



HAL
open science

The polycentric city-region that never was: Paris agglomeration, Bassin parisien and spatial planning strategies in France

Ludovic Halbert

► **To cite this version:**

Ludovic Halbert. The polycentric city-region that never was: Paris agglomeration, Bassin parisien and spatial planning strategies in France. *Economic Geography*, 2004, 80 (4), pp.381-405. halshs-00277943

HAL Id: halshs-00277943

<https://shs.hal.science/halshs-00277943>

Submitted on 7 May 2008

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The polycentric city-region that never was:
Paris agglomeration, Bassin parisien
and spatial planning strategies in France

Ludovic Halbert

Researcher, Université Paris-Est, LATTTS, (UMR CNRS 8134)
ENCP-LATTTS, 5 Rue Einstein, 77455 Champs-sur-Marne
Tel : 01.64.15.38.39
Mail : ludovic.halbert@enpc.fr
Website: http://latts.cnrs.fr/site/p_lattsperso.php?Id=1092

Please quote the published version:

HALBERT L., 2004, "The intrametropolitan Decentralization of Business Services in the Paris Region: Patterns, Interpretation, Consequences", *Economic Geography*, 80(4), 381-405

Abstract:

What is the importance of business services decentralization in a Parisian metropolitan region known for its inherited monocentricity? Using revised statistical and cartographic methodological tools, I try to answer two debates: Is the new Parisian metropolitan economic geography one of dispersal or of polycentricity? Does decentralization mean the decline or the reinforcement of the economic core?

If secondary suburban economic centers benefit from business services decentralization trends, Paris City's neighboring spaces such as the Inner western suburbs of La Défense and Boulogne-Billancourt are affected too. This paper intends to demonstrate that polycentricity is not opposite to the constitution of a new golden triangle within the dense part of the agglomeration. This means both that economic centrality still matters (thus questioning that dispersed cities is the twenty-first century's metropolitan archetype), and that an enlarged CBD (Core Business District) straddling Paris and the western Hauts-de-Seine *département*, is being reinforced (thus invalidating CBD decline theory). Thanks to the widening of the business district from Paris to La Défense, the labor market remains an integrated one; meanwhile, secondary economic centers in the Outer Suburbs tend to create fragmented sub-regional labor markets of their own.

Key words:

business services, economic decentralization, polycentricity, spatial differentiation, labor market sub-fragmentation.

Introduction

Business services location is going through a mutation at both the international and intra-metropolitan levels. From Peter Hall's world cities in the 1960s (Hall 1966) to Sassen's "global city" (Sassen 1991), research on worldwide metropolitan regions has been blossoming. According to Sassen, globalization dynamics, is characterized by both an increasing importance of international exchanges (including financial flows) and a reorganization in corporate strategies in order to access this world market, has led to the constitution of particular metropolitan regions such as London, New York, and Tokyo. These regions are all characterized by the importance of financial and service producers' activities which have therefore been taken as indicators of the globalization degree of cities. The more important the share of service producers, the more global a city is. In this regard, Paris has been the focus of a debate that is still ongoing. Sassen included it in her list of global cities while some specificities of the Paris metropolitan region still seem to contradict such a choice (see Sassen 1994). Going past this "global city" argument, Veltz's (1996) work has established how the Paris region belongs to what he calls an "archipelagic economy" which tends to associate key economic regions in a global network. Such a network has been studied recently by the Loughborough Group Analysis of World Cities (GaWC) (see Taylor 2003; and on London's case, Beaverstock, Smith, and Taylor 2003), which illustrates how the strategies of multinational firms rely on specific nodes embodied by some major urban regions; in this ranking, Paris comes second in Western Europe, just after London. Daniels's work point out how the dynamics observed at the international level are linked to the reconfiguration of the intra-metropolitan geography (Daniels 1993).

As early as the 1960s, Gottmann focused on the intra-regional level with his analysis of the Megalopolis. The French geographer depicted a multicentered urban organization stretching from Boston to Washington where the strongly interrelated economic centers were benefiting from functional and spatial division of the productive system (Gottmann 1961). Since then, urban and economic geographers have endeavoured to document the reorganization of productive systems as secondary economic centers have grown in often traditionally monocentric city-regions. In the case of North American metropolitan regions for instance, the suburbanization of service producers has

been theorized by the terminology of “third wave” decentralization (Cervero 1989); that is, business services tend to leave the historical Core Business District (CBD) for more attractive peripheral suburban places and, in so doing, following the earlier departure of population, manufacturing, and household services. However, if the existence of this dynamic is well recognized in the scientific community, it raises two geographical debates that are still unsettled; namely, whether the new Parisian metropolitan economic geography is one of dispersal or of polycentricity and whether decentralization means the decline or the reinforcement of the economic core. This paper will address these debates by looking at the case of the Paris region.

Reevaluating Business Services Deconcentration

At the outset, the importance of business services decentralization in reshaping the economic geography of cities must be evaluated. The North American CBD-centered urban agglomeration is sometimes described as a form of the past. The “corporate exodus” observed in the case of New York for instance has led some authors to predict the death of cities (Jacobs 1963). In this context, what new spatial patterns do metropolitan regions adopt? The Californian examples of Silicon Valley and Orange County (Gordon and Richardson 1986, 1996a) demonstrate the constitution of dispersed urban regions where CBDs’ tend to be small, as if unable to compete with vast fast-growing suburban areas. Other case studies show that spatially limited suburban economic centers, known as “edge cities” (Garreau 1991), are emerging on peripheral areas, creating polycentric metropolitan regions. This geographical debate questions the meaning of centrality. If “edge cities” are still economic concentrations, even if on the outskirts of urban agglomerations, dispersion trends signify on the contrary the end of “economic centrality” as large, noncentered sub-regions are being constituted.

Secondly, the interpretation of decentralization processes is puzzling. Some U.S. authors argue that it is a proof of CBD decline (for instance, Garreau, 1991). According to them, traditional business districts have become less efficient places, unable to compete in the global economic system: their office market is said not only to be inadequate and too expensive but also to suffer the consequences of a negative image due to traffic congestion and social tensions. Against this perspective, some Canadian researchers argue the CBD is in fact

being reinforced (Coffey and Polèse 1996). If major Canadian urban regions face the business services decentralization trends, this process cannot be explained by factors that are identified as being specific to U.S. cities as is illustrated in the case of Montreal (Coffey, Drolet, and Polèse 1996). Business services departure expresses rather the selective consolidation of the traditional CBD that manages to send away in peripheral locations low value-added services, and hence to keep concentrating high-order activities, thanks to expensive office markets.

