) was highly critical of how, in developed countries, the concept of competitiveness has become a hegemonic discourse in public policy circles. She criticized the concept of what philosopher Alfred North Whitehead called the 'fallacy of misplaced concreteness'. 'They have assumed that what applies to firms can simply be read across to those other entities called "regions", and that this is a concrete reality rather than simply a belief or opinion' (p. 300). In her opinion, this leads to a situation where a powerful business elite and the neoliberal consensus are used to justify supply-side economic interventions and performance measurement imperatives. It is for these reasons, and the alarming figures about climate change and the loss of biodiversity, that people start to think about concepts other than competitiveness.

8.3 What is value and welfare?

The criticism of the GDP as a measure of economic prosperity comes down to the question: What do we actually find relevant in the development of society? Or, briefly, what actually is economic value? Mariana Mazzucato, a prolific economist of Italian-American-British descent at University College London, has devoted her career exactly to this question. In *The value of everything* (2018) she asks, Why are bankers paid so much more than nurses or teachers? If we argue that the latter are more valuable for society than the first group, then why is this not reflected in their wages? Mazzucato argues that the contexts may differ – finance, big tech, pharma – but the self-descriptions are similar: 'I am a particularly productive member of the economy, my activities create wealth, I take big "risks", and so I deserve a higher income than people who simply benefit from the spillover of this activity' (p. xiii). She then asks, what if these descriptions are simply not true and just narratives created to justify inequalities of wealth and income? To clarify her point she quotes Goldman Sachs CEO Lloyd Blankfein, who in 2009 said: 'The people of Goldman Sachs are among the most productive in the world'. Even though, just one year earlier, the company was a major contributor to the 2008 financial crisis and American

taxpayers had to stump up 125 billion dollars to bail it out. It prompts Mazzucato to ask what definition of value is used to distinguish value creation from value extraction or even value destruction. She concludes that value has gone from being a category at the core of economic theory, tied to the economics of production (the division of labour, changing costs of production), to a subjective category, tied to the preferences of economic agents. Or even stronger: 'Price has become the indicator of value: as long as a good is bought and sold in the market, it must have a value. So rather than a theory of value determining prices, it is the theory of price that determines value' (p. 271). To remedy this, she advocates an academic and societal debate on the nature of economic value.

Not surprisingly, Mazzucato is very critical of the GDP as a measure of economic prosperity, as it makes no distinction between value creation and value extraction. She is not alone in this, nor is she the first, and there have been many attempts to capture economic value more comprehensively . A particularly prolific argument has been to discount the GDP for the environmental damage it causes.

As early as 1974, Roefi Hueting introduced the so-called Sustainable National Income and proposed pricing the depletion of resources for production as well as the damage to the natural environment, and discounting the GDP accordingly. Including sustainability in economic prosperity measures first caught on after the United Nations report *Our common future* (1984), also known as the Brundtland Report. There are several views on how economic growth and sustainability goals can be conjoined. Figure 8.2 summarizes alternative development measures that take a broader perspective on growth.

The 'degrowth' movement wants to steer away from economic growth as a goal in order to protect environmental values. Jason Hickel, a strong representative of this direction, has criticized *growthism* in his book *Less is More: How Degrowth Will Save the World* (2021). Growthism is the pursuit of growth regardless of whether we need it or not. In stressing his point, Hickel compared the United States to Spain. Though the first has a GDP per capita almost two times as high, life expectancy in Spain is five years longer. Also, access to healthcare and education is much more difficult in the United States than in Spain. This comes back to the question: what is economic or societal value? Regarding the impact on the environment, the degrowth movement critically questions *green growth*, the idea that economic growth (in a narrow sense) can go hand in hand with environmental protection. Hickel (2021) frowns upon green growth, which, according to him, is not feasible, particularly in the long run, as it is largely based on biofuels, technology and subterranean storage of CO_2. Hickel claims the only viable way forward is a planned strategy to abandon our dependency on economic growth (degrowth). In his view, by including environmental and societal values in our conception of economic value, it is possible to shrink the economy (in terms of GDP) and at the same time increase people's welfare by redistributing funds, investing in social services and preserving environmental value. Danny Dorling, Professor of Geography at the University of

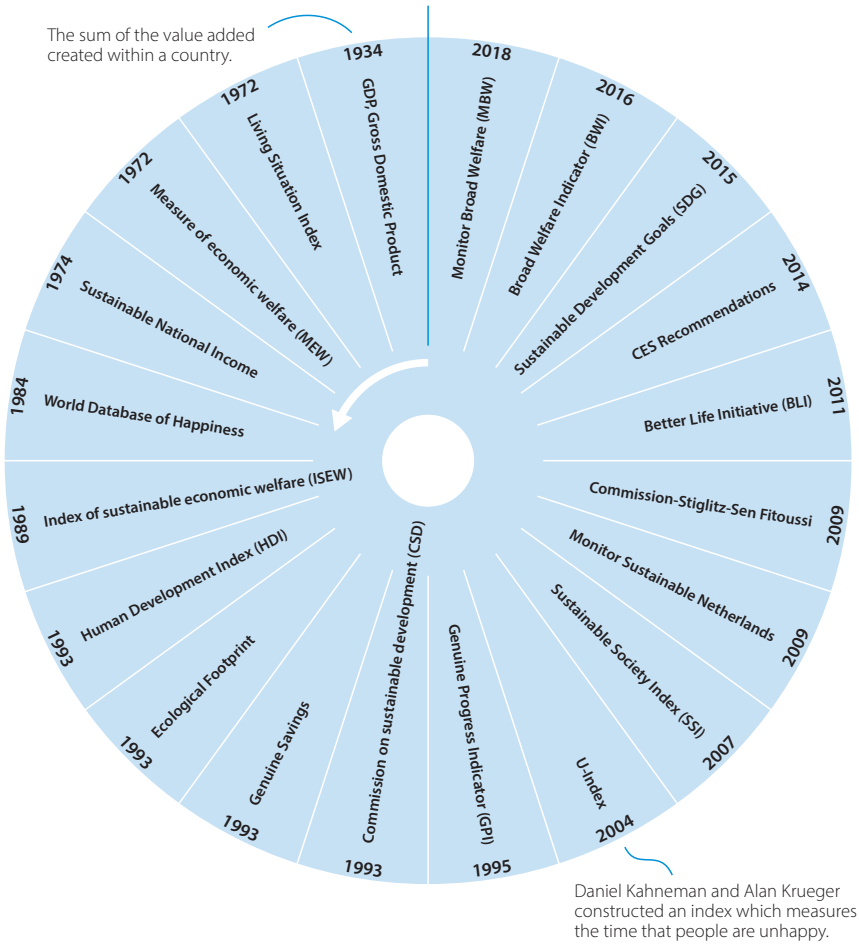


Figure 8.2 Alternative measurements of welfare through time (based on Hoekstra in ESB, 2019)

Oxford, argued in a similar vein in his book *Slowdown* (2020). Describing the end of the great acceleration and why it is good for the planet, the economy *and* our lives, Dorling said: 'Slowdown means the end of rampant capitalism. It never could last forever based as it was on the expectation of continually expanding markets and insatiable demand and its bizarre concentration of wealth that has made a mockery of democracy'. Both Hickel and Dorling expect the focus to shift from growth to the redistribution of wealth and decreasing rather than increasing output.

Though in vogue now, the notion of limited growth has a long history. John Stuart Mill, in *Principles of Political Economy* (1848), already philosophized on the limits to growth and was highly critical of economists pleading solely for more growth. Mill did not understand how people could enjoy accumulating more than they could ever spend just for the sake of showing off, and would surely have been critical of the current concentration of wealth in the hands of a few and their incredible ecological footprint.

Opposite the degrowth movement are the *eco-modernists*. This group holds that economic growth and solving environmental problems can go hand in hand (Visscher & Bodelier, 2017). Followers of this stream highlight the power of technology and what it has achieved and can achieve in the future. They see a combination of compact cities, with a large role for bicycles and public transport, and nuclear power stations as a powerful solution to environmental problems. In this context, Visscher and Bodelier have rehashed a famous bet from 1980 between Paul Ehrlich, author of *The Population Bomb*, and economist Julian Simon. Ehrlich believed resources would become scarce, Simon disagreed and challenged Ehrlich to pick five resources and a future time. If Ehrlich's prediction held, the prices of resources should increase, according to Simon. Ehrlich picked chrome, copper, nickel, tin and tungsten and a ten-year period. Simon won the bet, as in 1990 the prices of all five resources had decreased indicating that scarcity was not an issue. Due to technological progress, Simon claimed, fewer resources were needed for production. However, it can also be argued that technological innovations are needed because of a poorly functioning market, which is exactly the reason we need a different measure than GDP. There is much to counter this argument. For one thing, economic markets do not always work perfectly. Also, some resources did go up in price; copper prices, for example, increased significantly after 2000. An important takeaway message is that innovation and technological progress are inevitable to allow for cleaner production processes. In this sense, there is an interesting paradox between the degrowth movement and the eco-modernists. We probably need elements from both approaches to properly account for and address the environmental implications of our production system.

In addition to trying to account for the environmental impact of production, the arsenal of development measures has recently been enriched with indices that take a comprehensive approach to understanding development. These indices typically include traditional economic measures and environmental dimensions, but also social indicators and happiness. The OECD has been a major advocate of such a comprehensive approach via its Regional Well-Being programme, which proposes *well-being* as the main indicator for development. Ten dimensions feed into this overarching notion of development, where economic well-being in a region is summarized by the dimensions of income and jobs. Other important dimensions are the environment, but also civic engagement, safety and health, and self-reported life satisfaction (Figure 8.3).

