The polycentric metropolis unpacked: concepts, trends and policy in the Randstad Holland

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Chapter 4

Between Accumulation and Concentration of Capital: Toward a Framework for Comparing Long-term Trajectories of Urban Systems

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It has been slightly edited to fit the format of this book.

Abstract

In this article, we first seek to develop a more general framework to understand differences in long-term trajectories of urban systems. We use a model that has two dimensions: the level of accumulation of capital and the level of concentration of capital. We then use the model, very much in a heuristic way, to see what insights can be gained when applied to the concrete cases of the urban systems of London and the Dutch Randstad. As the data, especially for the pre-industrial and the industrial era, are still very scarce, this mapping of the long-term trajectories is still highly conjectural. What emerges quite clearly from this novel way of looking at urban development trajectories, though, is the divergence between the two global city regions. This divergence can be explained by the differences in the (pre-industrial) points of departure between London and the Randstad, but also by the difference of insertion in the global economy. A more detailed analysis of the Randstad in the post-industrial era shows that changes in the level of concentration of capital are clearly scale-sensitive; within the Randstad a clear tendency toward deconcentration while relative to the country as a whole the Randstad has maintained its position. [Key words: Comparative research, global city region, path dependency, agglomeration economies, polycentric, post-industrial transition, Randstad, London.]
4.1 Introduction

Around the globe, there seems to be a convergence of urban systems. Hitherto disparate cities seem to be coalescing into larger regional urban configurations or, more precisely, “global city-regions” – a process that can be observed in both developed and developing countries (cf. Scott, 1998; Scott et al., 2001; Phelps and Ozawa, 2003). These global city-regions are becoming the core components of ever more complex and extensive global networks of social, economic, and informational exchange. As regulatory changes and rapidly falling costs of transport and communication have helped to greatly expand the spatial arenas of both production and consumption, global city-regions have become key in generating, channelling, and receiving cross-border flows of capital, goods and services, information, and people. Global city-region formation can be seen, hence, as the concrete, local spatial articulation of processes of more general technological, economic, and regulatory change.

However, notwithstanding this apparent overarching converging trend, there are also marked differences between these global city-regions. In their introduction to *Global City Regions*, Scott et al. (2001, p. 11) already observe that global city-regions “… range from familiar metropolitan agglomerations dominated by a strongly developed core such as the London region or Mexico City, to more polycentric geographic units as in the case of the Randstad or Emilia-Romagna.” Such differences were recently explored in more detail by Hall and others who studied and mapped the functional and relational characteristics of eight polycentric “mega-city regions” in Europe (Hall and Pain, 2006). One of the insights this study yielded has been that the particular historical trajectories of these regions matter. History matters not only regarding the specific spatial layouts of these “mega-city regions,” but also with respect to their internal functioning, their role in their national economies, and the planning challenges they are facing (Lambregts, 2006).

In this article, we seek to sketch the outlines of a more general analytical framework that may help us to explore differences in long-term trajectories of urban systems in a more systematic way. This framework is largely derived from Tilly’s (1992) impressive study *Coercion, Capital, and European States, AD 990–1992*. It characterizes urban systems on the basis of two dimensions: the level of concentration of capital and the level of accumulation of capital. The former represents the extent to which a nation’s capital stock is concentrated in the urban system concerned. The latter refers to the quantity of capital that is accumulated in the national economy in question relative to other national economies. The framework enables us to position urban systems from different countries relative to each other and to trace – albeit sketchily – their particular path of evolution through time. Its strength is that it directs our attention to the importance of path-dependency as a key explanatory factor in the comparative study of cities and urban systems. Notwithstanding the fact that many urban systems are affected by roughly similar processes of economic restructuring and changes in the
way forces of concentration and deconcentration interplay, their shapes and, to a
certain extent, their destinies are still significantly affected by how they were
shaped and how they related to their national economies centuries ago. We argue
that this even applies to one of the most influential factors determining the status
and dynamics of global city-regions in our time – that is, the way in which they
are inserted in the global economy (cf. Taylor, 2004).

The proposed framework for long-term comparisons of urban systems is
still rather hypothetical. Long-term comparative analyses of urban systems are
relatively scarce because of data problems, but also because of the absence of
suitable analytical framework. Given the importance of path-dependent trajecto-
ries, there is clearly a challenge to devise such frameworks. Our endeavour here
is still very much in its heuristic phase and the challenge for the years to come is
to investigate concrete cases in a more systematic empirical way. In this paper,
we use the cases of London and the Dutch Randstad for a first exploration of
the heuristic capabilities of the framework. In the second part, we explore the
model more in-depth by using more detailed information on the Dutch Rand-
stad.