The strengthening of the competition for central location is not to be taken for granted. As Information and Computer Technologies (ICT) and telecommunications develop and as transport costs decrease, one could think that location does not matter as much as it used to (Cairncross 1997). Indeed, to locate a firm in the periphery of a major metropolitan region is a way both to benefit from agglomeration and size economies and to reduce central location diseconomies. In other words, it allows companies to be closer to the workforce and to cut down real estate costs while still being strongly connected to the central economic center, and to major national and international gateways such as airports, railway stations, and highways.

However, the literature insists that centripetal forces work against decentralization processes. Changes in the global economy as well as firms reorganizations have been used to explain that. In an internationalized economy, a firm must find the balance between the global and the local scale (the term "glocalization" has sometimes been used). Corporate strategies are looking for an equilibrium between the necessity to centralize decisions in order to increase efficiency and productivity gains, while still being decentralized enough to be reactive with the specificities of regional markets. Hence, the constitution of a multilayered network of world cities which are part of a hierarchical international urban system. For some authors, the logic underlying this decentralization of multinational firms relies on the necessity to be in contact with clients and partners as one of the specificity of the service sector is the involvement of the consumer during the production process (Bonamy and May 1994). Consequently, the development of ICTs induces that nonstandardized information which can only be collected through face-to-face contact becomes always more strategic (Graham and Marvin 1996; Castells 1996). Therefore, the closer the service producers are to their clients, the more productive the organization. In the French consulting industries, the numerous openings of secondary offices in

Lyon, Lille, Toulouse, or Marseille during the 1990s from Paris-based headquarters express this necessity. Transposed at the intra-metropolitan level, the face-to-face requirement pleads in favor of the most central locations in the city-region. However, in the Paris region, this factor must be balanced by public planning policies. Indeed, the regional *Schémas Directeurs* (Guiding Schemes) have been trying to develop a more polycentric urban organization based on a network of *Villes Nouvelles* (New Towns) and on public investments in railway and road transport infrastructures. The effects could promote the decentralization of activities.

Paris, a Test Metropolitan Region

The above-mentioned debates on the intra-metropolitan reconfiguration of main cities in the world have led to many case studies. To name but a few, Sydney, Copenhagen, or London urban regions have been the focus of research teams. Quite interestingly, the Sydney study (Pfister, Freestone, and Murphy 2000) has shown how deconcentration trends were effective in a metropolitan region which is one of low density and long distances. Being far away from the main economic center seems to make it easier for a secondary economic center to develop. In Copenhagen's case (Illeris 1997), the study of advanced business producers attested to the reality of decentralization trends by showing how a large sub-regional quadrant benefited from such dynamics, especially in ICT industries.

Hall proposed to generalize the results he observed in London to a set of Western European metropolitan regions (see the introduction to the 2003-2006 Interreg IIIb POLYNET project): rejecting the North America-based model of edge cities which does not seem to be efficient to depict old historical cities that have been rebuilding on themselves rather than expanding indefinitely (see Cattán, Pumain, Rozenblat, and Saint-Julien 1994; Huet 1998), he argues that decentralization in the cases of London, Randstad, Rhine-Rhur, Rhine-Main, and Brussels regions may be characterized by a "concentrated deconcentration." The decentralization of the metropolitan economic core benefits mostly secondary economic poles of the metropolitan region. In this context, studies of the Paris region are not numerous, as urban and economic geographers have often been reluctant to undertake analysis of a metropolis described as unchangingly monocentric.

It is true that the Paris region area is denser and more compact than common world cities (such as London for instance). Even if suburbanization processes are long historical ones, some of which can be dated as early as in the second half of the nineteenth century, no suburb stretches on over endless distances. If the Paris administrative region (Ile-de-France) is 12,000 km²—that is to say as big as the London metropolitan area (IAURIF, 2002)—however, only 20 percent of it is urban. With such a small size and a high density (the regional 900 inhabitants per km average in effect hides a much more important urban density in the agglomeration), the Paris region is unlikely to develop business services decentralization trends. This is explained by the fact that the development of secondary economic centers in the agglomeration requires competition against an historically predominant central core that is only a few kilometers away.

Moreover, as the political, economic, and cultural capital of France, Paris is not only the first metropolitan area in a macrocephalic urban system (Paris is seven times the size of Lyon, the second largest French city), it also concentrates many national-level activities. State government, national, and multinational headquarters as well as cultural centers have long been located within the 105 km² of the City of Paris. These very reasons make the study of the business services decentralization hypothesis through the Paris case even more relevant since this metropolitan region seems resistant enough to test the intensity of the processes of suburbanization of business services. Indeed, Beckouche's work (1999; Beckouche, Damette, and Vire 1997) during the 1990s demonstrates how the western districts (*arrondissements*) of Paris were no longer the only economic concentration as the business district La Défense, for instance, was gaining in importance. Alvergne and Shearmur (2002) proposed a detailed study of employment by business services. They observed a decentralization trend characterized between diffusion and concentration logics. Nevertheless, their approach does not go beyond the economic sector analysis and does not interrogate the spatial division of labor within the region.

Business Services Decentralization in the Paris Region: A Complex Spatial Reorganization

Against this background, I will analyze, in the remainder of this paper, the geography of business services not only by measuring the importance of decentralization trends, but also their consequences on the relationships between the main economic core and other secondary centers, as well as on the regional labor market geography. As decentralization trends occur, is the spatial division of labor getting more intense? Moreover, what is the role played by the traditional center: is it still the decisional core of the metropolis? What about new developing secondary economic centers: are they merely obeying central orders coming from the core or attracting more up-market activities? Finally, what is the nature of the relationship between economic centers: indifference, competition, co-operation? The Paris region used to be praised for its relative integration in one single metropolitan labor market (ROUSSEAU, 1998). Is sub-regional fragmentation, such as it is described in some of North American urban regions (GODFREY, 1995), occurring there as well?

The scale of analysis obviously matters in the understanding of metropolitan economic geography's transformations. Against the use of what seems to be too wide a spatial aggregate in some North American studies (mainly because of the nature of available data), I will not only map economic data at the broad scale of metropolitan areas, i.e., the city and its two peripheral rings, but also at much finer levels. The use of different scales allows us to go beyond a mere center/periphery approach, as most authors aspire to (see the recommendations of Gordon and Richardson 1996b, and to provide new insights on the complex reorganization that affects metropolitan economic geographies. Indeed the use of municipality level-based maps allows a more precise depiction of economic geography's transformations.

Moving Off Center: A Center/Periphery Analysis

The most common methodological approach to study job decentralization is the center/periphery analysis. To name but one major contribution, Gordon and Richardson's article (1996b) reached the conclusion that Los Angeles represented the norm rather than an outlier of decentralized urban region thanks

to a scientific protocol that compared population and employment geography between three areas defined as the Core City, the Primary Metropolitan Statistical Area, and the rest of the Consolidated Metropolitan Statistical Area. This represents the easiest way to study decentralization trends as most of the available data are given at this broad metropolitan scale.