The Dutch equivalent to the OECD approach is 'broad welfare' (in Dutch, *brede welvaart*). This measure of prosperity includes similar dimensions that together describe the level of development at the regional level. It furthers the OECD approach by also including a future-oriented dimension and provides an index for the current situation as well as capital available for future sustainability. The current broad welfare indicator, dubbed the 'here-and-now' measure, is composed of eight dimensions (Figure 8.3): labour & leisure, health, material prosperity (income and GDP), the environment, social engagement, safety, welfare (happiness) and, finally,

housing & access to services. The 'future' measure of capital for sustainable development is composed of four dimensions: economic capital, human capital, social capital and environmental capital. Each dimension is in turn supported by a number of individual variables. Broad welfare thus offers a multidimensional insight into the socio-economic situation in a region. While intuitively it is very appealing to measure development in a more complex way – it is after all a complex notion – multidimensional approaches also introduce problems that are less obvious in traditional one-dimensional measures like GDP.

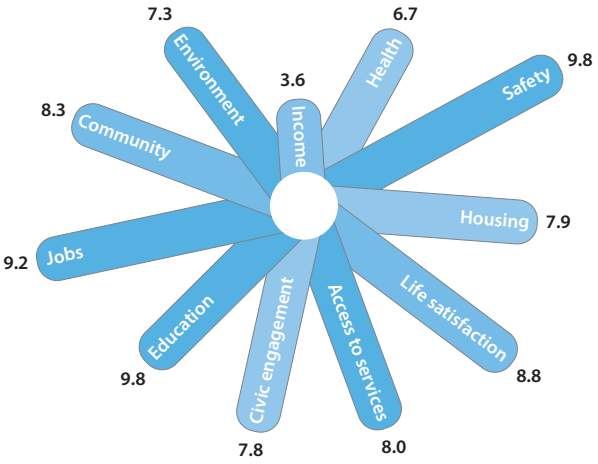


Figure 8.3 OECD Well-being Index for Limburg

One of the biggest challenges is the question how the different dimensions of the index should be weighed. Is it more important to have a good job and secure income than to have good health? Do we value safety over environmental sustainability? How much more important is one dimension over another? These are impossible questions to answer, particularly across 10 dimensions. The OECD webtool allows us to experiment and to vary the dimensions' relative weight and rank regions accordingly (www.oecdregionalwellbeing.org). Even if relative weights can be reliably determined, they likely vary across people, across space and over time. Reflecting this challenge, multidimensional approaches for measuring welfare and prosperity have been criticized for being subjective and normative. Also, acknowledging that weights may vary across space means that the OECD well-being framework should be interpreted only within the context of the region for which it is constructed. For example, in peripheral regions access to jobs may carry more weight than in urban regions. Otto Raspe and Erik Stam (2019) highlighted the importance of the regional context in their 'broad welfare' approaches. They argued that people value their lives in interaction with their surroundings, so measuring multidimensional welfare should take place at this level. Where people live and work is highly decisive for how they judge their lives. While a reasonable conclusion, the context-dependence of the broad welfare framework goes against the strong narrative of bench-

marking regions against each other, as explained earlier in this chapter. This then puts up another hurdle to the general adoption of multidimensional approaches to development. In a sense, multidimensional approaches are criticized for their very contribution: to accept that development is a complex and multi-interpretable phenomenon that is, to some extent, subjective.

The idea that development is a largely subjective notion has been embraced most explicitly in the happiness literature. This stream of research simply asks people about their happiness or life satisfaction and tries to explain the patterns found. Ruut Veenhoven, an emeritus professor at Erasmus University Rotterdam, is a strong advocate of this direction and one of the founding fathers of the World Happiness Report. This report was first launched in 2012 and was adopted by the United Nations General Assembly, which proclaimed 20 March as the annual International Day of Happiness. Figure 8.4 presents the ranking of the happiest countries as presented in the 2023 report. Finland tops the list, followed by Denmark and Iceland. The index is composed of six indicators:

- GDP per capita: how much does each country produce, divided by the total population?
- Social support: having someone to count on in times of trouble.
- Healthy life expectancy: life expectancy with inclusion of physical and mental health experienced.
- Freedom to make life choices: are you satisfied with your freedom to choose what you do with your life?
- Generosity: people are drawn to behaviours that benefit other people.
- Perception of corruption: do people trust their governments and have trust in the benevolence of others?

These indicators are tested in a large questionnaire all over the world. All the results can easily be found in the World Happiness Report which can be downloaded free of charge. Most of the other measures are related to the quality of the environment.

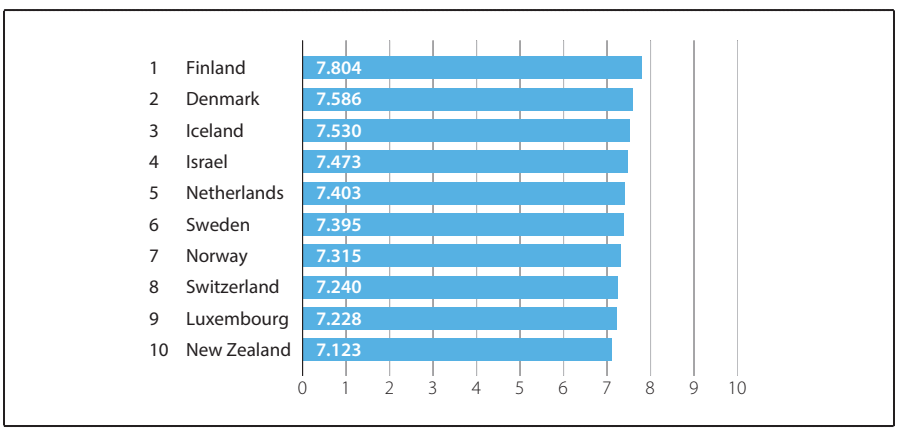


Figure 8.4 The 10 happiest countries in the world (Helliwell et al., 2023)

Box 8.1

Happy people or happy places?

By Dimitris Ballas , Professor of Economic Geography at the University of Groningen

There is a rapidly growing number of research studies aimed at mapping and analyzing subjective happiness and well-being measures and their socio-economic and spatial determinants. These studies are typically based on self-reported measures of happiness and well-being derived by survey questions such as:

- 'Taking all things together would you say you are very happy, quite happy, not very happy or not at all happy?' asked in the European Values Survey.
- The Cantril ladder subjective life evaluation question asked in the Gallup World Poll surveys (which are also typically the basis for the highly cited and impactful World Happiness Reports), asking respondents to rate their lives on a 0 to 10 scale, with best possible life being a 10 and the worst possible being a 0.
- 'On which step of the ladder would you personally feel you stand at this time?' A question used to derive subjective life satisfaction data that are part of the OECD Regional Well-being series.

There are now hundreds of quantitative studies aimed at identifying and analyzing the demographic, social and economic determinants of subjective happiness defined in this way. Economic geography scholars add a spatial dimension to such studies to explore and explain geographical variations of happiness and well-being. An important consideration and question that is addressed by economic geographers is whether levels of happiness in different geographical areas can be explained by the characteristics of individuals or households that live in these areas *(demographic composition of the area)* or by geographical area environmental or other factors *(contextual effects)*. For example, a particular region may have high levels of subjective happiness because of the demographic composition of its population: residents have all the individual characteristics that positively correlate with happiness (e.g. excellent health, prestigious employment status, high income). Or it may have high levels of happiness due to geographical area level environmental factors such as the weather, air quality, natural amenities (e.g. proximity to green spaces, national parks), urban amenities (e.g. museums, theatres, health and education services), and socio-economic variables aggregated at area level (e.g. income inequality, poverty and social exclusion, social cohesion). Economic geographers and regional scientists use suitable data and methods (e.g. multilevel modelling methods and spatial econometrics) to analyze the extent to which the geography of happiness can be attributed to demographic composition and/or socio-spatial contextual variables and more widely to consider and analyze the impact of *space* and *place* on happiness.

Regardless of exactly which way other factors are discounted in the GDP, it is an empirical regularity that GDP, if taken as a leading measure of development, overestimates the level of welfare. Van Zanden and Rijpma (2019) demonstrated that in the last twenty years the indicator for welfare in Western Europe has grown more slowly than GDP per capita (Figure 8.5). Van Bavel et al. (2019) confirmed this outcome for the Netherlands. In Figure 8.6 it is clear that GDP per capita is growing much more rapidly than the 'broad welfare indicator'. This means the economy is growing yet people feel less comfortable and satisfied.

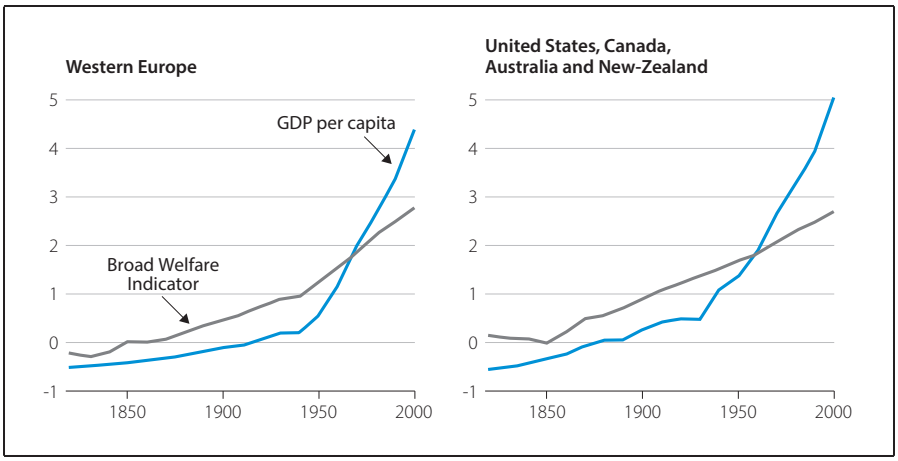


Figure 8.5 Broad welfare indicator and GDP per capita over time (Van Zanden & Rijpma, 2019)