In section 4.2, we present the analytical framework and subsequently use
it to describe the long-term trajectories of two contrasting cases of urban sys-
tems, namely the monocentric urban system of London in the United Kingdom
(with a relatively high concentration of capital) and the polycentric urban system
of the Randstad in the Netherlands (with a relatively low concentration of capi-
tal). The time span covered runs from the pre-industrial through the industrial to
the post-industrial (i.e., from 1500 to the present). We then focus on the transi-
tion from the industrial to the post-industrial (section 4.3), and analyze the ac-
companying shifts in underlying agglomeration economies. In section 4.4, we
investigate the consequences of these shifts in agglomeration economies empiri-
cally by looking at the levels of concentration and accumulation of capital in the
Randstad more in detail. In section 4.5, we summarize our findings and evaluate
our approach on a more general level.

4.2 Accumulation and concentration of capital: the long-term view

In his acclaimed television series on London, Peter Ackroyd showed how, de-
spite all kinds of changes, parts of the medieval and even Roman street patterns
can still be discerned in the contemporary city (e.g., Ackroyd, 2000). To put it
more generally, urban morphologies are very tenacious. Once in place, they tend
to be hard to change. They can be modified, streets can be broadened, new
buildings can be erected, but the weight of history is always there. When Hugo
Capet, Comte de Paris, became the French king in 987, he decided to make Paris
the capital of France. More than a thousand years later, Paris is not only still the
unchallenged political, economic, and cultural capital of France, but also the
most important node for high-speed trains that links Paris with other European
capitals. The inertia of the built environment is instrumental in giving cities and,
moreover, urban systems connected by infrastructural links their robustness (cf. Le Galès, 2002). Cities and urban systems mostly adapt to changes by adding new layers to the existing outlay: for instance, building a new ring adjacent to the existing city or inserting a new highway or high-speed railway track. Only rarely do we see a more fundamental break, often provoked by an exogenous crisis, as for instance in the case of the move of the German capital from Berlin to Bonn and then back again.

The phenomenon whereby more or less contingent events in the past still significantly influence our room for decisions is known as path dependency (Mahoney, 2000; Pierson, 2000). Path-dependent trajectories are not limited to the built environment exclusively as institutional frameworks can also be characterized by high set-up costs, learning effects, mutually adaptive expectations, and coordination effects. These last three factors are particularly relevant when one looks at social structures. Planning traditions, being institutions themselves, are also subject to path-dependent effects (Needham, 2006). The Dutch planning tradition, rooted in an outspoken modernist and statist view of the world, is a good example of such socio-institutional path dependency and, as the built environment itself, both enables and constrains new spatial interventions in specific ways (Van der Wusten and Faludi, 1992).

In his masterly analysis of long-term processes of state formation in Europe, Coercion and Capital and European States, AD 990–1992, the historian Charles Tilly (1992) shows how such path-dependent trajectories stretching over centuries can be analyzed in a meaningful way. He demonstrates that using rather simple models can generate penetrating, general insights in patterns of social change. To construct his overarching argument on state formation, Tilly (1992) also looks at the mechanisms that produce cities and urban systems. In his account, a central role is set aside for processes of accumulation and concentration of capital: “[w]hen capital both accumulates and concentrates within a territory, urban growth tends to occur throughout the same territory – more intensely at the greatest point of concentration, and secondarily elsewhere” (Tilly, 1992, p. 17). Fuelling the accumulation and concentration of capital and thus the formation and growth of cities are primarily the activities of the “manipulators of capital” (e.g., the merchants, entrepreneurs, financiers, and all others who are involved in the accumulation, trading, and handling of capital including state agencies). Especially in earlier days, trade, warehousing, banking, and production that depended closely on any of these benefitted from proximity. And also households, for as far as their survival hinged on “the presence of capital through employment, investment, redistribution or any other strong link” (Tilly, 1992, p. 17), would in many cases follow concentrations of capital. Different territories, however, would produce different urban systems, depending on the balance between concentration and accumulation. In general, where capital accumulation occurred, but concentration remained relatively low, many smaller centres would develop (e.g., Flanders, the Netherlands, Northern Italy). Where, in contrast, a single concentration of capital would emerge, a territory’s urban
population would mainly concentrate around that centre as happened in England (London) and France (Paris). Where accumulation and concentration would occur in tandem, a Christallerian hierarchy from small to large centres would tend to evolve (Tilly, 1992). In his book, Tilly has summarized the alternative forms of urban growth that may result from different combinations of capital accumulation and concentration in a simple though highly insightful scheme, which we have reproduced in Figure 4.1.

![Diagram of urban growth forms](72x326 to 374x550)

**Figure 4.1** Alternative forms of urban growth as functions of capital accumulation and concentration. Source: Tilly (1992, p. 18)

