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## Cities

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## 04. CITIES

by Peter J. Taylor, Michael Hoyler, and Dennis Smith

### Bringing in cities

The transition towards a modern world-system in the "long sixteenth century" (c.1450-c.1650) can be interpreted as a social transformation in the relations between political ruling groups and commercial economic groups. In previous world-systems, the two groups were definitively separated and hierarchically ordered, with commerce cast into a secondary mode. These previous systems are defined by Wallerstein (1979) as *world-empires*. The modern world-system is an interloper amongst these political worlds. It is based upon a *modus operandi* between ruling and commercial groups that Wallerstein calls a *world-economy*. In this system the relative powers of the political and the economic groups are more balanced. There is a recognized mutuality not found in world-empires. This change is generally referred to as the rise of mercantilism in the seventeenth and eighteenth centuries - states embarking on commercial-economic policies to augment their military-territorial policies.

Mercantilism came in many forms and can be measured in terms of different balances between the economic and the political. The United Provinces were located at one end of this scale. This "merchant's state" was based on "a high-voltage urban economy" (Braudel 1984: 180) that created the

"Dutch golden age" during what was for the rest of Europe "the crisis of the seventeenth century." With an exceptionally high level of urbanization, this first modern "economic miracle" developed a republican political philosophy that lauded commercial activity and therefore specifically valued the economic benefits of city networks. This is clearly expressed in Pieter de la Court's (1972) *The True Interests and Political Maxims of the Republic of Holland*, first published in 1662 as a guide for Holland's rulers. He interpreted Dutch cities as "intertwined one with another" (p. 30) so that "together they formed," according to Braudel (1984: 180) "a power bloc." One of de la Court's key maxims was that "the overthrow of great and prosperous cities may be attributed to monarchs and princes of all times but never to republics" (p. 4) so that "it follows then to be the duty of the governors of republics to seek for great cities, and to make them as populous and strong as possible" (p. 5). Without acceding to the historical veracity of the maxim, we can see that de la Court recognized the production and productivity of cities as central to Holland's success and future, while casting rival monarchical states - initially the modern ideological successors of world-empires - as wasting the wealth created by cities for the selfish "glory" of the king (Taylor 1999: 72). De la Court has been called "Adam Smith a century before *The Wealth of Nations*" (Caton 1988: 233) but his precocious focus on how growing cities generate new work (de

la Court 1972: 57-59) makes him sound more like Jane Jacobs three centuries before *The Economy of Cities*. We follow his cities-centered political economy in this analysis.

We use the "urban cluster" concept of modern scholarship to investigate the spatial polarization represented by the core-periphery structure of the modern world-system. The focus is on cities within the system and how these are implicated in the development and reproduction of this uneven economic development. Our approach has one very important advantage. Estimates of the population size of cities are available for all the times and spaces of the modern world-system. This provides the opportunity to generate comprehensive quantitative measurement of social change and produce a customized comparative analysis of cities. The beginning assumption is that a fast-growing city is an economically successful city and therefore demographics can chart this success across the time and space horizons of the modern world-system.

We begin by describing our methodology for achieving this aim. The demographics are extremely useful but require careful interpretation to relate them to polarization. We therefore follow this with a conceptual discussion of city processes in core-making and consequent periphery-making. Jumping forward from Pieter de la Court to recent developments in urban theory, seven basic processes are introduced to make sense of the geohistory of demographic descriptions of city growths. Next we discuss the results of

this exercise in terms of polarization versus convergence over the long-term (i.e., the years 1500 to 2000). Superficially the demographics appear to suggest an urban convergence as the cities in non-core zones are growing into "megacities" and rates of urbanization are catching up those of the core. But our city processes indicate a much more complex outcome unfolding. In a short conclusion our findings are related to overall world-systems thinking.

#### **Methodology: City demographic changes, 1500-2000**

We offer here a basic summary of our methodology, which is described and justified in detail in Taylor et al. (2010). The purpose is to create an inventory of rapid city population growths for the whole time and space of the modern world-system. Certain arbitrary decisions were made in order to achieve this in a manageable way. The results do not necessarily include all such growth but do provide a reasonably comprehensive and representative set of successful cities in the system. For our purposes it is especially important that a large number of cities are so identified. We successfully produced an inventory of 342 cases of rapidly growing cities.