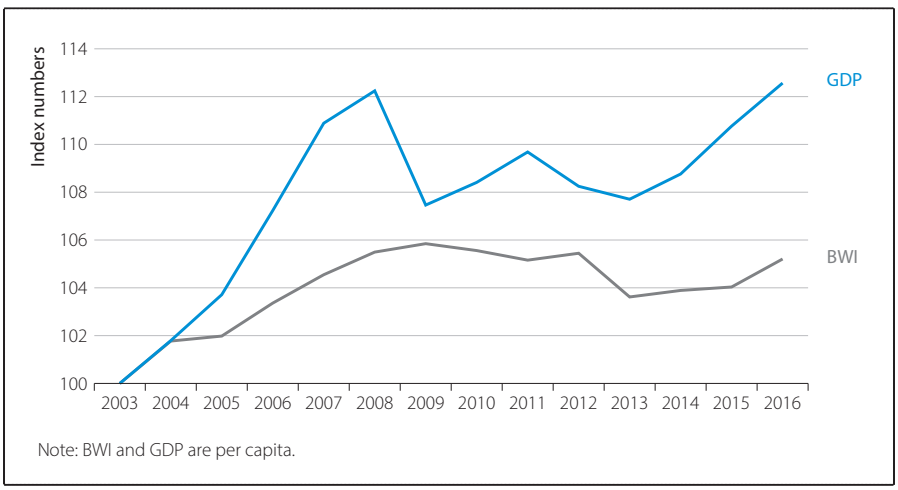


Figure 8.6 GDP per capita is growing much more rapidly than the broad welfare indicator (Badir et al., 2017)

8.4 Regional economic policies

Governments need to decide what they see as societal value and gear their policies towards their understanding of socio-economic value. If more value is attached to nature, policies will be geared more towards nature preservation. Similarly, adopting a multidimensional view of development over one that focuses only on GDP, will influence policy goals. In addition to what a government considers socio-economic value to be, it also needs to take a stance on its distribution across space and across the population. Figure 8.7 shows the regional map of the broad welfare indicator in the Netherlands, showing clear regional differences. Following Evert Meijers (2022), Harold Laswell's quote that politics is all about 'who gets what, when, how?' should also include 'where'.

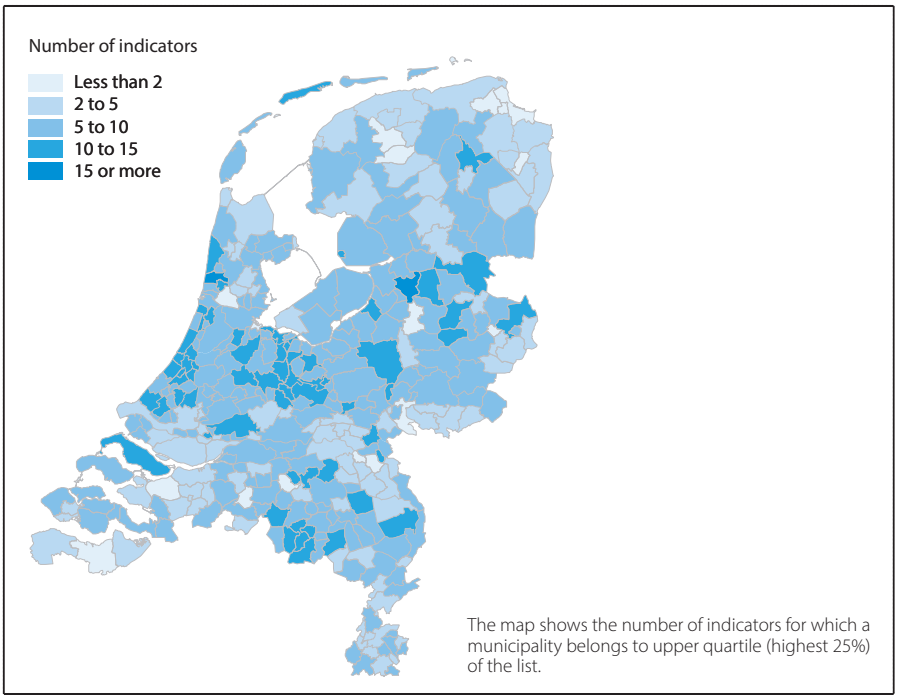


Figure 8.7 Difference in broad welfare within the Netherlands (CBS, Regionale Monitor Brede Welvaart, 2022)

In formulating regional economic policies, governments must make two principal, related choices. The first choice relates to the aim of the economy. At the one extreme, regional policy can be aimed towards addressing socio-economic inequalities across regions. This is the *equity* approach and it involves facilitating equal opportunities and development levels across regions. At the other extreme, regional policy can be geared towards *efficiency*, which involves making the most of the local

resources available, while accepting spatial inequalities that may emerge. In practice, there is often a mix of goals. The European regional policy, for example, consists of cohesion funds directed at investing in regions lagging behind economically, as well as funds directed at improving the competitiveness of European regions (smart specialization, see Chapter 7).

The second choice to be made concerns the approach in regional policies which can be *place-based* or *place-neutral*. Place-based policies focus on improving the economic conditions of a particular place, such as a city or region, taking into account its specific features, economic structure and challenges. These policies typically involve investments in physical infrastructure like roads, bridges, and buildings, as well as the development of public amenities like parks and cultural institutions. The aim of these policies is to create an attractive environment that encourages businesses to locate in the area and generate economic activity.

Place-neutral policies do not focus on a specific place or group of people but instead seek to create a level playing field for economic development across different regions and communities. Place-neutral policies involve measures to promote fair competition, reduce barriers to entry, and enhance access to markets and capital for businesses in all regions. Examples include tax incentives for businesses that invest in distressed areas, funding for research and development programmes that benefit all regions, and support for small business development regardless of location. In spite of its name, the effects of these policies are not necessarily place-neutral at all and may typically benefit core economic areas.

Place-neutral policies are often favoured by policymakers who believe that markets should determine the distribution of economic activity, rather than government intervention which targets specific places or groups. These ideas fit in with the neoclassical view of economic development (Chapter 3). Critics of place-neutral policies argue that they do not address the root causes of regional economic disparities, such as differences in infrastructure, human capital and social capital, which can persist even in the absence of market barriers.

The practice of regional policy

The history of Dutch regional policy from the 1950s reflects the conceptual, social and political development as presented throughout this book. It reflects the changing perceptions of growth, from a focus on external investments (exogenous growth) to a view that regions need to build on their own strengths (endogenous growth). This was accompanied by gradual changes – from an equity aim to an efficiency aim and from a place-based to a place-neutral approach.

Describing the development of Dutch regional policies, Meijers (2022) documented the active regional spread policy in the postwar period, reflecting the equity approach to investing in economically lagging regions. Tangible remnants of this policy today are the relocation of public services to peripheral regions. DUO, the organization for student loans and support, was relocated to Groningen as was telecommunications company KPN (Royal PTT Netherlands, then a state company).

Statistics Netherlands was relocated to Heerlen in the southern province of Limburg, whose capital Maastricht was granted a university. The equity aim remained leading until the early 1980s, although the policy itself gradually changed, after which the tide turned. After some failed public investments outside the core economic area and a stagnating economy following two oil crises (in 1973 and 1979), the equity goal slowly disappeared and the efficiency approach gained ground.

This also reflected a changed, more connected and service-based global economy and the advent of the neoliberal approach to economics. Competitiveness became the name of the game and this was translated into the policy slogan, 'Don't back the losers but pick the winners'. This change went hand in hand with the place-based approach slowly fading in favour of the place-neutral approach in the Netherlands. For now, 2011 marks the end of an explicit and strategic Dutch regional policy. In that year, the Top Sector policy was launched as the leading economic policy. It identified nine top sectors that should lead the way in the development of the Dutch economy. The policy did not include a spatial strategy, but the implication was that current development hotspots – around Amsterdam and Schiphol and the major port, Rotterdam, including the harbour – were in effect the main beneficiaries.

Box 8.2

Western Scheldt Tunnel, a striking example of exploitation of the periphery

By Evert Meijers, Associate Professor of Economic Geography at Utrecht University

Zeelandic Flanders is a clear example of a peripheral and neglected region. The focus on efficiency, scaling-up and concentration of amenities and services paid for by the national government meant that it lost a whole range of those services (unemployment agency, water police, tax office, customs, central office for motor vehicle testing, etc.), which fueled the looming demographic decline. Also, for many decades, regional and national government debated about a new bridge or tunnel to replace the ferries across the Western Scheldt. In the end, the national government was not willing to contribute to the costs of a new tunnel. According to the minister, the only connection between Zeelandic Flanders and the rest of the Netherlands had 'no priority' and was considered 'only of regional interest'. They were prepared to pre-finance the tunnel, but a toll would have to be paid for 30 years. When the national government sold their stake in the private tunnel company exploiting the tunnel to the province of Zeeland, they managed not just to get their 700 million euro investment back, but also made a profit of 543 million euros. The toll has led to further fragmentation in a delta region already fragmented due to its peninsular character. For instance, the regional labour market and housing markets are split in two, as is the support base for amenities. Visiting relatives, or commuting to a job or an away game of a sports team all cost money. This creates financial as well as psychological barriers. The lack of competition by Dutch home seekers, who do not want to be stuck behind a paywall, makes the housing market in Zeelandic Flanders attractive to Flemish people from the nearby regions of Bruges, Ghent and

Antwerp, who buy many of the properties on sale, turning Zeelandic Flanders more Flemish. Since these newcomers largely remain oriented towards amenities and services in Belgium, the support base for schools and medical services is dwindling. So it is perhaps no surprise that anti-system and anti-establishment political parties have a relatively large following in Zeelandic Flanders.

Meijers criticized the seemingly fair and economically rational approach of place-neutral policies. 'It's the politics, stupid', he argued, stressing the national government's role in distributing funds. He pointed to the fact that spatial policy for a long time meant investing in the Randstad and especially Amsterdam, because supposedly only this area could compete with Paris and London (see Box 8.2). Place-neutral and efficiency policies promised the spread of wealth from the core areas to the rest of the country by means of a *trickle-down effect*, an argument used to defend this type of policy. However, there is now convincing evidence that trickle-down economics doesn't work. In fact, profits are reinvested in core areas or shifted to areas with lower taxes. Inequalities tend to grow rather than decline. Since this is supported by strategic economic policy, even if implicitly, it has given rise to a feeling that there are places that do not matter (Rodríguez-Pose, 2017). It is not only the actual economic inequality that is important, but also the perception that these regions have been forgotten by politics. This brings us back to the success of the farmer's party (BBB) in the 2023 Dutch provincial elections.