In our application of the model (Fig. 4.2), we distinguish three different phases, each with its characteristic dominant form of production, its related set of agglomeration economies, and its dominant urban form. These phases are, respectively, pre-industrial (roughly 1500–1750), industrial (roughly 1750–1975), and post-industrial (1975 onward). As the long-term trend of capital accumulation in this period is basically a monotonous rise, we are able to depict the trajectory of an urban system through time by connecting the positions of an urban system in each of the three phases. Moving to the right of the diagram, we get a succession of different dominant forms of production and the related changes in the urban system. We will use this model for two different purposes. First, we will use it to depict the long-term historical paths of two divergent cases, namely that of the Dutch and the British urban system. Second, we will use this model to analyze the contemporary evolution of the urban system of the Dutch Randstad more in detail (section 4.4).
Our pre-industrial phase starts in 1500 and ends in 1750. In this era, most urban economies were mainly based on the transformation of agricultural commodities (Phelps and Ozawa, 2003). The division of labour was mainly intra-firm, intra-and inter-sectoral, while returns to scale were mainly internal to firms resulting in comparatively small agglomerations or cities. The dominant urban form was a single town within a Von Thünen world of agriculture (Phelps and Ozawa, 2003). Cities were part of urban systems, catering for, in descending order of importance, regional and national and, in some cases, even international markets (Hohenberg and Hollen Lees, 1995). In most cities, accumulation occurred through proto-industrial production for national or international markets. At the start of the pre-industrial era, London relied heavily on this source of accumulation. However, as a Europe-centred world system evolved after 1500, mercantile activities in which goods from different parts of the world were exchanged to be distributed to other cities and an intimately related (international) financial services sector became important sources of accumulation in a few pre-industrial cities. Especially the cities that, for a while, were at the pinnacle of the emerging global urban hierarchy – Venice, Genoa, Antwerp, and then Amsterdam – benefitted from these activities (Arrighi, 1994).
In the pre-industrial era, London was clearly the leading city within the evolving English urban system (Tilly, 1992). The level of accumulation of capital – mainly based on pre-industrial manufacturing, national trade, and its role as the political centre – was compared to other European cities, still relatively low. The level of concentration of capital within its urban system was, however, considerable, as other cities were much less important. The English urban system at that time could be labelled as one dominated by a primate city. In our diagram, the starting point of London and its urban system should, therefore, be positioned in the left-hand, upper corner (Fig. 4.2).

In the Dutch Republic or the United Provinces, Amsterdam was without a doubt the most important city. Especially after 1580, when Amsterdam assumed its role as the centre of the world system, the city was the largest and the richest within the Northern part of the Low Countries that later became the Netherlands. The level of accumulation of capital in the Netherlands and in Amsterdam in particular was very high (Israel, 1989; Maddison, 1991). However, the concentration of capital (within the country) was, from a comparative perspective, rather low. Other Dutch cities (e.g., Haarlem, Leiden, Delft) were intimately linked to Amsterdam by an extensive net of waterways that enabled the emergence of a finely grained spatial division of labour topped by Amsterdam (Israel, 1989; ’t Hart, 1994; Lesger, 2001). The starting point of the Dutch urban system of the Netherlands is, consequently, that of an urban hierarchy. In our diagram, we position the Dutch urban system in the pre-industrial era slightly left of the middle (cf. Tilly, 1992).

In the second phase, that of industrial capitalism (roughly 1750–1975), the level of accumulation of capital rose more rapidly than in the former as the mechanization of production lifted economic growth to a higher level (Maddison, 1991). A deepening division of labour (inter- and intra-firm, intra-sectoral) and capital intensification were sources of economic growth, and industrial cities tended to specialize in certain activities such as metal and textile manufacturing. The dominant urban form was, at first, the single manufacturing town, and later on, when transport technology developed, the manufacturing town with suburbs. Increasing internal and external returns to scale contributed to a growing average firm size as well as to a growing average city size (Phelps and Ozawa, 2003). The level of concentration, however, tended to decrease as the presence of coal and iron ore, especially in the first part of the industrial era, almost dictated where certain economic activities should take place (Bairoch, 1985; Hohenberg and Hollen Lees, 1995).

In the United Kingdom, mechanization started at an early time and was, in this respect, the prime mover, giving it a clear international lead in the rate of capital accumulation. The rise of industrial cities as Manchester, Newcastle, and Glasgow never challenged London’s dominant position, but there was an evident shift in the direction of an urban hierarchy. This translates in our diagram into a move of the English urban system from the left-hand upper corner to the centre (Fig. 4.2).
The Netherlands, a relative latecomer with respect to industrialization in terms of accumulation of capital, lagged behind the United Kingdom (Maddison, 1991). Notwithstanding this late arrival, the Netherlands did experience an industrial revolution notably outside the cities that dominated the pre-industrial era. As a result, a similar trend toward deconcentration of capital occurred in the Netherlands, albeit less pronounced as in the United Kingdom. With the rise of Rotterdam and industrial cities in the southern and eastern part of the Netherlands, the Dutch urban system, consequently, shifted more in the direction of scattered cities. During the first stages of industrialization (before 1890), Amsterdam lost much of its prominence within the Dutch urban system, which became one without a clear leader. In our diagram, this implies a downward move from the centre to the right.

We have now, very briefly, traced the divergent paths of change of both the London centred urban system and the, retrospectively labelled, Dutch Randstad in the preindustrial and the industrial phase. In the next section, we will first analyze the general post-industrial transformation and its articulation in urban form more generally.