To ensure comparability, I use the same methodological approach by defining three study areas: Paris City, the first metropolitan area referred to as Inner Suburbs (*Petite Couronne*), and a second larger one which I will refer to as the Outer Suburbs (*Grande Couronne*) (Figure 1). In order to track the changing localization of service sector activities, I use employment statistics given by the Insee (the French equivalent of the National Bureau of the Census) on the three last censuses (1982, 1990, and 1999). I will analyze all activities that can be defined as producing services mainly sold to firms. These belong to what has been called the “peri-productive” sector in the Strates’ team analytical grid (Beckouche and Damette 1993). Three main types of economic sectors are involved in this category: Business Services (such as management, marketing, accounting, legal affairs, IT, real estate, and R&D), Banking-Finance-Insurance, and Transport and Telecommunications industries. These jobs account for over 40 percent of total employment in the Ile-de-France region with a figure of around 1.85 million in 1999. The number has known an overall increase since 1982 (2.3 percent per year) with more than 640,000 new jobs, even though the first inter-census period of 1982 to 1990 shows a stronger growth than the second (1990 to 1999). The localization of producer services activities is more or less equally shared between Paris and its two suburban rings (Figure 2). With a figure of 485,000 producer services jobs, the Outer Suburbs are only slightly under the 635,000 and 700,000 of respectively Paris City and the Inner Suburbs. In an inherited monocentric agglomeration, this situation can only be explained by an intense spatial reorganization of the productive system.

Over the 1982 to 1999 period, if the overall growth of peri-productive jobs has been strong, it was however unequally distributed. Paris City for instance, the traditional producer services employment center of the metropolitan region did not benefit from this positive trend, finding it hard on the contrary to stabilize its own figure (-0.3 percent per year). Meanwhile, the rest of the region has known a steady expansion. The Inner Suburbs gained 300,000 producer services jobs with a variation of +4.5 percent per year, enabling it to become more

important in size than Paris City. The Outer Suburbs showed the highest variation rate over the period with +6.1 percent per year, that is to say a net gain of 247,000 peri-productive jobs. These figures recall North American authors' observations: there is a metropolitan decentralization gradient that benefits most "peripheral" areas.

A More Complex Geographic Pattern.

This description however is too simplistic: the center/periphery gradient is not sufficient to explain mutations in the metropolitan economic system. By changing the scale of observation, the decentralization processes appear more complex. To demonstrate this, I focus on statistical data at the *départemental* level. The Ile-de-France region is subdivided into 8 *départements* (equivalent of counties). Paris is a *département* by itself whereas the Inner Suburbs includes three of them (the Hauts-de-Seine, west of Paris, the Seine-Saint-Denis on the northeast, and the Val de Marne on the southeast), and the Outer Suburbs have four (the northwestern Val d'Oise, the northeastern and eastern Seine-et-Marne, the Essonne on the south part, and the southwestern Yvelines *département*) (Figure 1). In 1999, *départemental* figures show a distribution of producer services employment still dominated by Paris (Figure 3). The only *département* able to compete with the French capital is the Hauts-de-Seine with 368,000 producer services jobs (20.2 percent of the regional total). The six other *départements* are far behind, their producer services employment ranging from 100,000 to 180,000 jobs, that is to say from 5 percent to 10 percent of Ile-de-France's total. This indicates that the actual center of the metropolitan economy in 1999 is no longer Paris alone but the two *départements* of Paris and the Hauts-de-Seine. Somehow, the regional economic core has been enlarged to the first Western Inner Suburbs.

The *départemental* variation between 1982 and 1999 allows more subtle observations (Figure 4). If the four Outer Suburbs *départements* benefit from a steady growth (between +5.3 and +7.3 percent per year), thus confirming decentralization processes, the situation in the Inner Suburbs is much more unequal. Trends are utterly different between Val-de-Marne and Seine-Saint-Denis *départements*, where variation over the same period only slightly exceeds the regional average with +3 percent per year, and the Hauts-de-Seine's

spectacular growth (+6.2 percent per year). This confirms an imbalanced growth pattern in the center of the agglomeration between a fast growing western half and a slower developing eastern part. Consequently, the *départementale* approach testifies that observations made at a simple center/periphery level do not allow any definitive conclusions. Slightly changing the scale of analysis gives another understanding of the productive system's geography. In this case, the decline of the center against fast growing suburbs asserted by a center/periphery model is challenged by a view where Outer Suburbs' strong development is not opposite to the enlargement of the economic center from Paris to the Hauts-de-Seine *département*. The most precise spatial aggregate given by the Insee is that of the municipalities (*communes* in French). With over 1,300 of them in the Paris region, it allows the drawing of an accurate cartography of producer services employment. The aim is to understand the form taken by the decentralization trend. Thus, the question must be asked: Is the metropolitan region affected by dispersal dynamics producing large sub-regional producer services employment area or is it limited to a few economic centers, i.e. dispersion versus "concentrated deconcentration" theories?

In 1999, the cartography of producer services jobs showed the predominance of a triangle-shaped area centered on Paris and its adjacent western municipalities (Figure 5). The three summits of this triangle are the western *arrondissements* (districts) of Paris, known as the Financial City (218,000 peri-productive jobs); La Défense economic center and its neighboring municipalities, located in the middle of the Hauts-de-Seine *département* (165,000 service producers jobs); and Boulogne-Billancourt/Issy-les-Moulineaux/Paris' southern districts, located mostly in the eastern part of the Hauts-de-Seine *département* (120,000 peri-productive jobs). The rest of Paris' western districts and of the municipalities linking the French capital city to La Défense (Neuilly-sur-Seine, Levallois-Perret and Clichy) must be added to depict what is the new golden triangle of the Paris region. Altogether, it is nothing less than 610,000 peri-productive jobs, almost 40 percent of the regional total.