The steps taken towards this end were as follows:

1. We used de Vries (1984) for populations of European cities to 1800 and Chandler (1987) both for non-European cities before 1800 and for all cities after

1800 up to the most recent period for which we used Brinkhoff (2007).

2. City populations were inspected for five century dates: 1600, 1700, 1800, 1900, and 2000.
3. In line with Wallerstein's model of the expansion of the modern world-system, cities were included just for Europe and the Americas in 1600 and 1700. Indian, Ottoman, and Russian cities were added from 1800 onwards. Chinese and Japanese and some other cities were added from 1900 onwards.
4. Rosters of cities for these dates were produced by averaging the population of the largest three cities and then including all cities with 10% or more of this average. This was to make the numbers of cities comparable over time while also being manageable in quantity. These five rosters are shown in the first line of Table 1. The universe of cities in the study is 373.
5. Additional city populations of roster cities were then collected for 1500 and half-century points: 1550, 1650, 1750, 1850, and 1950. Note that, following Wallerstein, Indian, Ottoman, and Russian cities were included only from 1750, and Chinese and Japanese cities from 1850.
6. Annualized rates of change over fifty-year intervals were computed for each of the five rosters of cities. For instance, using the 1600 roster, demographic changes were found for 1500-1500 and 1550-1600. This

provided 746 city growth measures in ten lists, one for each fifty-year period.

7. All demographic changes of 1 percent per annum and above were designated rapid-growth cities. These were aggregated into century sums and shown in the second line of Table 1. Note that a roster city may occur twice as a rapid-growth city if it has growth above 1 percent per annum for both half centuries covered by the roster (e.g., Birmingham in 1700-1750 and 1750-1800). The result is an inventory of 342 rapid-growth cities out of the total of 746 city growth measures. This inventory is the empirical base of the remainder of this analysis.

We can note the following in Table 1. The crisis of the seventeenth century is clearly shown as the only downward blip in the data. Otherwise there is a trend of increasing numbers of cities over time indicating both intensive change (new and more cities in existing land area) and extensive change (incorporation of new land areas). The trend accelerates immensely in the twentieth century. This feature is especially reflected in the fourth row of Table 1, where cities experiencing growth rates of over 5 percent per annum are numbered. Such very-rapid-growth cities become numerous only in the nineteenth century and become commonplace in the twentieth century. This latter feature will be discussed in some detail after we have the conceptual tools to interpret

variations of what is happening amongst our inventory of 342 rapid-growth cities.

### **Cities in core-making and periphery-making**

The specificity of Wallerstein's (1979) core-periphery thinking comes in two key ways. First, he treats core and periphery as processes - core-making, periphery-making - that are system-wide but that differ greatly in their geographical concentrations. Hence there is the spatial polarization into core zones and periphery zones. Second, Wallerstein adds a new category, semi-periphery, which in itself is not a process but rather a consequence of places where the two opposing processes are relatively balanced. In such circumstances particular states can harness core processes in a drive to become part of the core zone. This is the political mechanism for semi-peripheral states to rise (or fall if the drive fails) in the spatial hierarchy of the capitalist world-economy. This way of thinking can privilege a territorial spatiality of the modern world-system, what Castells (1996) calls spaces of places. By focusing on cities we privilege a network spatiality of the modern world-system, Castells' spaces of flows. Through using cities as a vehicle for understanding core-periphery we hope to provide new insights into the changes in spatial polarization of the modern world-system across its half-millennium existence. We base our ideas on the seminal works



of Jacobs (1969) and Castells (1996), who both interpret cities as process.

How does this distinctive urban process relate to Wallerstein's "systemic process"? Introducing cities to center stage in world-systems analysis is problematic because Wallerstein (1984b) has created a tight, rigorous argument building on classes, states, ethnicities (nations, races), and households, with their associated political movements.