4.3 The global city region as the dominant post-industrial urban configuration

The third phase, the post-industrial era, started in the 1970s when severe de-industrialization hit the western economies. With the demise of many manufacturing firms, cities characterized by an industrial monoculture lost much employment and, seemingly, even their raison d’être (cf. Le Galès, 2002). After a while, employment growth (though not in all local cases and not always sufficient to offset the initial decline) and accumulation of capital resumed. Much of this growth took place in the service sector. The transformation from an industrial to a post-industrial economy was strongly intertwined with an extension and an intensification of especially economic links with other parts of the world. This process of globalization – driven by technological (especially regarding transport and communication) and regulatory institutional (i.e., privatization and liberalization) changes – opened up new arenas of consumption and production. On the one hand, the concomitant severe competition from low-wage producers on the other side of the globe put an end to much low value-added, mass production in the United Kingdom, the Netherlands, and many other First World countries. But on the other hand, the enlargement of the potential spatial arena of production and consumption also opened up new possibilities for advanced urban economies. How have these changes affected cities and, more generally, the urban form?

Clearly, the skyline of many cities has changed as steel-and-glass towers signalling the rise of a services-oriented economy have replaced smokestacks. Behind these façades, the post-industrial transition is leading to a new dominant urban form. More recently, a consensus has emerged among (academic) city
watchers with respect to the characteristics of this urban form. After a brief intermezzo halfway, the 1990s in which speculations about the “death of distance” (Cairncross, 1997) and the consequent redundancy of cities attracted a lot of attention, many observers now support the idea that the post-industrial transformation is fostering the formation of “urban super-clusters” or “global city-regions” or, to use Tilly’s vocabulary, the emergence of megalopolis-like urban configurations characterized by high levels of both concentration and accumulation of capital (e.g., Fig. 4.1). Such ideas form part of many recent “new regionalist” writings (e.g., Allen et al., 1998; Brenner, 2002; Wheeler, 2002), recent theoretical explorations of agglomeration economies (e.g., Anas et al., 1998; Phelps and Ozawa, 2003), and studies of world city formation (e.g., Hall, 1997). Scott et al. (2001) have given a particularly elegant and comprehensive account of how the post-industrial transition works in the advantage of large city-regions in their theoretical introduction to Global City-Regions; Trends, Theory and Policy.

According to Scott and his co-authors, it is in particular the combination of both strong externalities and a high heterogeneity of transaction costs that drives the formation of urban super-clusters or, in their vocabulary, global city-regions (Scott et al., 2001). After 1970, vast parts of the economy have come to operate under conditions of increasing uncertainty as production technologies change rapidly, (global) competition has become more intensive, and demand less predictable. The resulting de-standardization of production processes (enabled by computerization) and the search for greater product variety (supply and demand driven) have triggered a shift toward more flexible modes of economic production and organization. Such conditions have become tangible for an increasing number of sectors, in particular for today’s leading sectors such as high-tech industries, business services, and a wide range of cultural industries. Firms that operate in these continuously shifting and changing environments have to organize their production activities and their relationships with high-skilled employees, suppliers of production inputs, as well as with clients in a highly flexible way to deal with permanent uncertainty. In extreme cases, such firms must even be prepared to “change and recombine equipment and labour and to monitor shifts in the market on a day-to-day basis” (Scott et al., 2001, p. 16). This implies that the firms that work under conditions of uncertainty need to have excellent, almost instant access to a wide variety of sources of information, skills, and other resources. Crucial parts of the necessary information are often hardly codified and, in many cases, mostly transferred through face-to-face interaction only as this information tends to be open to more interpretations and a rich context is needed to narrow down the range of possible meanings. Some of the resources required (notably highly skilled labour) are quite scarce and both firms and suppliers can benefit from spatial clustering as this reduces search costs on both sides. Proximity enables and enhances accessibility to these various but strategic resources and so constitutes a strong incentive to co-location and, therefore, the formation of dense urban/regional nodes where labour, information, and other spatially dependent inputs can be accessed against relatively low costs.
The need for proximity has remained and has perhaps even become stronger in spite of the important improvements in transportation and telecommunications technologies that have been achieved in the last couple decades. The costs of several modes of transport and communication have declined (e.g., long-distance shipping, flying, telephone conversations, data transport, money transfers) and, in some cases, speed and reliability have improved drastically. The costs of transactions that involve face-to-face contacts, however, have remained relatively high and, even more significant, still tend to rise steeply as distance increases. As a result, some of the most crucial types of input needed by post-industrial firms can still only be acquired over relatively short distances. Labour is obviously a prime example, but also the forms of tacit knowledge that can only be exchanged in trust-based relationships that require frequent face-to-face contacts.

While the advances in transport and communication technologies have not taken away the need for proximity for some crucial transactions, they have enabled firms to sell their products on increasingly accessible distant markets and to increasingly tap into faraway sources of low-cost inputs. As such, these firms and, concomitantly, the cities and regions they are located in, have become inserted in various kinds of global networks of exchange. The interplay between these dynamic local networks of mutually beneficial economic relationships and the worldwide webs of interregional competition and exchange is strongly subject to increasing returns, and the cities and regions that are best endowed in these respects can, therefore, emerge as the “essential spatial nodes” and “motors” of today’s global economy (Scott et al., 2001).