Meanwhile, even if not weighing as much in the Ile-de-France economic structure, "secondary economic centers" (Cervero 1989) can be identified: the 12th and 13th *arrondissements* on the eastern part of Paris (77,000 peri-productive jobs); the two airports of Orly and Roissy (34,000 and 50,000); and the *villes nouvelles* (the Paris region's new towns) that are eastern Marne-la-

Vallée (37,000 peri-productive jobs), southeastern Evry and Sénart (30,000), southwestern Saint-Quentin-en-Yvelines (34,000), and northwestern Cergy-Pontoise (26,000). To what extent is this description related to the last 20 years of spatial mutation of the regional economic system? Paris' business district is affected by a decline of producer services employment. Between 1982 and 1999, it lost 77,000 jobs, that is to say a decrease of over a quarter of its original size. On a broader Parisian scale, only the eastern districts of the French capital (mainly the 12th *arrondissement*) have been able to keep up with the regional development pace (+3.1 percent, a gain of 27,000 jobs). Highly contrasting with this Parisian decline, the middle of the Hauts-de-Seine *département* area, pulled up by La Défense, shows the strongest regional variation (+7.9 percent per year, +94,000 peri-productive jobs). The southern part of the Hauts-de-Seine *département* is not far behind, with an additional 44,000 jobs and 17,000 jobs, respectively, for Boulogne-Billancourt/Issy-les-Moulineaux and the south Hauts-de-Seine. Economic development is spreading on a spatial contiguity basis, leading to the formation of the triangle shape core straddling Paris and the Hauts-de-Seine *département*. If this phenomenon had been noticed by some authors before (Beckouche 1999), it has never been demonstrated that clearly so far.

More recently, in the last decade, the spatial expansion of the Paris region CBD seems to have benefited other municipalities as if even the Hauts-de-Seine were now becoming close to being saturated. This is obvious with the two northern municipalities of Saint-Denis and Aubervilliers (9,000 peri-productive jobs gained over the 1982 to 1999 period), yet this pattern remains to be demonstrated with other municipalities surrounding Paris along the internal expressway (the "Périphérique"). However, recent data on office market geography tend to confirm such a trend (Bertrand and Diziain 2002).

Outer Suburbs face the same dramatic geographic transformation. If residential areas are hardly affected at all, two main economic trajectories can be observed. First, relatively isolated secondary economic centers are growing vigorously. They are spreading only in a few surrounding municipalities such as Roissy (+10.7 percent per year, a gain of 32,000 peri-productive jobs), Cergy (+8.1 percent per year, a gain of 15,000 jobs) or Evry (+11.9 percent per year, a gain of 13,000 jobs). In other parts of the metropolitan area, producer services corridors are being constituted. They link two or more secondary economic

centers either together or to the central metropolitan triangle. Examples are in the eastern part of the region with Marne-la-Vallée (+19.8 percent per year, that is to say a gain of 29,000 peri-productive jobs) and in the south with an axis stretching from Saint-Quentin-en-Yvelines to Saclay (a cumulated gain of 50,000 peri-productive jobs). However, this last example of the constitution of an important secondary peri-productive area is nothing in comparison to the large sub-regional dispersed examples depicted in California.

Over the last 20 years then producer services employment decentralization, or more exactly the distribution of this growth, seems to favor a reorganization of the metropolitan economic geography. From a rather monocentric agglomeration under the predominance of a single Parisian business district at the beginning of the 1980s, the geography of the economic system has become one of a metropolitan region whose structure, far from being dispersed as seen in some North American cities, is rather polycentric. This confirms that central location - or at least economic centrality whether in the middle of the agglomeration or on its edges - still matters.

The Limits of Deconcentration: The City Center Reinforcement Hypothesis

In light of the above, what are the reasons explaining the decentralization process affecting producer services jobs? Is the business district suffering a decline that benefits other areas of the metropolitan region or is this deconcentration process, on the contrary, a testimony to its increasing strength? The answer to this question will vary depending on the indicators being looked at. The first difficulty then is to reach a scientifically shared definition of which activities embody today's economic centrality. Most authors agree on a list of business services often described as "high-order services activities" or "advanced services producers" (Coffey, Drolet, and Polèse 1996). Behind the labels, it is however sometimes difficult to be sure either of the exact content of the data used to localize such markers of economic centrality, or of its comparability with other case studies' statistics.

I propose that a mere economic sectors analysis is not sufficient. Most of the time, high-order services are defined as a set of economic sectors such as headquarters or knowledge intensive business services (KIBS). A nonexhaustive

list would have the jobs involved in management, accounting, legal affairs, finance and real estate, etc. (Alvergne and Shearmur 2002). But even in such sectors, as in any others, all the employees are not highly qualified professionals. Some of the labor force, sometimes a majority of this force as described by a SIC code such as in many headquarters, is only partly qualified (clerical jobs for instance). Therefore, studies of high-order services are often biased, taking into account jobs that are not relevant to the question. To map the “advanced service producers,” it is therefore necessary to go through an analysis crossing economic sectors *and* business functions.

This is possible in the Paris case thanks to the STRATES statistical tool whose interest is in its capacity to inform every single job with two pieces of information: the economic sector which describes the main activity of the firm employing the labor force (based on the French equivalent of SIC Codes), and the professional function which details the specific activity of each employee within a firm (managerial staff, technicians, researchers, etc.). The aim of this tool is not only to go beyond a too simplistic an economic description opposing secondary and tertiary activities, such a distinction being nowadays too rough to understand the complexity of productive systems, but also to add functional information to sectoral analysis. In our case, “advanced services producers” show the following characteristics: they belong to the economic sectors of either Production (manufacturing, building, agriculture) or Peri-production (business services, Finance-Bank-Insurance, or Transport & Telecom); they deal with functions of justice, culture, research, management, engineering, or logistics; and they belong to the upper professional categories (highly qualified white-collar workers).

According to the above, in 1999 the Paris region accounted for around 700,000 high-order services jobs, representing 15 percent of the regional labor force. Business services gather over half of the total, well ahead of the Manufacturing (20 percent), Banking (12 percent) and Transport & Telecom (11 percent) sectors. In terms of functions, Management is predominant (53 percent), followed by Marketing (17 percent) and Research-Development (16 percent).

Advanced Services Producers' Geography: A Central Location in 1999.

High-order services are slightly more concentrated in the geographic center of the agglomeration than the producer services economic sector. In 1999, the French capital City and the Inner Suburbs count 240,000 and 284,000 high-order services jobs, that is to say 35 and 41 percent, respectively, of the regional total. The Outer Suburbs are lagging behind with only 24 percent of Ile-de-France region, a low figure compared to their share of a third of the total regional labor force. Location quotients calculated as the share of high-order services of the share of peri-productive employment testifies this rather more central location. If the Paris location quotient is close to 1 (indicating no particular specialization in high-order services) the Inner Suburbs value is of 1.25, outnumbering the Outer Suburbs result by 0.74.

The *départementale* analysis details this observation. With 28 percent of the regional high-order services employment, the Hauts-de-Seine are not far from Paris. Meanwhile the Yvelines, (the western and southwestern *département* of the Outer Suburbs), is twice as big as any of the remaining *départements*, with 70,000 high-order services jobs (10 percent of the regional total). This indicates not only the predominance of Paris and the Hauts-de-Seine (the latter department location quotient is of 1.41) as the core of the regional economic system (63 percent of Ile-de-France's high-order services jobs are in these two *départements*) but also the enduring nature of an east/west imbalance, the Yvelines and the Hauts-de-Seine *départements* representing over 60 percent of regional high-order employment outside Paris (their cumulated location quotient is of 1.69).