Approaches to justice

And so what are just policies? three philosophical streams have addressed this issue: *utilitarianism*, *egalitarianism* and the *capability* approach. The utilitarian approach measures justice in terms of the benefits it delivers for society as a whole. In practice, it means that governments invest especially in areas where many people live, because this leads to the greatest social benefits. Cost-benefit analyses underlying public investments typically adopt this vantage point. It underplays, however, the regional differences in a country and regions with a small population struggle to attract investments. The fundamental problem of this approach is that the interests of the minority are sacrificed for those of the majority as happened with, for instance, the extraction of natural gas in Groningen. It paid dividend to the country as a whole, but it has jeopardized the opportunities for the local population.

The second stream, egalitarianism (Rawls, 1971), rests on two main principles. The first is that the basic rights and freedoms of all people are guaranteed. The second principle can be summarized as equal chances for everyone. Justice, according to Rawls, means that the state should guarantee a minimum level of services as well as their accessibility.

The third stream is the capability approach as developed by Sen (1999) and Nussbaum (2011). It is not so much concerned with the distribution of goods and services, but emphasizes the idea that everyone should have the opportunity to develop their capabilities to the fullest.

8.5 State intervention through public policy: The tools

Governments have certain, direct and indirect, tools at their disposal to intervene in the economy. Subsidies to encourage businesses to implement transport schemes are an example of direct intervention. Indirect intervention is more about exercising structural influence and is aimed at effecting long-term changes in a region's economy, e.g. policies on technology aimed at strengthening the regional economy by introducing innovations. In the past, state involvement in the high-tech defence industry through contracts and subsidies could be considered direct intervention, though most present-day policies deal with imperfections in the knowledge, labour and capital markets to facilitate the implementation of technological innovations.

Table 8.1 State Intervention Strategies

	Economic	Non-Economic
Direct	R&D subsidies	Transport schemes
Indirect	Innovation policies	Location policies

Most state intervention tools appear to pertain to non-economic aspects of the economy. A few economic stimuli will not be enough to transform a nation of merchants and traders like the Netherlands into an industrial or high-tech society. It requires enormous shifts in mentality and focus, such as increasing interest in the sciences. So in addition to direct and indirect intervention tools, we can also draw a distinction between economic and non-economic intervention tools, although the difference between the two is not always clear.

In this respect, Michael M. Crow, the president of Arizona State University, advocated a shift in thinking to mission-oriented, longer-term policymaking: 'So if you look at how venture capital is structured, it's very exit-driven. They tend to want to exit in three or five years through an IPO, an initial public offering, or buyout. And that exit-driven model has actually really hurt the evolution of science and innovation in sectors like biotechnology. So, really, this mix of being able to think big, be mission-oriented – try to think of, like, the big problems of our time, whether it was going to the moon and back again in one generation as in the 1960s, whether it's today, solving – you know, really battling it out with climate change or getting the plastic out of the ocean – how to frame those problems as inspirationally as possible, use public investment to go after the problems but especially in order to crowd in to excite other forms of investment' (quote at 2018 Milken Institute Global Conference). The idea of a mission-economy has been more formally developed by Mazzucato (2021).

Examples of non-economic intervention tools are laws and planning regulations and using them, governments can influence the structure of the economy and the regional economy in particular as well as the behaviour of economic agents.

8.6 Market organization and planning

The use of intervention tools leads to market organization. Organizing the market is not the same as disrupting the market. Only in a purely classical, theoretical world do taxes, subsidies, social welfare and regulation constitute disruptions. In reality, markets rarely function properly and need correction.

Not every economist will dismiss state intervention as being pointless ideology. In fact, it is highly defensible on the basis of economic theoretical motives. Even neoclassical economists assume markets that fulfil certain conditions, e.g. perfect competition and abundant high-quality information, occasionally require some correction by the government. For society in general, this means yields are higher than if the economy has been rigid due to commercial or trade union cartels or monopolies. If the common good is at stake, governments can try to intervene, e.g. via competition policy or by appointing a civil servant to monitor proceedings on the weekly market. So market organization and the free market are certainly not mutually exclusive.

In his 2001 inaugural lecture, Pieter Tordoir addressed the issue of market organization and the free market and asked, 'What is the relation between the free market's self-regulating invisible hand and the visible hand of planning procedures?' In Tordoir's view, location and development issues pose two fundamental problems for neoclassical economics. Firstly, they always interpret distance as a cost and recommend removing the physical (spatial) and legal barriers, e.g. by constructing transport infrastructure or liberalizing trade (place-neutral policies). Their perfect world is one free of spatial frictions. But 'space' means more than just distance. It also encompasses the natural world, landscape and environment, all highly valued in modern-day planning and society at large. Space represents cultural values worthy of protection, if necessary by state intervention. If this common interest hampers a region's growth, leading to a drop in income, logic dictates that it should be compensated for by a better quality living and working environment and a green and pleasant landscape. Whether this assessment is actually made in government policy is a political decision.

Also in an economic sense, space means more than just distance. Returns to scale and external effects (increasing returns) create a clustering of economic activities by means of agglomeration. Here again, state intervention comes into play via spatial interventions to facilitate this agglomeration. Examples include the provision of ample parking facilities near shopping centres and the creation of knowledge centres or science parks that allow a region to benefit economically from the influx of knowledge. In addition to improving the well-being of the population by safeguarding the environment and creating green spaces, state intervention means optimizing the benefits of certain business locations and the business environment. In his inaugural lecture, Tordoir qualifies the contrasts between the free market and market organization on the one hand, and economic development and planning on the other, and advocates constructive collaboration.

8.7 Conclusion

What we measure matters. It matters because it guides our policies. With increased connectivity across the globe and an ensuing narrative around competitiveness, we have narrowed our view of development to the GDP and other relatively straightforward measures including jobs, income and value added. However, this 'obsession with one financial figure, GDP, has worsened people's health, happiness and the environment', Joseph Stiglitz commented in *Scientific American*. Instead, we should measure what matters.

Indeed, we have recently seen that regions, countries and groups of countries consider social development and prosperity more broadly than only economic gains. The Dutch flagship of this approach is the broad welfare indicator (*brede welvaart*, discussed in Section 8.3) which assesses economic indicators alongside other indicators, including safety, environment, health and social capital. While they provide a richer view of development, multidimensional measures muddy the measurement itself as weighing the contributing dimensions is contentious. Also, they include the subjective notions of happiness and life satisfaction which are difficult to gauge and interpret despite their clear relevance. Finally, the relative importance of the measures varies across geographies, since multidimensional well-being is constructed in relation to the spatial context in which people are active. This prevents a straightforward interpretation of the index. As a result, comparing the values across time and space is tricky. So despite their intuitive appeal, multidimensional measures of development, being ambiguous, are currently scarcely used in policy. At the same time, in view of the public debate on the environment and social inequalities, a more comprehensive approach to prosperity is still at an early stage. Geographers (economic and otherwise) are well-versed in understanding development more comprehensively and in the context of space. So geographers are in an excellent position to further the debate!

Understanding prosperity and development in a broader sense may also influence the role of policy in addressing inequalities. Following the neoliberal trend, the Netherlands and other countries have seen a (gradual) shift from equity-type regional policies to more efficiency-driven policies. Similarly, targeted place-based approaches have been sidelined to give space to place-neutral approaches. At the European level, the approach is more mixed. An important takeaway is that even though place-neutral policies may seem indifferent in a geographical sense, their outcomes can have strong regional variations and typically benefit the core regions most, thus reproducing and deepening regional inequalities. Accordingly, increased regional inequalities are not to be understood as resulting from 'natural' development processes alone. Rather, as Meijers put it, 'It's politics, stupid'.

9 Epilogue

9.1 Introduction

Economic geographers have an important role to play in the years to come. Following decades of economic globalization characterized by the narrative of competitiveness and economic growth, we are now facing important global challenges that require a comprehensive understanding of all the elements involved. Climate change will not be solved by technology alone, but it will require insight into the social and economic implications of the energy transition, to name one element. Will all people, firms and regions be able to adapt to the new situation and how can we help? Social and economic inequality is not only an economic feature, it also requires an understanding of inequalities and how inequalities are perceived and reproduced socially. Do people feel represented by the national government? What labour market and social implications will digitalization of production and the provision of services have?

Economic geographers are in an excellent position to contribute to these issues, for two main reasons. Global transitions have local implications and, in the end, are addressed in a bottom-up fashion in the context of the region and on the basis of people's and firms' individual decisions. Economic geography provides the tools to understand such decisions and their implication on multiple spatial scales. Also, economic geography implies an understanding of development and prosperity in a multidimensional way that includes traditional economic outcomes, like GDP, income and innovation, as well as social outcomes, like well-being and environmental values. Such an interdisciplinary view is crucial in successfully addressing the global challenges that lie ahead.

This book has introduced the field of economic geography and presented its heritage, main theories and current thinking, often starting from decisions faced by firms, people and governments. In the previous chapters we addressed theories and approaches related to three central questions:

- Why does a company prefer one location over the other?
- How do companies, people and governments make their decisions?
- To what extent can governments influence companies' location choices and regions' economic development?

This leads to questions on a higher spatial scale:

- Why does one region perform better economically than another?
- How will current trends in globalization and geopolitics influence the distribution of economic activity?
- Is it time to replace traditional economic measures with new measures that take a broader perspective on welfare, and what would this imply for policies?
- What is the role of innovation in socio-economic progress?

We have outlined a large number of concepts, theories and approaches to introduce possible answers to these and other questions. The wide array of theories presented here has shown that in economic geography there is no such thing as a perfect theory or best approach. What type of theory is used depends on what is being studied. Moreover, any research topic can be investigated from any number of theoretical perspectives.