There is no place for cities in this world-systems analysis except as sites where events take place. Although Wallerstein is sensitive to the importance of space in his social processes (hence core-periphery), especially in relation to time (what he calls TimeSpace), he gives no recognition to the special places that are cities. Urbanization is treated as an outcome of economic, political, and cultural processes undermining the rural world (Wallerstein 1984a). Although for most of the history of the modern world-system such processes have generated large numbers of important cities in core zones, with few or no such cities in periphery zones, in Wallerstein's argument cities remain essentially inert. Core-making does not depend on cities. His position contrasts with a growing urban literature that interprets cities as the key generators of economic change. As Jacobs (1969) tells it, cities are themselves the fundamental process through which economies expand. Let us briefly rehearse this argument. As a form of

human settlement, cities exhibit several unique features. Recently Ivan Turok (2009: 14) has presented these very clearly and succinctly:

Cities are complex adaptive systems comprising multitudes of actors, firms, and other organisations forming diverse relationships and evolving together. Frequent face-to-face contact and other cooperative and competitive interactions enabled by proximity help to increase people's knowledge and skills, to improve their capacity to respond creatively to economic challenges, and to develop new and improved products, processes and services. Other places cannot easily replicate these conditions.

Accepting this position, we can add a further dimension: cities are constituted as networks interlocked by commerce and trade (Taylor 2004). Such linking creates an incessant turnover of nonlocal actors who join in the processes that Turok describes. The effectiveness of the density of interactions he identifies is hugely enhanced by the cosmopolitan nature of a city's residents and visitors. Thus the complexity of cities includes both internal links (clusters/agglomeration) and external links (networks/connectivity). It is this combination that makes cities so special.

This special character - Jacobs' city as process - that is the prime mechanism of core-making. Jacobs (1969) describes city process as a generic form, but we will argue that it is given a specific momentum within the modern

world-system (Taylor 2013). The operation of this process in world-empires was evident but restricted by the precedence given to political ruling groups. Making money could not become a prime end in itself, only a means to other (political) ends. But with the more balanced relation between political and economic groups in the modern world-system, restrictions on the commercial growth potentials of cities were lessened in the development of a capitalist world-economy, whose primary objective was the endless accumulation of capital. Money had now become a prime end in itself. This is what Pieter de la Court was grappling with in his new understanding of Holland and what in the next two centuries was to be expressed as the intimate relation between urbanization and industrialization, the twin processes of modernization.

The first major statistical comparison of modernity's unusually large cities was made by Adna Weber in his 1899 study of the growth of great nineteenth-century cities. The study of the modern world-systems' association with ever larger cities continues today under conditions of economic globalization in the analyses of global cities (Sassen 2001) and world city networks (Taylor 2004). Cities are at the economic cutting edge, continually reproducing the core zone of the world-economy. We call this the *dominant economic process*.

However Jacob's economic process is not the only city-formation mechanism in the modern world-system. In world-

empires the largest cities were where political power lay - capital cities. Thus the three nonmodern cities that unequivocally reached a population of at least a million were centers of great world-empires with immense redistributive powers: Imperial Rome, Caliphate Baghdad, and Qing Beijing.

In the modern world-system this sovereign political power is divided among polities in an interstate system initially defined legally in the Treaty of Westphalia of 1648. This was the culmination of political centralizations of the fragmented governance of medieval Europe in the transition to the modern world-system. Capital cities of these new territorial states attracted wealth and consequent population to become large cities in their own right. We shall call this continuing political importance in city-making in the modern world-system the *political privileging process*.

As centers of consumption, many large political cities often developed important commercial functions, including sizeable production to meet political and military needs. This is an important category of the modern city related to the mercantilism in the core that we shall label *mixed economic/political competitive process* because it encompasses roughly balanced political and economic city functions in the interstate system.

There is another political economy process that modern cities possess - the power to mold distant economic

landscapes to their particular market demands. This is described by Jacobs (1984) in her "five great forces" that create simple dependent economies. She calls them "economic grotesques." These can come in different formats - from plantation agriculture to provide sugar for European cities to peasant agriculture to provide cocoa or coffee to accompany the sugar in consumption. Other primary economic sectors (resource regions - oil, ores), secondary economic sectors (transplanted industry - the "new international division of labor"), and tertiary sectors (back-office services) can all form economic grotesques.