Within these global city-regions, two different logics of economic organization may occur. Saskia Sassen has extensively described the first possibility in her book *The Global City* (2001). The dispersion of production activities over different continents requires much coordination and a whole set of dedicated supporting activities (producer services) as well as a high quality of life standards. The specific requirements for these “commanding heights of capitalism” generate strong, general agglomeration economies (the “urbanization economies” of Jane Jacobs, 1970) and benefit large cities in particular. These cities are part of an emerging global central place hierarchy, this time based on headquarters of transnational firms and producer services, on (international) accessibility (both physical and virtual), and on quality of life. London, evidently, is such a global city; Amsterdam, to a much lesser extent, can also be characterized as a global city (e.g., Taylor, 2004). In this scenario, globalization thus leads to a surge in the level of accumulation of capital combined with a surge in the level of concentration of capital.

In Figure 4.1, this double movement translates into a shift toward a megalopolis: a very large urban complex with multiple centres of economic gravity including one spatially concentrated economic base focused on high-end, international services. This latter kind of economic centre – for instance, the City of London – is highly subject to shifts in demand and supply of inputs (labour
and capital) on global markets. Low-value added activities are pushed out of this centre. A polycentric pattern then emerges within the megalopolis, which constitutes one, large travel-to-work area (cf. Kloosterman and Musterd, 2001).

The second opportunity opened up by the process of globalization has been analyzed by Michael Storper (1997) in his *Regional World*. To survive the onslaught of low-wage competitors, firms in western economies have to compete on something different than just price. Their products have to be endowed with special qualities either in technological or in conceptual terms on a continuous basis to keep ahead of competitors (Kloosterman, 2004). Continuous innovation thrives in specific milieus where firms, educational institutions, and other institutions are not only spatially concentrated but also embedded in dense webs of traded and untraded interdependencies (Storper, 1997; Boschma, 2005). Specialized, regional worlds of innovative production – “new industrial districts” – have their own agglomeration logic (based on more narrow “localization economies” that mainly pertain to one specific industry). The second option, then, does imply a rise in the level of accumulation of capital but not necessarily an increase in the concentration of capital. This would translate in our diagram (Fig. 4.1) in a movement toward an urban hierarchy. Polycentricity also emerges in this case, but here we move one step up the ladder of spatial scales, with the relevant scale becoming that of the region, which does not necessarily constitute one travel-to-work area.

The pattern that we should expect if both forces are simultaneously at work in a single space is that of a strong centre, highly oriented toward international services an adjacent rim of low-value added non-basic activities and, further out, localized clusters of high value added, innovative forms of production. Depending on the strength of the two forces, we see either a movement toward a megalopolis and its inner global core or a pattern in which the more independent urban centres grow strongest and hence the emergence of an urban hierarchy.

Turning back to our two cases (Fig. 4.2), we expect that the London urban system will show a strong shift toward a megalopolis urban system characterized by high levels of accumulation and concentration of capital driven by Sassen-type of global city economic logics. The Dutch Randstad urban system is subject to many of the same forces as the urban system of London and will also display a rise in the level of accumulation and the level of concentration of capital. These two tendencies, we expect, are less pronounced than in the United Kingdom and the move toward the formation of a central megalopolis would be less striking. This is partly a product of a path-dependent legacy as Amsterdam has always been much less dominant within the urban system compared to London, but also due to the less pronounced Sassen-type of economic logic. The level of concentration of capital as experienced by London is, we expect, not in the cards for Amsterdam. In the next section, we will see if the data corroborate these conjectures for the Dutch Randstad.
4.4 The post-industrial transition and the Randstad global city region

We will investigate the impact of the post-industrial transition in the Randstad global city region more concretely in terms of accumulation and concentration of capital, the two dimensions of our model. After having briefly introduced the Randstad, we start our analysis by looking at the level of accumulation of capital in the Netherlands from an international comparative perspective. Next, we will explore whether the post-industrial transition has brought about an increasing concentration of capital in the Randstad at two different spatial levels: (1) the Randstad compared to the rest of the Netherlands, and (2) within the Randstad. Here we zoom in on the position of the global city region’s two main centres – Amsterdam and Rotterdam – vis-à-vis the rest of the Randstad.