The cartography at the scale of municipalities gives a more precise view (Figure 6). First of all, the central metropolitan nature of high-order services is confirmed: the center of the metropolitan region is where the most important number of jobs are concentrated. Then again, we identify the golden triangle mentioned earlier with the study of peri-productive activities (Paris' business districts in the Western *arrondissements*, La Défense and its surroundings, linked to the French capital by the municipalities of Neuilly-sur-Seine and Levallois-Perret and the third summit of Boulogne-Billancourt/Issy-les-Moulineaux). With

361,000 high-order services jobs in 1999, that is to say over half of the regional total, it is not only the business core of the Paris metropolitan region but also its most important decision making center. On the contrary, the eastern Parisian districts and their neighboring municipalities in the north and east of the Inner Suburbs have only few high-order services jobs as if unable to compete with the center.

In the Outer suburbs, high-order services are not numerous. Yet, secondary centers and corridors can be observed: Cergy, Roissy, and Noisy-le-Grand (Marne-la-Vallée) are some examples (9,000 to 12,000 jobs each). However, the most impressive concentration is located in the southwestern part of the metropolitan region. This is mainly the corridor linking Saint-Quentin-en-Yvelines to Vélizy-Villacoublay (33,000 high-order services jobs) and the axis between Massy and Saclay (16,000 jobs).

1982–1999: Reinforcement of the Center?

High-order services have been growing strongly in the Ile-de-France region, passing from 450,000 jobs in 1982 to 700,000 in 1999, that is to say a gain of 3.35 percent per year over the period. This variation must be compared to the global labor force evolution which shows a growth of 0.4 percent per year on the same period. In other words, high-order services have largely contributed to the overall variation in the labor force market between 1982 and 1999, its share rising from 10 percent of the regional total workforce to 15 percent. If the Inner and Outer Suburbs gained respectively 127,000 and 92,000 high-order services jobs (+4.7 percent per year and +6.7 percent per year), Paris has also benefited from this general trend with an increase of 34,000 jobs (+0.9 percent per year) (Figure 7). However, the French capital suffered a decline relatively to other metropolitan areas going from 47 percent of regional high-order services employment in 1982 to 34 percent in 1999. At first glance, one would think considering the center/periphery approach that the economic core is declining. A finer spatial analysis tends to show the contrary.

In order to measure the importance of the transformation of high-order services location within the metropolitan region, I refer to the coefficient of

concentration.¹ In 1999, its value is 55 for the Ile-de-France population, 88 for the whole labor force, and 171 for the high-order services jobs. This confirms that high-order services are more concentrated than the labor force, which is itself more than the population. Between 1982 and 1999, the coefficient decreases (it was 253 in 1982): high-order services employment is being distributed to a more important number of municipalities. This is however not enough to diagnose a decline of the Parisian center.

A cartographic analysis on the variation of high-order services employment between 1982 and 1999 clearly shows two distinct but still complementary trends. First of all, the places that have the most important variation in size are La Défense (+50,000 jobs) and Boulogne-Billancourt/Issy-les-Moulineaux (+25,000). The first conclusion to be drawn is therefore that Paris CBD decentralization benefits mostly the two main economic centers of the Hauts-de-Seine *département*. In other words, metropolitan economic centrality is not put at stake but rather enlarged. Meanwhile, this broadening of the core center is not opposite to the development of secondary economic centers in Outer Suburbs. The southwestern part of the metropolitan region comes first: Saint-Quentin, Vélizy, Massy, and Saclay are going through an impressive variation showing the highest growth rates of the region (over 17 percent per year for some of them, that is to say a cumulated variation of +34,000 high-order services jobs). With smaller figures, it also verified in Cergy, Roissy, and Marne-la-Vallée (a gain of 6,000 to 10,000 jobs).

In conclusion, there is no such thing as a declining central core in the Paris region but instead one can observe a redistribution of its strong growth toward close neighboring western municipalities (chiefly La Défense and Boulogne), a redistribution that in fact widens its extent. This, however, does not prevent the development of secondary economic centers in the Outer Suburbs, and more specifically in the southwestern suburbs. As it follows, the renewed metropolitan economic geography is one of complex dynamics leading to a new spatial division of labor.

¹ Coefficient of concentration or Herfindahl coefficient = square sum of *municipal* shares. The stronger the coefficient, the higher the concentration. If a coefficient is high, then only a few *municipalities* gather a large part of employment.

Towards a Dissociated Polycentricity?

In order to study the spatial division of metropolitan labor (restricted in this case to peri-productive activities), I focus, in the last section of this paper, on main employment concentrations. The methodology is based on a two-step protocol. First, thresholds to select main municipalities are defined, i.e., at least 2,600 peri-productive jobs and a density of producer services and high-order services jobs per built urban space over respectively 10 and 4: a hundred municipalities meet these criteria. Secondly, municipalities are gathered together into economic centers according to spatial contiguity criteria, economic profile likeness (economic sectors as well as functions), and identity of their recruitment area. Thanks to this method, 21 producer services economic centers are identified in the Paris metropolitan region. Only amounting to 8 percent of the region's municipalities, they represent nothing less than 62 percent of the labor force, 72 percent of Ile-de-France's peri-productive employment, and as much as 79 percent of high-order services jobs. These figures are an indicator of Paris' metropolitan polycentricity.

Differences between these economic centers are to be acknowledged according to their location within the urban region, their branch sectors and functions specializations, and the proportion of high-order services employment in their labor force. This has led us to build a typology describing the metropolitan spatial division of labor, a division that can be summarized as one of "dissociated polycentricity." This refers to the hypothesis that there is a link between economic geography's polycentric shape and the requirements of the productive system where economic sectors and functions are being partly dissociated within the intra-metropolitan space. One could reverse the narrative and, observing the division of labor, would assume a rather "integrated polycentricity" as each economic center would have a definite role in the spatial organization. This point cannot be settled until we manage to shed light on economic flows exchanged between these places as integration requires dense and regular relations in the day-to-day functioning of the economic system.

The Ile-de-France's regional average shows a diversified profile already depicted in the scientific literature (Beckouche and Damette 1997). From a mere large economic sectors point of view, if business services represent almost 65 percent of all peri-productive jobs, far ahead of Transports and Telecom and

Finance-Bank-Insurance industries (respectively 22 and 13 percent), when examined closer at detailed economic subsectors, it appears that no activity exceeds 15 percent of regional peri-productive jobs (Figure 8). Transports, Bank-Insurance, Management and wholesale trade are the four most important with a share of 13 to 14 percent. With values only half as big, IT, telecom, and other general services to firms rank second. All other activities account for under 5 percent of Ile-de-France's peri-productive employment (R&D, marketing, engineering). In terms of broad functions, the Immaterial production activities (conception, management, marketing) are more important than "concrete" ones (63 and 22 percent of regional peri-productive jobs, respectively) (Figure 9). This indicates the strong extent to which the Parisian productive system is involved in the development of a knowledge-intensive and information economy (Ascher 1995).