It is not what is produced that matters, but the relation of these economic activities to the core cities. The fluctuation of the demands of the core zone's cities controls the "success" of these fragile economies. There are urban places that function to facilitate the transmission of wealth production to the core, ports, and local political centers, but these cities ultimately serve to replenish cities in core zones, not the local economy. In world-systems terms this is dependency theory. Andre Gunder Frank's (1969) "development of underdevelopment" process links what he calls the "metropole" (core zone of cities) to "satellites" (dependent facilitating places) through which wealth is drained from the periphery. We call this the *dominant peripheral economic process*. But there is an additional process featuring capital cities of noncore states that combines economic and political processes. Where

states are instrumental in devising semi-peripheral strategies (such as protectionism) this may lead to the growth of a primate city structure with immense economic centralization in the capital city. This mercantilism in the periphery we call *mixed economic/political development process*.

Finally, there are two city processes directly related to the geographical expansion of the world-economy, one that expands the periphery and one that expands the core. First, some of the world-empires that have been incorporated into the modern world-system themselves had thriving cities, both political and economic. Therefore there has been an *inheritance by incorporation process* whereby large cities that grew outside the modern world-system become part of the system. Many declined in the new circumstances (for instance, resulting from Britain's policy of de-industrializing India in the nineteenth century) but others prospered relatively (for instance, serving as the economic impetus for some Chinese treaty ports).

Second, there has been European settlement that has been able to reproduce itself in sparsely populated regions on other continents. Belich (2009: 70) describes the most successful example of this as the "settler revolution" of Anglophones after about 1800 that manifested itself in two movements - the expansion of the United States westward and "Greater British" expansion in its Dominions, "the white un-coerced part of the British Empire." Further, he shows (p.

85) that these Anglo expansions "grew at a staggering demographic growth rate with economic growth to match." By 1920 the American West had sixty-two million people and the British Dominions had twenty-four million. Between them their "white majorities were, on average, the richest peoples in the world." And these multiple expansions were based upon numerous "boom cities" - the "precocious sprouting ... of nineteenth century settler cities" (p. 2). This settler revolution was city-based, involving the "mass transfer" of transportation technologies, financial instruments, information, technical skills and knowledge, and people so that Anglos were able "to reproduce ... their own society" in these new lands (p. 127). The result is a "new form of settlement" that Belich calls "explosive colonization" and describes as "human history's most rapid form of societal reproduction" (p. 183). We will call this multiple creation of boom cities *core frontier expansion process*. These seven city processes are summarized in Table 2 in their world-systems context.

The seven city-making processes within the modern world-system account for the great rise in the sizes and numbers of cities that typifies this system. In Table 3 we have listed the three cities with the highest growth rates for each of the ten fifty-year periods to illustrate the processes through extreme cases of each. Thus there are classic examples of each process. For instance, the list for the early modern period (1500-1700) shows Antwerp, Augsburg,

and Amsterdam as dominant core economic process; Potosí as dominant peripheral economic process; Lisbon and London as mixed core competitive; and Berlin and Dublin as political privileging. The inherited by incorporation process is represented by Lucknow, and the first example of mixed peripheral development process is early Philadelphia. At the end of the nineteenth century the two fastest-growing cities are Chicago and Melbourne, coincidentally the two cities Belich (2009: 1-2) features at the beginning of his book to illustrate his explosive colonization. This core frontier expansion continues into the early twentieth century, when it is replaced by the dominant peripheral economic process in the final fifty-year period. But to understand such trends comprehensively, we need to move on to considering the whole inventory of 342 rapid-growth cities.

### **The increasing complexity of the core-periphery relation**

In Table 4 the 342 examples of rapid-growth cities are ordered by century and process. This summarizes the basic quantitative findings of this research. To aid interpretation, sums for core-making (dominant core economic, mixed competitive, political privileging, and core frontier expansion processes) and periphery-making (inheritance by incorporation, dominant peripheral economic, and mixed peripheral development processes) are presented. Interpretation proceeds in two stages: first, overall



patterns are described, and second, these are used to address the question of polarization or convergence in the core-periphery structure of the modern world-system. As will be seen, this cities-based analysis does not provide a simple answer to this question. Increasing complexity makes this question intriguingly open.