Figure 4.3 The Randstad: approximate delineation and main urban centres
**The Randstad**

The horseshoe-shaped urban configuration in the western part of the Netherlands is generally known as the Randstad. It roughly runs from Dordrecht and Rotterdam in the south, to The Hague and Leiden in the west, to Amsterdam in the north, and to Utrecht and Amersfoort in the east (Fig. 4.3). This ring of cities surrounds a predominantly rural area called the “Green Heart.” The Randstad can be seen as the quintessential polycentric region (Kloosterman and Musterd, 2001; Lambregts et al., 2006). It combines a political capital, a financial capital, a cultural capital, a world port, a world airport, headquarters of important transnational companies (including banks and producer services), and a highly skilled, cosmopolitan labour force. However, these assets are not located in just one city as in London or Paris but are distributed over a number of historically distinct cities that together comprise the Randstad. Reciprocity and equivalence between these cities are often illustrated by pointing at the complementary characteristics of the cities’ economic profiles, with Amsterdam standing out as the financial and cultural capital, The Hague as the political and administrative centre, Rotterdam as the main logistic centre, and Utrecht as a diversified producer service centre with a strong representation of ICT and management consultancy firms. Agglomeration economies that used to be confined to the region’s traditional urban centres have partly scaled-up and have now become available throughout the entire region (Kloosterman and Lambregts, 2001), helping to create a Randstad world city or global city region (e.g., Hall, 1966; Shachar, 1994; Scott, 1998; Simmonds and Hack, 2000; Fainstein, 2001). The Randstad is thus generally regarded as an economic powerhouse. It makes up approximately 50% of the Dutch economy and, consequently, is a crucial object of Dutch spatial and economic development policies (Lambregts and Zonneveld, 2004).

**Accumulation of capital**

In the second half of the 1990s, the Dutch economy attracted international attention for its high and sustained growth figures while maintaining its extensive welfare state. Since the start of the new millennium, this picture has changed quite dramatically as the Dutch economy changed from a leader into a laggard. The level of accumulation of capital in the Dutch economy, however, can still be considered quite high from an international comparative perspective. Figures 4.4 and 4.5 display the performance of the Dutch economy over the period 1995–2003 relative to the performance of a selection of other advanced economies. In terms of GDP per capita, the Netherlands performs well above the EU-25 average and, during the entire period, better than the large economies of the United Kingdom, Germany, and France. Only the United States and, since the end of the 1990s, Ireland scored higher. A similar picture emerges when we look at the labour productivity per worked hour (Fig. 4.5). Again the Netherlands performs significantly better than the EU average (EU-15 this time) and, moreover, clearly belongs to the top-five best performing economies during the entire period.
Two measures of capital accumulation that are more particularly geared toward the post-industrial era are the composition of the economy and the educational level of the labour force. To start with the former, in section 4.3, we already identified high-tech industries, business services, and cultural industries as cutting-edge sectors of today’s post-industrial economy. Especially business services have developed as a key sector over the past three decades. They have evolved as the main beneficiaries of the tendency among large global firms to outsource a significant share of their (increasingly complex) central functions and, hence, have gradually come to play a crucial coordinating and enabling role in the global economy. Today, many business service providers not only execute crucial tasks that enable their (multinational) clients to improve their performance, but have, in the footsteps of their major clients, “gone global” themselves as well. The presence of a complex of advanced producer services is, therefore, considered to be a key distinguishing feature of contemporary global cities (Sassen, 2001). This brings us to the second indicator. The handling of highly complex forms of knowledge and information is increasingly central to business services but also to many other contemporary economic activities. A local labour force’s “knowledge-handling skills” can, accordingly, be seen as an increasingly important resource for post-industrial economies.

Figure 4.4 Level of accumulation of capital: GDP per capita 1995–2003 (in purchasing power standards; EU 25 = 100). Source: Eurostat (2005)
In Figure 4.6, 75 European regions (so-called NUTS-1 regions) are plotted on the basis of (1) their share of the labour force with the highest levels of educational attainment (i.e., vocational and/or academic training) and (2) the share taken up by business services in the regional employment structure. Regions that perform best on both indicators appear in the right upper corner. These include usual suspects such as Greater London and Île de France (Greater Paris), but also Brussels and, more surprisingly perhaps, Stockholm. The Randstad (here approximated by the NUTS-1 region “western part of the Netherlands”) appears in a group of runner-ups together with Berlin, Madrid, and Southeast England. Although the results of Figure 6 should be treated with care (e.g., because the NUTS-1 regions differ in size considerably and are not delineated on the bases of similar criteria), the picture is sufficiently clear. While the Randstad is somewhat behind the leaders, it does team up with Europe’s best-endowed city-regions in terms of labour force characteristics and the presence of a business services oriented economy.

Based on these four indicators (i.e., GDP per capita, labour productivity per worked hour, educational characteristics of the labour force, and the orientation of the local economy toward business services), we may conclude that the level of accumulation of capital in the Netherlands (and more in particular in the Randstad) is comparatively high.
Concentration of capital at the level of and within the Randstad

So while the current level of accumulation of capital in the Randstad appears to be high from an international comparative perspective, we have not yet established to what extent the post-industrial transition has brought along a further concentration of capital in the region as well. To answer this question, we examine how the share of the Randstad economy in the Dutch economy has developed during the post-industrial transition between 1970 and 2002 and, moreover, how the region’s two main economic centres have performed within the context of the Randstad itself. For this period, we were able to find adequate (i.e., sufficiently spatially disaggregated and diachronically comparable) data on the value added created and on the labour volume involved. The data allowed us to run the analysis for the economy as a whole and for business services apart.