9.2 Economics and geography

The theories and approaches discussed all pertain to the study area where economics and geography meet. This border zone has at times been a no-man's land in the history of both disciplines. This is aptly illustrated by the post-World War Two decline in economic geography at a university as prestigious as Harvard. It is, therefore, all the more striking that it was in Harvard circles that, starting in the mid-1980s, authoritative economists and historians began to put economic geography back at the heart of the academic debate. In this context, we have introduced historian David Landes and economists Michael Porter and Ricardo Hausman. This revival is surprising since the rise of the internet led many to predict the demise of economic geography. The age of discovery seemed to be over and physical distance irrelevant. But this illusion that anything can happen anywhere ('the world is flat') and that regional differentiation will disappear turned out to be based on a misconception.

At the heart of this misconception are people, firms and the natural world. Natural resources are unevenly distributed, and events like the failure of enormous projects in the former Soviet Union (e.g. redirecting rivers in Siberia and the partial drying up of Lake Aral) demonstrate how unwise it is to tamper with nature for the sake of the economy. The ongoing climate change and the questionable state of biodiversity is further proof that we must look beyond economic growth. The relation between nature and economics is tricky and often determined by culture. Some civilizations flourish in a certain environment, others perform less well under the same conditions, affecting economic growth and living standards. Flourishing economies attract more economic activities, generating a self-reinforcing process. Centres of economic activity become economic powerhouses. The best-known example is, of course, Silicon Valley. This iconic birthplace of information and communication technology actually originated in nearby San Francisco and its explosive growth is the result of fierce competition between a great many ICT companies, all located on the same small, confined patch of land. Here again, geography played a role in economic growth.

9.3 Location choice and regional economic growth

There is a clear distinction between location choice and regional economic growth. Location choice has to do with how a business perceives a region's business environment. The relevant aspect of the business environment consists of factors that differ from region to region. This is why we speak of location factors. By contrast, regional economic growth has to do with much more than just location factors. So understanding regional economic growth is much harder than explaining location choice. This is probably why, in economic geography, theories on location choice are more developed than those on regional economic growth. Although their underlying assumptions have been superseded, the classical normative location theories (Von Thünen, Weber and Christaller) are still relevant today. We have illustrated this using examples from professional football, supermarkets and the cardboard industry. Although transport costs are far less dominant now than in Weber's day, they still play a significant role in industries dealing with weight-losing raw materials or ubiquities. This is abundantly clear from the example of the cardboard box industry, where location patterns are still determined by principles formulated by Weber. Equally, Christaller's ideas can still be discerned in the fortunes of professional football clubs and the threat of hospital closures. The locational patterns of some activities in the energy transition follow the same underlying principles as the classic examples described here, for example if widespread solar power adoption makes electricity a near ubiquity.

As Lösch knew, there is no such thing as a one-size-fits-all optimal location. The ideal location for a fully automated automobile factory is not the same as for a factory where automobiles are still largely assembled manually. As large companies generally have a different set of input factors than smaller ones, the optimal location for a major brewery is not the same as for a micro-brewery. Additions and refinements often derive from neoclassical approaches to location theory and behaviouralism also adds its perspectives to the mix.

It should be emphasized that despite imitative behaviour, there are considerable differences between different businesses' strategic policies. Many large companies also regularly adjust their strategies, sometimes forced to by the circumstances. This means the same location can represent different values for different companies. But it also means businesses can come to view a location in a different light. In the 1960s and 70s, Philips could be found in locations all across the Netherlands, most of which have since been abandoned. The fact that in 2023, Philips spin-off ASML represents a much higher value than its parent company also shows the complexity of forecasting the future of companies and sectors.

Given all these theoretical additions and refinements, it is clear that it is impossible to formulate one grand location theory. Every choice is unique. The elements contributing to this unique choice are described in the theories and approaches discussed in this book.

9.4 Regional growth and development

Three central aspects can be distinguished in regional growth theories:

- growth and regional specialization;
- regional convergence or divergence;
- regional collaboration.

All the approaches implicitly or explicitly assume that to achieve growth, regions have to take advantage of their strengths. This implies building on the activities that represent a region's strengths and reinforcing regional specialization. Ricardo's comparative advantage theory and Porter's diamond model are clear examples of this type of approach. It is also evident, albeit implicitly, in Perroux's growth pole theory. In this approach, key businesses create cumulative economic growth in a certain region. Clearly, boosting the economy of a peripheral rural region and of a region such as Greater Amsterdam requires very different types of key businesses. To play this role, businesses must fit in with a region's possibilities, its strengths.

After an initial boom, over-specialization can, however, create problems. Vernon's interpretation of the product life cycle is relevant in this context. A good example is the textile industry in the eastern Dutch region of Twente. Not only can a fall in demand affect a regional economy. Over-specialization can lead a region towards economic and institutional lock-in, resulting in a lack of innovation. Finding the right combination of activities in a region is what smart specialization proposes. This is evident in Nelson and Winter's evolutionary approach, and Jacobs's discussion of cities as centres of innovation is similarly relevant in this context. A prerequisite for innovation is a highly diversified economy, and many regions with a traditionally vibrant economy are still going strong. Throughout the book, we have seen examples of quite stable spatial patterns of economic development, despite changing circumstances. Nelson and Winter's evolutionary approach explains this from a historical perspective as well as in terms of path dependence. In trying to determine whether you are dealing with convergence or divergence, it is important to remain aware of the scale. Relations between countries in Central Africa are played out on a totally different scale than between urban and rural regions in the Netherlands. It is also clear that the state of the environment triggers a new vision of economic growth and that sustainability is becoming increasingly important.

9.5 Innovative and sustainable regions: Evolution of thinking

with Carolina Castaldi, Professor of Economic Geography at Utrecht University

Perspectives on regional development and innovation have evolved over time, including different dominant theories, thematic foci, empirical approaches and key policies. Traditionally, at least since the 1970s, neoclassical economic theories have provided the dominant way of thinking about regional economic development in

general and innovation specifically. In the neoclassical model of economic growth, innovation was the ultimate source of productivity growth. The linear model of R&D-based innovation predicted that regions with higher investment in scientific and technological activities would benefit from stronger economic performance. At the same time, their innovation achievements would also spill over to other regions, via diffusion of people, goods and ideas. In this sense, regional disparities in innovation and economic performance were seen as the price to be paid for overall stronger national performance. Policy efforts have focused on facilitating trade and decreasing mobility barriers (e.g. the infrastructural investments of structural cohesion funds) on the one hand, and channelling investment in R&D, human capital and knowledge production as the overarching innovation policy strategy (e.g. the Lisbon Agenda with its R&D target) on the other.

Table 9.1 Innovative and sustainable regions: Evolution of thinking

Period	Key theory	Thematic focus	Empirical focus	Key policies
Since 1970s	Neoclassical, linear model of innovation and R&D-based growth	Facilitate trade and mobility; Strengthen the knowledge economy	R&D, knowledge intensity, science base, economic growth	Structural funds for cohesion; Lisbon agenda
Since 1990s	Institutional, (regional) innovation systems	Quality of institutions, collaborations	Indicators capturing innovation systems; network analysis of relational data / collaborations; comparitive work	Framework programmes
Since 2000s	Evolutionary, place-based specialization	Strengthen regional specialization	Regional trajectories of related / unrelated diversification; dynamic perspective	EU regional development funds; smart specialization (S3)
Latest developments	Various	Linking regional specialization to societal challenges	Green, social, inclusive, sustainable innovation; well-being indexes	New cohesion policy; S4 strategies; mission-oriented innovation

In the 1990s, several scholars started to question the one-size-fits-all approach typical of neoclassical economic theories and policies (Chapters 1 and 2). Institutional theories (Chapter 6) highlighted the idiosyncratic ways in which countries and regions organized their innovation and economic activities around distinctive innovation systems with specific combinations of strategies, structures and cultures. This un-

derstanding paved the way to the acknowledgement that regions had very different opportunities to start with, as shaped by the difficulty in changing the institutional context. Institutional work also drew attention to the systemic nature of innovation processes, with multiple agents (companies, universities, government, investors, regulators) playing a role. This systemic perspective also came with a new focus on the connections and collaborations between these agents within and between regions. In line with the systemic perspective, new relational data and new methods to analyze these data, including network analysis, emerged. Policy initiatives targeting the generation of economic and knowledge linkages between different types of economic agents also emerged, including the first framework programmes.

This institutional turn was instrumental in drawing attention to key differences between regions and countries, but many of the institutional approaches focused on static analyses of local structures and systems. In the 2000s, scholars from evolutionary economic geography (Chapter 7) claimed that a dynamic perspective was needed, one where regional trajectories of change could be understood as evolutionary processes of learning and development. The evidence was that such trajectories were strongly path- and place-dependent, with history playing a decisive role in shaping current and future opportunities for regions. As such, regions would be expected to further develop in line with existing resources and capabilities, with place-based policies supporting such developments. The most recent example of such an approach is the idea of smart specialization. Instead of seeking specialization in high-potential domains or technologies, regions should develop specializations that align with the opportunities stemming from their available strengths.

More recently, we can see a shift towards regional development that goes beyond achieving economic competitiveness and growth, towards broader measures of well-being (Chapter 8). In this shift, several new theories and policy initiatives are emerging, integrating insights from, for instance, the geography of sustainability transitions.

In the Netherlands, economic geography has always had a strong practical focus, and this book testifies to this. The role of the state in economic planning has changed. In their regional economic policies, the authorities always try to balance meeting the aims of social justice (raising living standards across the board) with being economically effective (concentrating on achievement). Since the 1980s, the Dutch pendulum has swung towards economic effectiveness. Investments in the seaports, connections to the hinterland and the main Randstad cities are key examples of this policy. At the same time, following European-level regional policy, the Dutch authorities stimulate rural economies like those in the north or in the province of Flevoland. For a variety of reasons, there is often a mismatch between the market and the authorities. Nowadays, the branch of economic geography concerned with policy development focuses on creating concepts to reconcile private economic market forces and collective spatial organization. In this respect as well, economic geographers build bridges.

Bibliography

Acs, Z.J., Audretsch, D.B., & Feldman, M.P. (1994). R&D spillovers and recipient firm size. *Review of Economics and Statistics, 76*(2), 336-340.

Akerlof, G. (1970). The market for 'lemons': Quality uncertainty and the market mechanism. *Quarterly Journal of Economics, 84*(3), 488-500.