Among the 21 economic centers mentioned, only a few are close to the regional average, hence confirming an intense differentiation within the metropolitan region. The near average economic centers are located in Paris City (such as southeast Paris, middle-east Paris, or east Paris) or in the Inner Suburbs (Créteil). All being respectively in the dense part of the agglomeration, they are urban centers, sometimes even with an important number of producer services jobs. Their economic sector profile is diversified, their functions are predominantly those of Abstract production and their share of high-order services jobs is not especially strong. However, these economic centers remain the exception in an economic system where specialization is the norm, as for instance in the business districts.

Economic Centers' Specialization

Business Centers.

Business centers are defined as having predominant Management and Finance-Bank-Insurance activities, abstract functions largely exceeding the regional average, especially in Marketing and Management, and an important proportion of high-order services. Five business centers meet these criteria in the Paris region, four of which constitute the central metropolitan triangle: Paris-Financial City, Paris' western districts, La Défense, Boulogne-Billancourt/Issy-les-Moulineaux, and, in the Outer Suburbs, Saint-Quentin-en-Yvelines.

Slight differences distinguish these economic centers. The Financial City and Western districts of Paris are the traditional financial and headquarters centers. For instance, in Paris' Financial City, the banking and insurance industry counts for no less than 35 percent of peri-productive employment while Management activities represent 18 percent (Figure 10). La Défense, while also a financial center, is home to Wholesale trade and IT companies as well in quite a large proportion. Boulogne's economic center is more specialized in the telecom and media industries. As for Saint-Quentin-en-Yvelines, its profile is in-between two categories. It is impossible to deny its business-oriented profile as Management activities are important (14 percent). However, this *ville nouvelle* also has an economic profile close to neighboring suburban economic centers that show a more high-technology and research-development-oriented profile.

Southwestern "Technopolitan" Centers.

"Technopolitan" economic centers (Benko 1991) are specialized in high-technology activities such as IT, telecom, R&D or engineering, in a way far exceeding the average of the Ile-de-France region. This reflects an upstream activities orientation. In terms of functions, it is no surprise that immaterial production dominates, with research and conception jobs being over-represented. This explains why these economic centers have the highest rate of high-order services in the region, outnumbering even the central core.

Straddling the Yvelines and the Essonne *departments*, the "technopolitan" centers are gathered in a clearly-delimited southwestern part of the Outer Suburbs. On top of Saint-Quentin-en-Yvelines, the Hauts-de-Seine Sud, Vélizy-Villacoublay, Saclay, and Massy belong to this high-technology employment category. If each center has its own specificities – such as Saclay, for instance, which is dedicated to research activities – overall, they express the same "technopolitan" specialization.

Downstream Activities Economic Centers.

The remaining economic centers all fit the same profile. In terms of economic sector, downstream activities such as logistics or wholesale trade are over-represented. Incidentally the material production functions, if not always prevalent, are more important than in the regional average. Moreover, employment in high-order services is low.

Where are these secondary economic centers located? In the case of the two economic centers of Saint-Denis and the north Hauts-de-Seine, they are located in some traditionally industrialized places of the Inner Suburbs presently undergoing economic conversion processes. There, logistics and wholesale trade account for over half of all producer services jobs (a quarter only in the regional average). Although a bit more diversified, the *Villes Nouvelles* (Saint-Quentin-en-Yvelines excluded) have yet a rather high proportion of material production functions. Only Cergy in the north appears a little closer to the regional average as it has a nonnegligible share of Management activities. Lastly, a little aside in this category, Roissy and Orly airports are, as can be expected, specialized in material production (over half of their jobs against a regional average under a quarter), which can be explained by the importance of logistics activities.

To sum up, the functional- and sector-based analysis of the 21 main economic centers demonstrates bold intra-metropolitan specialization between a metropolitan core dedicated to business activities and Management functions; a southwestern “technopolitan” area leading high-technology industries and R&D functions; and the remaining downstream activities centers in the Inner and Outer Suburbs. How then does this spatial division of the peri-productive system change the labor market geography? I will explore this question before I turn to my conclusion.

Sub-fragmentation of a Once Integrated Labor Market?

Regional and national planners as well as scientists have long been insisting on the role of a large and integrated labor force market to explain the high economic productivity of the Paris metropolitan region.² At least as early as 1965 with the “Schéma Directeur d’Aménagement Urbain de la Région Parisienne”, regional planning documents underline the necessity of a developed and efficient infrastructure system enabling the transportation of virtually all workers anywhere in the region, thanks to urban highways or the Regional Express Railway. The coherence of a compact and interconnected labor market

² The term “integrated” is understood as reflecting the fact that most municipalities of the metropolitan region were sending an important share of their commuters to the economic core of Paris.

has even been put forward as a key explanation for the higher productivity of the Paris region over other French cities (Rousseau and Prud'Homme 1992).

The transformation of the Paris agglomeration from a monocentric city to a more polycentric metropolitan region can have strong impacts on the once praised integration of the labor force market. As it has been shown in North American metropolitan regions such as New York (Godfrey 1995), European cities, traditionally described as less fragmented than other urban regions in the world, might be at a turning point with the constitution of sub-regional labor markets. In order to evaluate the reality of such a phenomenon and to measure to what extent it can be explained by the deconcentration hypothesis, I propose to map commuting producer services jobs of the 21 economic centers identified earlier. Two simple cartographic indicators are being used: the "attraction range" which is defined as the number of municipalities sending at least 10 producer services workers toward the economic center, and the "polarizing intensity" which refers to the number of municipalities sending at least 10 percent of their producer services workers to the economic center studied. The first indicator measures the maximal geographic range of the economic center, the second its capacity to command fully or partly a labor market. Figure 11a illustrates these two indicators: a *municipality* belongs to the attraction range of an economic center if its color is everything but white; conversely, it is part of the polarized area if darkened.

Paris: A Decreasing Influence.

In 1982, Paris Financial City's influence is predominant within the agglomeration (Figure 11a). Its attraction range exceeds 650 of the 1,300 municipalities allowing it to recruit workers far into the Outer Suburbs, especially along the RER A train line. Its influence is a bit stronger in the northern half of the region affecting as many as 580 municipalities in the whole region. Twenty years later, the situation has dramatically changed. If its attraction range has slightly increased (10 percent), following in doing so the expansion of the metropolitan area, Paris Financial City suffers a strong diminution of its capacity to command a regional labor market. Its polarizing intensity has diminished by half between 1982 and 1999. In other words, if Paris Financial City is still the biggest economic center, it is not as predominant as it used to be as a labor force recruitment area.