The first point to make is that overall the half-millennium trend in Table 4, as shown in rows 5 and 9, is towards convergence between core-making and periphery-making processes. In the early modern world-system (first two centuries in Table 4), city growth is almost absent outside the core zone. The two exceptions are Potosí with its silver mountain and Mexico City with its colonial administrative functions. The growth of noncore cities in the middle century (1700-1800) is mainly due to inheriting cities from the incorporation of India and the Ottoman and Russian world-empires. This is a "geographically-mixed" category of growth across pairs of world-systems, but it does inaugurate the rise of cities in periphery-making in the modern world-system. Both core-making and periphery-making increase immensely in the nineteenth century. This feature is further greatly accentuated in the twentieth century when periphery-making city growth processes exceed core-making for the first time, and by a large margin. Thus by the twentieth century rapid growth cities are to be found across all zones of the modern world-system. Given that the periphery zone always constitutes a majority of the world-economy's

population, we can say that the distribution of rapid growth cities has come to reflect approximately the overall demographic pattern of the world-system. Therefore at this level of analysis, there can be no clearer example of core-periphery convergence.

But the role of cities in the modern world-system is not so simple. We can add to the analysis in both detail and complexity. Taking the detail first, we can note the interesting variations between the trends of the seven processes individually. We have already mentioned the *inheritance by incorporation* process. This occurs only in the eighteenth and nineteenth centuries when the modern world-system experiences two major expansions.

In addition we can see that political processes in core-making are concentrated in the seventeenth and eighteenth centuries. The seventeenth century is the only time when dominant core economic processes do not constitute a majority of core-making processes. The rise of Madrid as the new capital of Castile/Spain and Berlin as the capital of the rising power of Prussia are two classic examples of political rapid-growth cities at this time.

However, in the last two centuries political processes are overwhelmed by economic processes, with the seventy-five cases of dominant economic peripheral processes in the twentieth century being the outstanding feature. But there are also forty-seven examples of mixed development process, with cities like Buenos Aires and Mexico City as primate

centers of powerful semi-peripheral states. In other words, it is periphery-making city growth processes that dominated the twentieth century, and with extremely large rates of growth per annum.

In Table 5 we have extended the top three cities for 1950-2000 from Table 3 to show the top fifty rapid-growth cities in this period. This confirms both the concentration of these cities outside the core zone of the world-economy and the very high growth rates. The only four cities in the list that are from the core zone are all in the United States (Phoenix, Miami, Dallas, and Atlanta) and reflect bringing the southern United States into core status through their cities in a variety of ways. But the really interesting rapid-growth cities are the other forty-six in poorer countries of the world. This represents a crescendo of urbanization in the late modern world-system and requires specific consideration.

The great advantage of thinking in terms of processes is that we can handle the fact that there are always multiple processes operating in the same place. Hence process research can encompass complexities. We saw earlier that Wallerstein used this facility to define semi-periphery as coinciding core and periphery processes within states. This situation is replicated in urban processes and cities. Dominant core-making and periphery-making processes can and do occur simultaneously as important components of contemporary cities outside the core zone. For instance,

Mumbai, Mexico City, Caracas, Johannesburg, and Bogotá feature in the top fifty cities in terms of business connectivity in the world city network in 2008, which is a measure of dominant core economic process (Taylor et al. 2011). These cities are also listed by Davis (2006: 28) as housing the "largest megaslums" in a list for 2005, the epitome of peripheral city process.

These are two very different processes operating simultaneously in these cities. In fact, this is typical of cities beyond the core zone. Such cities are important enough economically to be linked into the world city network but are also burdened by great swaths of poverty. The latter is the result of unprecedented levels of rural-urban migration in the twentieth century as city-based core processes have reorganized the global economic landscape for their food and resource needs.

The resulting massive population growth rates represented by Table 5 have produced this new category of city commonly referred to as megacities. In poorer countries these have two demographic components. Up to about a quarter of the population is economically integrated into the world city network and life is consumption-led just as it is for all who make a living through dominant core economic process. At the same time at least three-quarters of the population lives in abject poverty, residents of Davis's megaslums. Therefore in a city like Mexico City its population is unequally divided - about five million within

core processes and twenty million in periphery processes. Because of the former group, Mexico City is approximately as important as Amsterdam and Zurich in the world city network process (Taylor et al. 2011). Because of the latter group Mexico City is very, very different from its core zone network peers. This city as process is visibly semi-peripheral in outcome. The idea of a growing multi-nodal semi-periphery does not support our initial interpretation of core-periphery convergence. Rather it seems that spatial polarization is alive and well in the late modern world-system, albeit packaged into a more complex geography.