Alonso, W. (1965). *Location and land use: Towards a general theory of land rent*. Harvard University Press.

Altman, S.A., & Bastian, C.R. (2020). *DHL Global Connectedness Index 2020*. NYU Stern School of Business.

Alvaredo, F., Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2017). *The elephant curve of global inequality and growth*. WID.world WORKING PAPERS SERIES N° 2017/20.

Andersson, M., & Koster, S. (2011). Sources of persistence in regional start-up rates: Evidence from Sweden. *Journal of Economic Geography, 11*(1), 179-201.

Ashworth, G., & Kavaratzis, M. (2009). Beyond the logo: Brand management for cities. *Journal of Brand Management, 16*(8), 520-531.

Ashworth, G.J., & Voogd, H. (1988). Marketing the city: Concepts, processes and Dutch applications. *Town Planning Review, 59*(1), 65-79.

Badir, M., Van Bavel, B., Hardeman S., & Rijpma, A. (2017) *Brede welvaartsindicator 2017. Brede welvaart in Nederland: nationaal en regionaal.* Universiteit Utrecht and Rabobank.

Barca, F. (2009, April 30). *An agenda for a reformed cohesion policy: A place-based approach to meeting European Union challenges and expectations*. Retrieved from https://ec.europa.eu/migrant-integration/library-document/agenda-reformed-cohesion-policy-place-based-approach-meeting-european-union_en

Bathelt, H., & Glückler, J. (2002). *Wirtschaftsgeographie*. Eugen Ulmer.

Boisen, M., Terlouw, K., Groote, P., & Couwenberg, O. (2018). Reframing place promotion, place marketing, and place branding: Moving beyond conceptual confusion. *Cities, 80*, 4-11.

Borchert, J. (1995). Retail planning policy in the Netherlands. In R.L. Davies (Ed.), *Retail planning policies in Western Europe* (pp. 160-181). Routledge.

Boschma, R.A. (1997). New industries and windows of locational opportunity: A long-term analysis of Belgium. *Erdkunde, 51*(1), 12-22.

Boschma, R.A. (2005). Role of proximity in interaction and performance: Conceptual and empirical challenges. *Regional Studies, 39*(1), 41-45.

Boschma, R.A., & Balland, P.A. (2022, July 14). Nieuwe methode brengt kansen op regionale vernieuwing in beeld. *ESB, 107*(4811S), 68-73.

Boschma, R., & Frenken, K. (2011). The emerging empirics of evolutionary economic geography. *Journal of Economic Geography, 11*(2), 295-307.

Boschma, R.A., Frenken, K., & Lambooy, J. (2002). *Evolutionaire economie: Een inleiding*. Coutinho.

Brakman, S. (2004). *Van oude en nieuwe globalisering* (inaugural speech). Rijksuniversiteit Groningen.

Brakman, S. (2021, September 16). Handel en politiek gaan niet samen. *ESB, 106*(4801), 419.

Brakman, S., Garretsen, H., & Van Marrewijk, C. (2006). Comparative advantage, cross-border mergers and merger waves: International economics meets industrial organization. *CESifo Forum, 7*(1), 22-26.

Brakman, S., Garretsen, H., & Van Marrewijk, C. (2009). *An introduction to geographical economics*. Cambridge University Press.

Brenner, T. (2004). *Local industrial clusters: Existence, emergence and evolution*. Routledge.

Bristow, G. (2005). Everyone's a 'winner': Problematizing the discourse of regional competitiveness. *Journal of Economic Geography, 5*(3), 285-304.

Brosnan, S.F., & De Waal, F.B. (2014). Evolution of responses to (un)fairness. *Science, 346*(6207), 1251776.

Brown, L.M., Hanafi, A., & Petsonk, A. (2012). *The EU Emissions Trading System: Results and lessons learned*. Environmental Defense Fund.

Butler, R.W. (1980). The concept of a tourist area cycle of evolution: Implications for management of resources. *Canadian Geographer, 24*(1), 5-12.

Castells, M. (2000). *The information age: Economy, society and culture, Vol. 1: The rise of the network society* (2nd ed.). Blackwell.

Christaller, W. (1933). *Die zentralen Orte in Süddeutschland: Eine ökonomisch-geographische Untersuchung über die Gesetzmäßigkeit der Verbreitung und die Entwicklung der Siedlungen mit städtischen Funktionen*. Gustav Fischer.

Churchill Semple, E. (1911). *Influences of geographic environment*. Bibliobazaar.

Coase, R.H. (1937). The nature of the firm. *Economica, 4*(16), 386-405.

Crevoisier, O. (1999). Two ways to look at learning regions in the context of globalization: The homogenizing and particularizing approaches. *Geojournal, 49*(4), 353-361.

Cukier, K. (2019, June 28). Globalisation is dead and we need to invent a new world order. *The Economist*. Retrieved from https://www.economist.com/open-future/2019/06/28/globalisation-is-dead-and-we-need-to-invent-a-new-world-order

Cushman & Wakefield (2019) *Main Streets Across the World 2019*. Author.

Cushman & Wakefield (2011, October). *European Cities Monitor 2011* (and later editions). Author.

De Groot, H.L.F., Poot, J., & Smit, M.J. (2007). *Agglomeration, innovation and regional development: Theoretical perspectives and meta-analysis* (Tinbergen Institute Discussion Paper no. 07-079/3). Tinbergen Institute.

De Groot, H.L., Poot, J., & Smit, M.J. (2016). Which agglomeration externalities matter most and why? *Journal of Economic Surveys, 30*(4), 756-782.

De Jong, H.W. (1985). *Dynamische markttheorie* (3rd ed.). Stenfert Kroese.

De Jong, H.W. (1996). *Dynamische markttheorie* (4th ed.). Edclusa.

De Jong, M.W. (1987). *New economic activities and regional dynamics* (dissertation Universiteit van Amsterdam). Koninklijk Nederlands Aardrijkskundig Genootschap.

De Smidt, M. (1975). *Bedrijfsstructuur en arbeidsmarkt in een ruimtelijk kader, met een toepassing op de Drechtstreek en het Noord-Merwedegebied* (dissertation). Rijksuniversiteit Utrecht.

Dejonghe, T. (2004). Restructuring the Belgian professional football league: A location-allocation solution. *Tijdschrift voor Economische en Sociale Geografie, 95*(1), 73-88.

Dejonghe, T., Van Hoof, S., & Kemmeren, T. (2006). *Voetballen in de kleine ruimte: Een onderzoek naar de geografische marktgebieden en ruimtelijke uitbreidingsmogelijkheden voor de clubs in het Nederlandse betaald voetbal*. Arko Sports Media.

Dicken, P. (2011). *Global shift: Mapping the contours of the world economy* (6th ed.). Sage Publications.

Dietvorst, A.G.J., & Dinteren, J.H.J. (1984). *Marktbezoek als vrijetijdsbesteding*. Katholieke Universiteit Nijmegen, Geografisch en Planologisch Instituut.

Dorling, D. (2020). *Slowdown: The end of the great acceleration – and why it's good for the planet, the economy, and our lives*. Yale University Press.

Dunning, J.H. (1988). The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies, 19*, 1-31.

Dunning, J.H. (2000). The eclectic paradigm as an envelope for economic and business theories of MNE activity. *International Business Review, 9*(2), 163-190.

Egenhofer, C., Marcu, A., & Georgiev, A. (2012). *Reviewing the EU ETS Review?* Centre for European Policy Studies (CEPS).

Ehrlich, P.R. (1968). *The population bomb*. Ballantine Books.

ESB (2019, April 11). Inzicht in welvaart. *ESB, 104*(4772S), 26-27.

Feenstra, R.C. (1998). Integration of trade and disintegration of production in the global economy. *Journal of Economic Perspectives, 12*(4), 31-50.

Flaaen, A., Hortaçsu, A., & Tintelnot, F. (2020). The production relocation and price effects of US trade policy: The case of washing machines. *American Economic Review, 110*(7), 2103-2127.

Florida, R. (2002). *The rise of the creative class*. Basic Books.

Florida, R. (2017). *The new urban crisis: Gentrification, housing bubbles, growing inequality, and what we can do about it*. Oneworld Publications.

Foray, D. (2015). *Smart specialisation: Opportunities and challenges for regional innovation policy*. Routledge & Regional Studies Association.

Friedman, T.L. (2005). *The world is flat: The globalized world in the twenty-first century*. Penguin.

Fukuyama, F. (1992). *The end of history and the last man*. Penguin.

Fukuyama, F. (2011). *The origins of political order: From prehuman times to the French Revolution*. Profile Books.

Fukuyama, F. (2018). *Identity: The demand for dignity and the politics of resentment*. Profile Books.

Garelli, S. (2011). Introduction. In *IMD World Competitiveness Yearbook 2011*. Institute for Management Development.

Ghemawat, P. (2001). Distance still matters: The hard reality of global expansion. *Harvard Business Review, 79*(8), 137-147.

Ghemawat, P. (2011). *World 3.0: Global prosperity and how to achieve it*. Harvard Business School Publishing.

Glaeser, E. (2011). *Triumph of the city*. The Free Press.

Glaeser, E.L., Kallal, H.D., Scheinkman, J.A., & Shleifer, A. (1992). Growth in cities. *Journal of Political Economy, 100*(6), 1126-1152.

Grabher, G. (1993). *The embedded firm: On the socioeconomics of industrial networks*. Routledge.

Graeber, D. (2018). *Bullshit jobs: The rise of pointless work, and what we can do about it*. Penguin.

Groenewegen, J. (2012, January 27). Fuji keek vooruit en won dus wel. *NRC Handelsblad*.

Håkanson, L. (1979). Towards a theory of location and corporate growth. In F. Hamilton & G. Linge (Eds.), *Spatial analysis, industry and industrial environment* (pp. 115-138). Wiley.

Hardin, G. (1968). Tragedy of the commons. *Science, 162*(1968), 1243-1248.

Hausmann, R. (2001). Prisoners of geography. *Foreign Policy, 122*, 44-53.