What about the other economic centers within Paris? All of them seem to be suffering the same decline. For instance center and east Paris (10th, 11th, and 19th *arrondissements*) used to be in 1982 the second economic site both in terms of attraction range and polarizing intensity in the Ile-de-France region (with respectively 450 and 150 municipalities). Its polarization area was sensed as far as the Outer Suburbs' fringes of a large eastern half of the agglomeration. In 1999, its polarizing intensity has crumbled with a 75 percent decrease in the polarization area. Today, it commands solely its own districts and a few small and far away municipalities.

Inner Suburbs: Too Strong a Competition.

The Inner Suburbs' economic centers located close to Paris face the same difficulties. No matter how fast growing they are, their influence within the metropolitan region has not strengthened. Créteil for instance with an attraction range of 100 municipalities in 1982 and 173 in 1999 has not managed to reinforce its capacity to command a local labor market: in 1982 it polarized no municipalities but itself, in 1999, it is still limited to 10 small residential municipalities of its immediate surroundings. This observation on stagnating economic centers is also verified with a fast growing center such as Boulogne-Billancourt/Issy-les-Moulineaux. Even though it has become a major central economic concentration within the metropolitan business core, it has seen its polarizing intensity decline by over a third between 1982 and 1999. This observation can be extended to Vélizy-Villacoublay (Figure 11b), an important economic center specialized mostly in high tech industries. In conclusion, all Inner Suburbs' economic centers, squeezed between Paris and the Outer Suburbs act as if stopped in their capacity to command a well delimited labor market area. All but one.

The Spectacular Growth of La Défense.

In 1982, La Défense had already acquired a reasonable weight considering its short history, the first office tower being built in 1964. With an attraction range only a little under 400 municipalities and a polarizing intensity close to 50 municipalities, it used to be part of the secondary economic centers by size following those of Paris. It managed to command the labor market of its

neighboring municipalities, and even a bit further in the eastern fringe of the Yvelines *département*.

Twenty years later, La Défense has vigorously consolidated its position within the regional labor market. Its polarizing intensity has increased by 150 percent, that is to say one of the strongest positive variation rates, a spectacular result considering its already important size in 1982. It is now ranking second by its extent with 560 municipalities, closely following Paris Financial City. In fact, almost the entire metropolitan region is now within reach of La Défense. Moreover, with 150 municipalities polarized, it commands a large northwestern sector if not the entire western half of the region. Not being quite as influential as Paris, La Défense is helping the French capital city to maintain the integration of a fragmenting regional labor market.

Sub-fragmentation in the Outer Suburbs.

All the other influence-growing economic centers are located in the Outer Suburbs: Roissy, the five *villes nouvelles*, and Saclay have witnessed a powerful reinforcement of their attraction range, far exceeding the general metropolitan expansion. They consolidate their polarizing intensity thanks to variation rates over 150 percent, figures that cannot be explained only by the weakness of their situation in 1982. Their polarization area is not going toward central sites of the agglomeration but in the direction of all Outer suburbs' municipalities. Resisting against a traditionally dominant Parisian center, competing successfully with intermediate economic centers located in the Inner Suburbs, they show an evident ability to turn themselves into sub-regional labor market centers. Saint-Quentin-en-Yvelines, for instance, is going from a situation in 1982 where it used to command only a few neighboring municipalities to a broad influence in 1999 over a large southwestern part of the region. As a result, a two-faced phenomenon can be observed. At the regional scale, the strong development of La Défense, while making up for the relative stagnation of Paris, tends to uphold the existence of a metropolitan labor market. Meanwhile, at a more local level, secondary economic centers, located far enough from the metropolitan triangle core, are growing steadily and become sub-regional labor market centers.

Conclusion

The last 20 years of metropolitan economic geography have seen dramatic changes in the Paris region. To understand this complex reorganization, I insisted first on the importance of carefully choosing the scale of analysis. Zooming from business district versus inner and outer suburbs analyses to the *municipal* scale enabled us to shed new light on metropolitan economic system's transformations. Four main observations have been made. First, the decentralization trends of business services are affecting the Paris region even if its inherited geography seems to be resistant. Spatially, the form of the business services decentralization is not dispersed but on the contrary polycentric ("concentrated deconcentration"). This polycentricism occurs within the limits set by Paris' specific geography, that is to say one of a rather small and dense agglomeration. Second, decentralization dynamics do not mechanically induce the decline of the traditional business district. The Paris case shows that not only is economic centrality still a key-element to understand contemporary economic trends, but also that the central metropolitan service pole is enlarging its position while concentrating upper market activities. Its strength is such that it tends to spread to neighboring spaces (La Défense, Boulogne-Billancourt/Issy-les-Moulineaux). Third, the constitution of a more polycentric metropolitan region is correlated to a strong spatial differentiation of services activities (what I have called in the paper "dissociated polycentricity"). If main business services are still located in a widened metropolitan core, high-technology and R&D activities are gathered in the southwestern part of the region and most downstream activities are concentrated in secondary economic centers in inner and outer suburbs. Fourth, the constitution of a more polycentric urban region seems to induce a transformation of the labor market geography. If the core area manages to keep a regional influence on the entire metropolis, mainly thanks to the increasing influence of La Défense, secondary economic centers located in the Outer Suburbs are able to organize partly or fully sub-regional labor markets. In other word, both integration and fragmentation trends coexist.

It must be stated that this paper did not intend to explain the factors causing the reorganization of Paris metropolitan economic geography but rather to detail as precisely as possible the spatial dynamics affecting the productive system. It is therefore the first step of a research agenda that proposes two

avenues for further analyses. The first one is to study some factors that have been depicted in the literature as key-elements to understand what seems to be a new metropolitan economic geography. A brief introductory list would include the analysis of corporate organizational and spatial strategies as the change in market scale induces a reconfiguration of the internal organization of firms in a globalization context (Mucchielli 1998); the study of the real estate market as there seems to be a shift from a demand-driven market to a more supply-oriented economy where investors and real estate developers arbitrate risk and profit according to the location within the metropolitan region - central location often minimizes risks when peripheral locations maximize profit (Nappi-Choulet 1997); and the observation of public institutions in terms of planning principles, which have been important in the case of Paris in terms of modeling perceptions of other key-actors, and of actions (investments, territorial marketing, etc.) in order to promote a more polycentric pattern. The latter question is all the more central today as a new regional Schema Directeur is in preparation.