### **Coming full circle**

It is perhaps ironic that Wallerstein (1974) initially derived part of his analysis of the modern world-system from a series of Marxist debates, in one of which (that on the transition from feudalism to capitalism) cities were the main issue of contention. In the Dobb-Sweezy debate (Hilton et al. 1978) the two positions were (1) that feudalism was undermined by its own class contradictions and (2) that it was undermined by the growth of bourgeois cities within. Wallerstein comes down on the latter side because it provides a broader systemic approach to the transition than the more restricted national class interpretation. But he does not fully embrace the importance of the role of cities that we have traced from Pieter de la Court onwards.

However, with the recent urbanization crescendo finally making city dwellers the majority of humanity and with this ongoing urbanization likely to lead to perhaps three-quarters of the world living in cities later in the twenty-first century, this emerging multi-nodal semi-periphery in the modern world-system requires special attention.

There are two basic interpretations of the contemporary megacity mix of core-making and periphery-making city processes as they relate to material polarization or convergence. For Mike Davis (2006), cities are sites of increasing divergence. In his *Planet of Slums* he emphasizes the despair of these grossly unequal cities and the future potential instability of a new, disconnected, "informal urban proletariat." In contrast, for Robert Neuwirth (2006) cities are sites of potential convergence. In his *Shadow Cities* he emphasizes the social creativity of the megacity residents in their struggles for survival. Dominant core economic in practice but not in outcome due to the severe constraints, cities remain places of opportunity in this more optimistic account. This disagreement tells us that the modern world-system is entering its demise through a newly emerging urban politics of polarization and convergence in cities in the semi-periphery. We are only beginning sketchily to discern and understand this "urban revolution" where, according to Brugmann (2009), both past core proletariat and peripheral peasantry are being superseded as the potential progressive agents of change by the global

urban dispossessed. One thing that is certain is that this great wave of urbanization, concentrating billions of people in close proximities, is creating ever more complex world-making processes of powers, flows, legitimacies, entwinings, and creativities. Amongst the turmoil of polarizations and convergences there exists a possibility for a new progressive politics through cities, as promoted by Pilon (2010: 5): "It is not only the right to urban resources, it is the right to change ourselves by changing the city: the kind of city we have is linked to the kind of human beings we are willing to be." This means moving the focus of progressive urban politics from promoting inclusion (extending current ways of living) towards transition to new ways of living together.

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Table 1 Cities included in the study over time

<i>Classifications of cities</i>	<i>1500-1600</i>	<i>1600-1700</i>	<i>1700-1800</i>	<i>1800-1900</i>	<i>1900-2000</i>	<i>Total</i>
City rosters for each century	72	39	60	49	153	373
City change measures for each half century	144	78	120	98	306	746
Of which: Sum of rapid-growth cities for each half century	29	16	30	70	197	342
Of which: Cities with growth rates above 5% per annum	0	2	6	30	161	199

Table 2 City processes in producing and reproducing the capitalist world-economy

<i>City processes</i>	<i>World-system process</i>
<p>A. Dominant core economic</p> <p>B. Dominant peripheral economic</p>	<p>These are the two basic processes that have produced and reproduced the capitalist world-economy as a core-periphery structure, with commercial metropolises in the core (A) and dependent urban facilitators in the periphery (B).</p>
<p>C. Political privileging</p> <p>D. Mixed core competitive</p> <p>E. Mixed peripheral development</p>	<p>Early state centralization created important capital cities as centers of political power in the core (C). This was sometimes mixed with basic commercial functions, producing a balance of political and economic power that has become increasingly common (D). More recently this mix has developed outside the core, where state centralization is integral to a semi-peripheral development strategy (E).</p>
<p>F. Inheritance by incorporation</p> <p>G. Core frontier expansion</p>	<p>These are two historically specific processes. Where the capitalist world-economy expanded into city-rich empires, successful cities were initially incorporated (F). In contrast, where the capitalist world-economy expanded into territories devoid of cities, large-scale urban settlement created frontier cities (G).</p>