Heebels, B., & Boschma, R. (2011). Performing in Dutch book publishing 1880-2008: The importance of entrepreneurial experience and the Amsterdam cluster. *Journal of Economic Geography, 11*(6), 1007-1029.

Heijman, W.J.M. (2002). *Regionale economie: Van vestigingsplaatstheorie naar regionale ontwikkeling*. Eburon.

Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J.-E., Aknin, L. B., & Wang, S. (Eds.). (2023). *World Happiness Report 2023*. Sustainable Development Solutions Network.

Hickel, J. (2021). *Less is more: How degrowth will save the world*. Windmill Books.

Hirshleifer, J. (1985). The expanding domain of economics. *American Economic Review, 75*(6), 53-56.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations* (2nd ed.). Sage Publications.

Hofstede, G., Hofstede, G.J., & Minkov, M. (2011). *Allemaal andersdenkenden: Omgaan met cultuurverschillen* (3rd ed.). Atlas Contact.

Hoover, E., & Vernon, R. (1959). *Anatomy of a metropolis: The changing distribution of people and jobs within the New York Metropolitan Region*. Harvard University Press.

Hospers, G.J. (2009). *Een kleine geografie van het geluk* (inaugural speech). Radboud Universiteit.

Hotelling, H. (1929). Stability in competition. *The Economic Journal, 39*, 52-79.

Hu, J., Crijns-Graus, W., Lam, L., & Gilbert, A. (2015). Ex-ante evaluation of EU ETS during 2013-2030: EU-internal abatement. *Energy Policy, 77*, 152-163.

Huntington, E. (1915). *Civilization and climate*. Yale University Press.

Institute for Management Development (2011). *IMD World Competitiveness Yearbook 2011*. Author.

Jacobs, J. (1961). *The death and life of great American cities*. Random House.

Janssen, R. (2011, October 7). Blunderen ten tijde van crisis. *NRC Handelsblad*.

Jones, S. (2022, October 31). Guggenheim effect: How the museum helped transform Bilbao. *The Guardian*. Retrieved from https://www.theguardian.com/world/2022/oct/31/guggenheim-effect-how-the-museum-helped-transform-bilbao

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263-291.

Kantar Public (2022, October 13). *Imago Monitor Groningen*. Retrieved from https://www.nationaalprogrammagroningen.nl/app/uploads/2023/01/Imagomonitor-2022_Rapportage-Het-Imago-van-Groningen-NL.pdf

Kavaratzis, M., & Ashworth, G.J. (2005). City branding: An effective assertion of identity or a transitory marketing trick? *Tijdschrift voor Economische en Sociale Geografie, 96*(5), 506-514.

Kettner, C., Kletzan-Slamanig, D., Köppl, A., Schinko, T., & Türk, A. (2011). *ETCLIP – The Challenge of the European Carbon Market: Emission Trading, Carbon Leakage and Instruments to Stabilise the CO_2 Price: Price volatility in carbon markets: Why it matters and how it can be managed* (WIFO Working Paper 409). Österreichisches Institut für Wirtschaftsforschung.

Keuning, H.J. (1969). *De denkwijze van de sociaal-geograaf*. Aula.

Kinkel, S., & Maloca, S. (2009). Drivers and antecedents of manufacturing off-shoring and backshoring: A German perspective. *Journal of Purchasing and Supply Management, 15*(3), 154-165.

Klepper, S. (2007). Disagreements, spinoffs and the evolution of Detroit as the capital of the U.S. automobile industry. *Management Science, 53*(4), 616-631.

Klepper, S., & Simons, K.L. (1997). Technological extinctions of industrial firms: An inquiry into their nature and causes. *Industrial and Corporate Change, 6*(2), 379-460.

Kloosterman, R.C. (2001). *Ruimte voor reflectie* (inaugural speech). Universiteit van Amsterdam.

Koster, S. (2006). *Whose child? How existing firms foster new firm formation: Individual start-ups, spin-outs and spin-offs* (dissertation Rijksuniversiteit Groningen). Ipskamp.

Koster, S., & Hans, L. (2017). History repeating! Spatial dynamics in Dutch start-up rates (1996-2013). *Tijdschrift voor Economische en Sociale Geografie, 108*(2), 250-257.

Koster, S., & Kamminga, O. (2022). *Fryslân als vestigingsplaats: De voorkeuren van ondernemers van 1983 tot 2021*. Rijksuniversiteit Groningen, Faculteit Ruimtelijke Wetenschappen.

Kotler, P. (1995). *Marketing for nonprofit organizations* (5th ed.). Prentice-Hall.

Kotler, P., Haider, D., & Rein, I. (1993). *Marketing places*. The Free Press.

Krugman, P. (1991). *Geography and trade*. The MIT Press.

Krumme, G. (1969). Towards a geography of enterprise. *Economic Geography, 45*(1), 30-40.

Lakner, C., & Milanovic, B. (2013). *Global income distribution: From the fall of the Berlin Wall to the Great Recession* (Policy Research Working Paper no. 6719). The World Bank.

Landes, D.S. (2007). *The wealth and poverty of nations*. Abacus.

Leamer, E., & Storper, M. (2001). The economic geography of the internet age. *Journal of International Business Studies, 32*(4), 641-665.

Leone, R.A., & Struyk, R. (1976). The incubator hypothesis: Evidence from five SMSAs. *Urban Studies, 13*(3), 325-331.

Levin, I.P., Schreiber, J., Lauriola, M., & Gaeth, G.J. (2002). A tale of two pizzas: Building up from a basic product versus scaling down from a fully-loaded product. *Marketing Letters, 13*(4), 335-344.

Levitt, T. (1983, May). The globalization of markets. *Harvard Business Review*, 92-102.

Lewis, M. (2017). *Flash boys: A Wall Street revolt*. Carrera.

Lösch, A. (1954). *The economics of location* (2nd, revised ed.). Yale University Press.

Lowe, M., & Wrigley, N. (1996). Towards the new retail geography. In N. Wrigley & M. Lowe (Eds.), *Retailing, consumption and capital: Towards the new retail geography*. Longman.

MacKinnon, D., & Cumbers, A. (2007). *An introduction to economic geography: Globalization, uneven development and place*. Pearson Education.

Manshanden, W.J.J. (1996). *Zakelijke diensten en regionaal-economische ontwikkeling: De economie van nabijheid* (dissertation). Universiteit van Amsterdam.

Markoff, J. (2009, April 16). Searching for Silicon Valley. *The New York Times*. Retrieved May 22, 2023 from https://www.nytimes.com/2009/04/17/travel/escapes/17Amer.html

Marlet, G. (2009). *De aantrekkelijke stad* (dissertation Universiteit Utrecht). VOC.

Marshall, A. (1920). *Principles of economics: An introductory volume*. Macmillan.

Martin, R. (1999). The new 'geographical turn' in economics. *Cambridge Journal of Economics, 23*(1), 63-91.

Mazzucato, M. (2018). *The value of everything: Making and taking in the global economy*. Random House.

Mazzucato, M. (2021). *Mission economy: A moonshot guide to changing capitalism*. Penguin.

McNee, R.B. (1960). Toward a more humanistic economic geography: The geography of enterprise. *Tijdschrift voor Economische en Sociale Geografie, 51*, 201-205.

Meester, W.J. (1999). *Subjectieve waardering van vestigingsplaatsen door ondernemers* (dissertation). Rijksuniversiteit Groningen.

Meester, W.J., & Pellenbarg, P.H. (2006). The spatial preference map of Dutch entrepreneurs: Subjective rating of locations, 1983, 1993 and 2003. *Tijdschrift voor Economische en Sociale Geografie, 97*(4), 364-376.

Meijers, E. (2022). It's the ~~economy~~ politics, stupid: Het Rijk en de spreiding van welvaart over het land. In *Brede welvaart, grote opgaven! Over de bestuurlijke en financiële vraagstukken rond regionale verschillen in brede welvaart en regionale opgaven* (pp. 35-48). Raad voor het Openbaar Bestuur.

Meyer, E. (2014). *The culture map: Breaking through the invisible boundaries of global business*. PublicAffairs.

Mill, J.S. (2004 [1848]). *Principles of political economy*. Prometheus Books.

Morgan, K. (2015). Smart specialisation: Opportunities and challenges for regional innovation policy. *Regional Studies*, 49(3), 480-482.

Morkutė, G., & Koster, S. (2018). Human capital as a location factor: An empirical investigation of relocating firms and their labour force in the Netherlands. *Papers in Regional Science, 97*(3), 595-616.

Myrdal, G. (1957). *Economic theory and underdeveloped regions*. Duckworth.

Neffke, F., Henning, M., & Boschma, R. (2011). How do regions diversify over time? Industry relatedness and the development of new growth paths in regions. *Economic Geography, 87*(3), 237-265.

Nelson, R.L. (1958). *The selection of retail locations*. Dodge.

Nelson, R.R., & Winter, S.G. (1982). *An evolutionary theory of economic change*. Harvard University Press.

Nooteboom, B. (1994). *Management van partnership: In toeleveren en uitbesteden*. Academic Service.

North, D.C. (1989). Institutions and economic growth: An historical introduction. *World Development, 17*(9), 1319-1332.

North, D.C. (1991). Institutions. *Journal of Economic Perspectives, 5*(1) 97-112.

Nussbaum, M. (2011). *Creating capabilities: The human development approach*. The Belknap Press of Harvard University Press.

O'Brien, R. (1992). *Financial integration: The end of geography*. Royal Institute of International Affairs.

Ohmae, K. (1995). *The end of the nation state: The rise of regional economies*. Simon & Schuster.

Organization for Economic Corporation and Development (OECD) (2011). *Housing and the economy: Policies for renovation*. Author.

Ortiz-Ospina, E., Beltekian, D., & Roser, M. (2018). *Trade and Globalization*. Published online at OurWorldInData.org. Retrieved from: https://ourworldindata.org/trade-and-globalization

Parker, P. (2000). *Physioeconomics: The basis for long-run economic growth*. The MIT Press.