We have described how processes of globalization and the transition toward a post-industrial economy are stimulating local growth and the further concentration of capital in so-called global city-regions. For the Randstad, we would expect to find evidence of the region having taken up a more important role in the Dutch economy as a whole, and in the part of the economy that is concerned with business services in particular. However, Figure 4.7 indicates that this is hardly the case. It shows that the share of the Randstad in the value added created by the Dutch economy as a whole gradually declined from just above 50% to approximately 46% between 1970 and 1985, after which it quickly rose to 48% or 49% and remained fairly stable until the end of the period. For business services, the pattern, quite surprisingly, is even more stable. Throughout the pe-
period, the share of the Randstad in the total value added created by business services hovers around 56% to 57%, showing a tendency toward neither an increase nor a decline. The labour volume figures do not alter this picture. The share of the Randstad in total Dutch labour volume remains stable at about 50% throughout the entire period while, for business services only, it gradually decreases from around 65% in the early 1970s to just over 60% at the end of the period. The findings do not correspond with our initial expectations, as they do not point in the direction of an increase in concentration during the post-industrial transition. While the Randstad has remained the country’s most densely populated, economically active, and business services oriented region, it has apparently not strengthened this position vis-à-vis the rest of the country.

Figure 4.7 Share of the Randstad in the Dutch economy, value added producer services, and total economy, 1973–2002. Source: Statistics Netherlands (2005)

Could it be the case that the figures for the Randstad as a whole conceal a more pronounced concentration of capital at a lower spatial level? To answer this question, the analysis was extended to see if further concentration has taken place in the Randstad’s two main economic centres of gravity: the Amsterdam and Rotterdam urban agglomerations. Back in 1970, these two made up about 45% of the Randstad economy, both in terms of labour volume and in terms of value added, with the Rotterdam agglomeration, mainly thanks to its massive harbour complex, being the larger of the two. Over the decades, however, the Rotterdam agglomeration saw its share decline from almost 25% in 1970 to just under 20% in 2002. The Amsterdam agglomeration did significantly better and managed to keep its share at just over 20% throughout the period. Both agglomerations experienced deconcentration developments throughout the period as the share of the respective cities (i.e., Amsterdam and Rotterdam) declined faster than that of
the agglomerations as a whole. The Amsterdam agglomeration, from the beginning, was the most services oriented. Throughout the early 1970s, it accounted for about 30% of the Randstad’s business services economy compared to less than 20% for the Rotterdam agglomeration. Business services then were still mainly an urban affair, with over 90% of the agglomerations’ value added and jobs created in the cities of Amsterdam and Rotterdam themselves. The development over time (Fig. 4.8), however, is very much the same as the one just discussed for the economy as a whole, with the shares of the respective agglomerations gradually declining and deconcentration also occurring within the agglomerations themselves (notably in the Amsterdam agglomeration). One interesting difference, however, is the careful recovery of the business services economy in the Amsterdam agglomeration between 1997 and 2002. While the share of the Randstad in the Dutch business services economy remains stable (Fig. 4.7) and whereas Rotterdam’s share in the Randstad business services economy continues to decline, the share of the Amsterdam agglomeration in the Randstad slightly increases from just under 25% to 26%. While the increase is too modest and the period too short to speak of a clean break with previous trends, it may point toward the emergence of a new spatial division of labour with Amsterdam as the country’s most globally connected and services dominated city and cultural capital (Kloosterman, 2004; Lambregts et al., 2006). More detailed research into the question that specific services activities contribute to the relative strengthening of Amsterdam’s position as a business services centre, however, is needed to corroborate this claim.

Figure 4.8 Share of Amsterdam (agglomeration) and Rotterdam (agglomeration) in the Randstad: value added producer services, 1970–2002. Source: Statistics Netherlands (2005)
4.5 Conclusions

Our analysis has been based on a model derived from Charles Tilly that describes the evolutionary trajectory of cities and urban systems with help of two strategic dimensions: the level of accumulation of capital relative to other countries and the level of concentration of capital within a country. We can, subsequently, map urban systems and their trajectories in a two-dimensional graph. We first briefly analyzed the long-term trajectories of the urban systems of the Randstad and London. We then turned to a more detailed analysis of the impact of the post-industrial transition in the Randstad, again centred on the two dimensions of the model.

We start with the more mundane conclusions. Our analysis corroborates the current global city region status of the Randstad in terms of relative level of accumulation of capital. If we look at the trends in the concentration of capital during the post-industrial transition, we have to distinguish between (1) the position of the Randstad within the Netherlands, which is surprisingly stable and does not point in the direction of increasing returns on the scale of the global city-region; and (2) within the urban system of the Randstad, where we see a tendency toward deconcentration that further strengthens the polycentric layout of the region and gradually undermines the role of the traditional centres of economic gravity.