Table 3 Fastest growing cities and their city processes

<i>City</i>	<i>Period</i>	<i>Percent change per annum</i>	<i>City process</i>
Lisbon Seville Antwerp Augsburg	1500- 1550	4.53 3.20 2.50 2.50	Mixed core competitive Dominant core economic Dominant core economic Dominant core economic
Potosí London Rome	1550- 1600	3.24 3.00 2.67	Dominant peripheral economic Mixed core competitive Political privileging
Dublin Amsterdam Leiden	1600- 1650	4.80 3.38 3.36	Political privileging Dominant core economic Dominant core economic
Berlin Dublin Copenhagen	1650- 1700	7.17 5.06 4.09	Political privileging Political privileging Mixed core competitive
Liverpool Birmingham Cadiz	1700- 1750	5.33 4.86 3.22	Dominant core economic Dominant core economic Mixed core competitive
Lucknow Manchester Philadelphia	1750- 1800	7.60 5.78 5.19	Inheritance by incorporation Dominant core economic Mixed peripheral development
New York Baltimore Philadelphia	1800- 1850	18.48 11.00 10.53	Dominant core economic Dominant core economic Dominant core economic
Chicago Melbourne Buenos Aires	1850- 1900	120.64 25.71 19.78	Core frontier expansion Core frontier expansion Mixed peripheral development
Los Angeles Houston Jakarta	1900- 1950	72.50 29.82 23.25	Core frontier expansion Core frontier expansion Mixed peripheral development
Lagos Dacca Khartoum	1950- 2000	69.98 52.83 43.78	Dominant peripheral economic Dominant peripheral economic Dominant peripheral economic

Table 4 City growth processes, 1500-2000

<i>City growth process</i>	<i>1500-1600</i>	<i>1600-1700</i>	<i>1700-1800</i>	<i>1800-1900</i>	<i>1900-2000</i>
Dominant core economic process	16	7	12	30	54
Political privileging process	4	6	9	4	0
Mixed economic/political competitive process	7	3	1	15	17
Core frontier expansion process	0	0	0	4	4
<b>Total core-making</b>	<b>27</b>	<b>16</b>	<b>22</b>	<b>53</b>	<b>75</b>
Dominant peripheral economic process	1	0	2	5	75
Mixed economic/political development process	1	0	1	8	47
Inheritance by incorporation	0	0	5	4	0
<b>Total periphery-making</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>17</b>	<b>122</b>
<b>Total demographic expansion</b>	<b>29</b>	<b>16</b>	<b>30</b>	<b>70</b>	<b>197</b>

Table 5 The top 50 rapid-growth cities, 1950-2000

<i>Rapid-growth cities</i>	<i>Population change per annum</i>
Lagos	69.98%
Dacca	52.83%
Khartoum	43.78%
Kinshasa	41.32%
Phoenix	33.54%
Surat	29.43%
Fortaleza	28.84%
Chittagong	28.53%
Belo Horizonte	28.09%
Delhi	27.13%
Karachi	26.13%
Shantou	24.94%
Seoul	24.73%
Taipei	24.37%
Bogotá	23.25%
Ankara	22.02%
Medellín	22.00%
Lahore	21.49%
Rawalpindi	20.84%
Kabul	20.79%
Izmir	20.08%
Tehran	19.71%
Miami	19.51%
Monterrey	19.32%
Dallas	19.24%
Guadalajara	18.95%
Istanbul	18.25%
Porto Alegre	17.89%
Manila	17.79%
Atlanta	17.28%
Baghdad	17.18%
Jaipur	16.95%
Cali	16.92%
Kaohsiung	16.90%
Jakarta	16.49%
Taiyuan	16.37%
Bangalore	16.03%
Poona	15.88%
Algiers	15.69%
Guangzhou	15.47%
Medan	15.46%
Tel Aviv-Jaffa	15.32%
Addis Ababa	14.98%
São Paulo	14.47%
Pyongyang	14.36%
Lima	13.93%
Bangkok	13.81%
Damascus	13.43%
Chengdu	13.02%

Ibadan	12.64%
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