Pellenbarg, P.H., & Meester, W.J. (2005). *Regional marketing to change regional images: The example of the Groningen campaign*. Paper presented at the Academy of Marketing Conference, Dublin, 5-8 July 2005.

Pellenbarg, P.H., & Van Steen, P.J. (2003). Spatial perspectives on firm dynamics in the Netherlands. *Tijdschrift voor Economische en Sociale Geografie, 94*(5), 620-630.

Pen, C.J. (2002). *Wat beweegt bedrijven? Besluitvormingsprocessen bij verplaatste bedrijven*. Koninklijk Nederlands Aardrijkskundig Genootschap & Rijksuniversiteit Groningen, Faculteit der Ruimtelijke Wetenschappen.

Perroux, F. (1950). Economic space: Theory and applications. *The Quarterly Journal of Economics, 64*(1), 89-104.

Piketty, T. (2014). *Capital in the twenty-first century*. The Belknap Press of Harvard University Press.

Porter, M. (1990). *The competitive advantage of nations*. The Free Press.

Pred, A.R. (1967). *Behavior and location: Foundations for a geographic and dynamic location theory (Part I & Part II)*. Royal University of Lund.

Raspe, O., & Stam, E. (2019, April 11). Brede welvaart in de regio verdient aandacht. *ESB, 104*(4772S), 83-85.

Rawls, J. (1971). *A theory of justice* (rev. ed.). The Belknap Press of Harvard University Press.

Raworth, K. (2017). *Doughnut economics: Seven ways to think like a 21st-century economist*. Chelsea Green Publishing.

Ricardo, D. (1817). *On the principles of political economy and taxation*. Retrieved from www.econlib.org/library/Ricardo/ricP.html

Rodrigue, J.-P. (2020). *The geography of transport systems*. https://transportgeography.org

Rodrigue, J.-P., Comtois, C., & Slack, B. (2017). *The geography of transport systems* (4th ed). Routledge.

Rodríguez-Pose, A. (2017). The revenge of the places that don't matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society, 11*(1), 189-209.

Rodríguez-Pose, A., & Di Cataldo, M. (2015). Quality of government and innovative performance in the regions of Europe. *Journal of Economic Geography, 15*(4), 673-706.

Rodrik, D. (2011). *The globalization paradox: Democracy and the future of the world economy*. Norton.

Rugman, A.M. (2005). Rethinking international management theory in a world of regional multinationals. In A. Verbeke (Ed.), *Internalization, international diversification and the multinational enterprise: Essays in honor of Alan M. Rugman* (pp. 165-202). Emerald Group Publishing.

Scott, A.J. (1988). Flexible production systems and regional development: The rise of new industrial spaces in North America and Western Europe. *International Journal of Urban & Regional Research, 12*(2), 171-186.

Sen, A. (1999). *Development as freedom*. Anchor Books.

Sheikh, H. (2021, September 16). Aanbevelingen voor een geo-economische wereld. *ESB, 106*(4801), 407-409.

Sills, E.O., & Caviglia-Harris, J.L. (2009). Evolution of the Amazonian frontier: Land values in Rondônia, Brazil. *Land Use Policy, 26*(1), 55-67.

Simon, H.A. (1993). Altruism and economics. *American Economic Review, 83*(2), 156-161.
Singer, P. (2006). *One world now: The ethics of globalization*. Yale University Press.
Smith, A. (1776). *The Wealth of Nations*. Retrieved from http://www.online-literature.com/adam_smith/wealth_nations
Smith, A. (1904). *An Inquiry into the Nature and Causes of the Wealth of Nations*, *Vol. 1* (edited with an introduction, notes, marginal summary and an enlarged index by Edwin Cannan). Methuen.
Smith, D.M. (1966). A theoretical framework for geographical studies of industrial location. *Economic Geography, 42*(2), 95-113.
Son, J. (2023, February 14). Selling your Seoul: Why city slogans keep changing. *The Korea Herald*. Retrieved from https://www.koreaherald.com/view.php?ud=20230214000776
Spierings, B.H.A. (2006). *Cities, consumption and competition: The image of consumerism and the making of city centres* (dissertation). Radboud Universiteit.
Stec (2001). *Logica in locatiepatronen*. Stec Groep.
Stec (2020). *Logica in locatiepatronen: 20 jaar monitoring locatiedynamiek bedrijven*. Stec Groep.
Stiglitz, J. (2015). *The great divide*. Penguin.
Storper, M. (1997). *The regional world: Territorial development in a global economy*. Routledge.
Storper, M., & Walker, R. (1989). *The capitalist imperative: Territory, technology and industrial growth*. Basil Blackwell.
Taylor, P. (2001). Urban hinterworlds: Geographies of corporate service provision under conditions of contemporary globalization. *Geography, 86*(1), 51-60.
Timmer, M.P., Erumban, A.A., Los, B., Stehrer, R., & De Vries, G.J. (2014). Slicing up global value chains. *Journal of Economic Perspectives, 28*(2), 99-118.
Tordoir, P. (2001). *Marktwerking en ruimtelijke organisatie: Catch-22 of creatieve spanning?* (inaugural speech). Vossiuspers UvA.
Transparency International (multiple years), *Corruption Perceptions Index*. Retrieved from https://www.transparency.org
UNCTAD (United Nations Conference on Trade and Development) (2022). *World Investment Report 2022: International Tax Reforms and Sustainable I6.5nvestment*.
UNDP (United Nations Development Programme) (2016). *Human Development Report 2016: Human Development for Everyone*.
UNIDO (United Nations Industrial Development Organization) (2012). *The UNIDO cluster/Network Development Programme: The Italian Experience of Industrial Districts*. Retrieved from www.unido.org
Vaitheeswaran, V. (2019, July 11). Supply chains are undergoing a dramatic transformation. *The Economist*. Retrieved from https://www.economist.com/special-report/2019/07/11/supply-chains-are-undergoing-a-dramatic-transformation
Van Aalst, I., Atzema, O., Boschma, R., Heinz, F., & Van Oort, F. (2005, June 21). *Creatieve klasse en regionaal-economische groei*. Ministerie van Onderwijs, Cultuur en Welzijn & Ministerie van Economische Zaken.
Van Barschot, J. (2003, February 18). Een doos mag nooit duur zijn. *NRC Handelsblad*.
Van Bavel, B., Hardeman, S., & Rijpma, A. (2019, April 11). Vervolgstappen voor integrale welvaartsmeting. *ESB*, *104*(4772S), 22-25.
Van Dalen, H.P., & Van Duren, A.P. (2003). Hoe groot is de transactiesector? *ESB, 88*(4412), D9-D10.
Van Damme, E.E.C. (2003). Intermediair: Mens of markt? *ESB,* 88(4412), D13-D15.
Van Driessche, W. (2010, February 13). Het yin en yang van de vrije markt. *De Tijd*, p. 39.
Van Duren, A.J. (1995). *De dynamiek van het constante: Over de flexibiliteit van de Amsterdamse binnenstad als economische plaats* (dissertation Universiteit van Amsterdam). Van Arkel.
Van Es, G. (2011, June 21). 'Wij profiteren van opkomst China'. *NRC Handelsblad*. Retrieved May 22, 2023 from https://www.nrc.nl/nieuws/2011/06/21/wij-profiteren-van-opkomst-china-12022050-a3842244
Van Hoof, S. (2012). Meten om te weten. *Geografie, 21*(1), 32-35.

Van Oort, F. (2002). *Agglomeration, economic growth and innovation: Spatial analysis of growth- and R&D externalities in the Netherlands* (dissertation). Erasmus Universiteit Rotterdam.

Van Oort, F., Ponds, R., Van Vliet, J., Van Amsterdam, H., Declerck, S., Knoben, J., Pellenbarg, P., & Weltevreden, J. (2007). *Verhuizingen van bedrijven en groei van werkgelegenheid*. NAi Uitgevers & Ruimtelijk Planbureau.

Van Zanden, J. L., & Rijpma, A. (2019, April 11). Welbevinden blijft de laatste decennia achter bij economische groei. *ESB, 104*(4772S), 57-61.

Vernon, R. (1966). International investment and international trade in the product cycle. *The Quarterly Journal of Economics, 80*(2), 190-207.

Visscher, M., & Bodelier R. (2017). *Ecomodernisme: Het nieuwe denken over groen en groei*. Nieuw Amsterdam.

Wall, R.S., Burger, M.J., & Van der Knaap, G.A. (2011). The geography of global corporate networks: The poor, the rich, and the happy few countries. *Environment and Planning A, 43*(4), 904-927.

Wall, R.S., & Van der Knaap, G.A. (2011). Sectoral differentiation and network structure within contemporary worldwide corporate networks. *Economic Geography, 87*(3), 267-308.

Wesseling, H.L. (1994, April 2). VNO-sprookje. *NRC Handelsblad*. Retrieved May 22, 2023 from https://www.nrc.nl/nieuws/1994/04/02/vno-sprookje-7219774-a766325?t=1683634425

Williams, D. (1995, October 17). Driven by small firms, Italy's economy thrives: Northern manufactures beat the odds. *The Washington Post*, p. A31.

Williamson, O.E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. The Free Press.

Wintjens, R.J.M. (2001). *Regionaal-economische effecten van buitenlandse bedrijven: Een onderzoek naar verankering van Amerikaanse en Japanse bedrijven in Nederlandse regio's* (dissertation Universiteit Utrecht, Faculteit Ruimtelijke Wetenschappen). Koninklijk Nederlands Aardrijkskundig Genootschap.

Wolpert, J. (1963). *Decision-making in Middle Sweden's farming: A spatial, behavioral analysis*. University of Wisconsin.

World Bank (2020). *World Development Report 2020: Trading for development in the age of global value chains*. Author.

World Bank (2009). *World Development Report 2009: Reshaping economic geography*. Author.

World Commission on Environment and Development (WCED) (1987). *Our common future*. Retrieved May 23, 2023 from https://sustainabledevelopment.un.org/content/documents/59870ur-common-future.pdf

Yankow, J.J. (2006). Why do cities pay more? An empirical examination of some competing theories of the urban wage premium. *Journal of Urban Economics, 60*(2), 139-161.

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