Our long-term view has, moreover, generated some clues toward a better understanding of the evolution of urban systems. First, it seems that path-dependent trajectories do not preclude changes in the long run, but possibilities for change are clearly limited: both the London and the Randstad urban system are, notwithstanding being subject to similar external forces, on quite different tracks that have to be explained by referring to the particular urban form in pre-industrial times and its subsequent development. This is also related to the issue of the relevant scale on which the megalopolis trends are played out. As Arrighi (1994) noted when he traced the historical succession of global cities – each successor meant a step up the scale level. Amsterdam, part of the United Provinces, followed Genoa, a mere city-state. London, capital of a national state came next and New York, the current top dog, is part of a national state that is almost a whole continent. This historical background of the spatial configuration of Amsterdam and its urban system is still salient in the way the concentration and accumulation of capital is articulated. Whereas London is sufficiently large to be a megalopolis in itself, Amsterdam on its own is too small for this. The Randstad as a whole is heading, arguably, in that direction. There is a huge difference between one city transformed into a megalopolis and an urban system, consisting of different cities (and of separate governance structures, separate identities, and a more dispersed transport infrastructure), coagulating into one megalopolis. The latter route is, of course, much more fraught with political pitfalls and institutional obstacles (cf. Kloosterman and Musterd, 2001; Lambregts, 2006).
Second, the position of a global city-region in the global urban hierarchy determines the pressure on such regions and hence the potential for accumulation and concentration of capital within them: the levels of accumulation and concentration of capital as experienced by London are, we expect, not in the cards for the Randstad. Amsterdam – although very much part of the international urban hierarchy – occupies a significantly lower rung than London. Amsterdam is, therefore, less subject to global shifts in the demand and supply of (top-flight) labour and capital and more integrated in its own (national) urban system. The global pressure on Amsterdam is less (reflected, for instance in considerably lower office rents), but also the potential level of accumulation of capital is lower. There is even a danger that Amsterdam might lose out to London and Paris, cities higher placed in the global hierarchy, as some advanced business services (notably financial services) seek to benefit from higher-order agglomeration economies. Amsterdam might even move in the direction of a more specialized, regional world of production and away from city in the global urban central place hierarchy offering still a fairly broad, but smaller palette of high-end services in comparison to the cities one rung higher. If this were the case, the question then becomes in which orbit Amsterdam would be located: that of London or Paris? The strong Anglo-Saxon orientation of Amsterdam would probably weigh in favour of London, but there are also some indications of stronger links with Paris (e.g., Engelen, 2007, for the dominant role of Paris in Euronext and the case of the merger between Air France and KLM can also be seen as an intensification of business links between Paris and Amsterdam).

To grasp the long-term trajectories of urban systems, we have combined the viewpoints and insights of both (economic) geographers (notably Scott, Storper, Phelps, and Ozawa) and of (economic) historians (notably Tilly, Hohenberg, and Hollen Lees). Complex phenomena as urban systems with high sunk costs both in physical and in social terms display strong path-dependent characteristics. Taking path-dependency seriously implies taking history seriously, and we think that there is a world to be won by combining these disciplines in all sorts of ways. We used an explicit diachronic view to distinguish not only different types of global city regions – the dominant current urban form – but also to explore their diverging trajectories over long periods. Our analysis, still very tentative, indicates that the observed contemporary differences between the two urban systems of the Randstad and London have deep roots. The different long-term dynamics of the two urban systems might also have a whole set of different policy implications. A further exploration of the heuristic capabilities of the model – by looking at, for instance, the developments of urban systems in France, Germany, Italy, the United States, and maybe even in countries like China – could give us more definite answers.

Notes

2 Externalities are occurrences or activities that lie outside the range of control of individual firms, but that have definite effects on firms’ internal production function (Scott, 1998). Examples are information spill-overs, the benefits of having access to a large and
adequately qualified pool of labour or the benefits arising to individual firms from being surrounded and working together with other firms that share a common frame of reference for judging reputations or trustworthiness.

3 Information about changes in markets or in the regulatory environment, the latest developments in production technologies, the arrival of new suppliers, and the shifting tastes of customers are examples of this.

4 This is not to say that the more routinized mode of production that prevailed in the industrial era has dissipated completely. Still, there are also large parts of the economy where market conditions are relatively stable, where knowledge and information are fairly well codified, where firms can afford to use standardized modes of production, and where stable and prolonged input–output relationships pay off. In such cases, production and the related purchase of inputs can be planned in advance rather well, which opens up the possibility to bring in materials or to ship out products in large numbers and thus at relatively low costs per unit, even if distances are large. And since under normal conditions the need for complex, face-to-face demanding communication between agents is very limited, such firms’ locational decisions are more likely to depend on, for example, the presence of cheap labour, cheap land, or a “friendly” tax and regulatory environment than on the need to be located adjacent to functionally related firms.

5 We had to work with two time series, one running from 1970 to 1993 and the other from 1987 to 2002. In absolute terms, both series are incompatible because of a change of definition that took place in 1993. However, since we are interested in the long-term trends in relative shares only, we were able to fit the series simply by introducing a constant correction factor in one of them.

References