The second axis of this research agenda points in another direction which aims not only at explaining spatial dynamics but also at describing the day-to-day functioning of the urban system. Against what is a static geography informing only characteristics of spaces, a new geography must be undertaken in order to improve our understanding of the spatial working of the productive system in its day-to-day relationships. In Castells's terminology, it is necessary to go beyond a geography of places to one of flows. Does a polycentric shape induce systemic relationships? In other words, do economic centers constituting the polycentric geography of the metropolis actually exchange flows of data, money, information, and workforce? This poses a challenge as public statistics are not adequate to work at the metropolitan scale nor at the firms level. To do so, it is necessary to invent new data sources. Qualitative work based on firms interviews or on theoretical firms networks are one way to achieve such a difficult goal (see GaWC analyses on the global networks). The other is to create comprehensive databases that record firms' flows as I am currently doing with the French national public operator in the case of the Paris metropolitan region.

References

- Alvergne C., and Shearmur, R. 2002. Intrametropolitan patterns of high-order business service location: A comparative study of seventeen sectors in Ile-de-France. *Urban Geography* 39(7):1143-63.
- Ascher, J.-F. 1995. *Metapolis ou l'avenir des villes* []. Paris: O. Jacob.
- Beaverstock, J. V.; Smith, R. G.; and Taylor, P. J. 2003. The global capacity of a city: A relational study of London. In *Globalization, theory and practice*, 2d ed., ed. E. Kofman and G. Youngs, 223-36. London: Continuum.
- Beckouche, P. 1999. *Pour une métropolisation raisonnée: Diagnostic socio-économique de l'Ile-de-France* []. Paris: La Documentation française.
- Beckouche, P., and Damette, F. 1993. Une grille d'analyse globale de l'emploi []. *Economie & Statistiques*, 270:37-50.
- Beckouche, P.; Damette, F.; and Vire, E. 1997. *Géographie économique de la région parisienne* []. Paris: Direction Régionale de l'Équipement d'Ile-de-France.
- Benko, G. 1991. *Géographie des technopôles* []. Paris: Masson.
- Bertrand, J., and Diziain, R. 2002. Construction de bureaux 2000-2004: L'attrait de la couronne parisienne []. *Note rapide sur le bilan du Schéma Directeur Régional d'Ile-de-France* 308:1-4.
- Bonamy, J., and May, N. 1994. *Services et mutations urbaines. Questionnements et perspectives* []. Paris: Economica.
- Cairncross, F. 1997. *The death of distance: How the communications revolution will change our lives*. Boston: Harvard Business School Press.
- Castells, M. 1996. *The rise of the network society*. Malden, Mass.: Blackwell.
- Cattan, N.; Pumain, D.; Rozenblat, C.; and Saint-Julien, T. 1994. *Le système des villes européennes* []. Paris: Anthropos.
- Cervero, R. 1989. *America's suburban centers*. Boston: Unwin Hyman.
- Coffey, W. J.; Drolet, R.; and Polèse, M. 1996. The intrametropolitan location of high order services: Patterns, factors, and mobility in Montreal. *Papers in Regional Science* 75(3):293-323.
- Coffey, W., and Polèse, M. 1996. Examining the thesis of CBD decline: Evidence from Montreal metropolitan area. *Environment & Planning A* 28:1795-814.

- Daniels, P. W. 1993. *Service industries in the world economy*. Oxford/Cambridge, U.K.: Blackwell.
- Garreau, J. 1991. *The edge city: Life on a new frontier*. New York: Doubleday.
- Godfrey, B. J. 1995. Restructuring and decentralization in a world city. *Geographical Review* 85(4):436-57.
- Gordon, P., and Richardson, H. 1986. The distribution of population and employment in a polycentric city: The case of Los Angeles. *Environment & Planning A* 18:168-73.
- _____. 1996a. Beyond polycentricity: The dispersed metropolis (Los Angeles, 1970-1990). *Journal of the American Planning Association* 62(3):168-73.
- _____. 1996b. Employment decentralisation in US metropolitan area: Is Los Angeles an outlier or the norm? *Environment & Planning A* 28:1727-43.
- Gottmann, J. 1961. *Megalopolis: The urbanized northeastern seaboard of the United States*. New York: The Twentieth Century Fund.
- Graham, S., and Marvin, S., 1996. *Telecommunications and the city: Electronic spaces, urban places*. London: Routledge.
- Hall, P. 1966. *The world cities*. London: Heinemann.
- Huet, B. 1998. Une génétique urbaine []. *Urbanisme* 303:57.
- ? (IAURIF). 2002. *Economic performance of the European regions*. Paris: Les Cahiers de l'Institut d'Aménagement et d'Urbanisme de la Région Ile-de-France (Iaurif), n°135.
- Illeris, S. 1997. The changing location of service activities in the Copenhagen region. *Geografisktidsskrift* ? :97, 120-131.
- Jacobs, J. 1963. *The death and life of great American cities*. New York: Vintage.
- Mucchielli, J.-L. 1998. *Multinationales et mondialisation* []. Paris: Seuil Eds.
- Nappi-Choulet, I. 1997. *Les bureaux, analyse d'une crise* []. Paris: ADEF.
- Pfister, N.; Freestone, R.; and Murphy, P. 2000. Polycentricity or dispersion? Changes in center employment in metropolitan Sydney (1981<<nut>>1996). *Urban Geography* 21(5):428-42.
- Rousseau, M.-P. 1998. "Structure spatiale et efficacité économique. Une comparaison de la région parisienne et de la région londonienne" []. In GEPPERT-HEBRARD A., 1998, *Le bassin parisien, un espace en construction* [], Reims, Travaux de l'Institut de Géographie de Reims, n°97-98.

- Rousseau, M.-P., and Prud'homme, R. 1992. *Les bénéfices de la concentration parisienne* []. Paris: L'ŒIL-IAURIF.
- Sassen, S. 1991. *The global city*. Princeton, N.J.: Princeton University Press.
- _____. 1994. La ville globale. Éléments pour une lecture de Paris []. *Le Débat*.
- Taylor, P. J. 2003. *World city network. A global urban analysis*. London: Routledge.
- Veltz, P. 1996. *Mondialisation, villes et territoire: L'économie d'archipel* []. Paris: Presses Universitaires de France.

Figure Captions:

Figure 1. Administrative map of the Ile-de-France region.

Figure 2. *Départemental* distribution of Paris region peri-productive employment (1999). *Sources:* Insee/Iaurif, National Census, 1999

Figure 3. *Départemental* peri-productive employment variation rate (1982-1999). *Sources:* Insee/Iaurif, National Census, 1982 - 1999

Figure 4. Peri-productive employment in Ile-de-France region map (1999). *Sources:* Insee/Iaurif, National Census 1999.

Figure 5. Map of high-order services employment in Ile-de-France region (1999). *Sources:* Insee/Iaurif, National Census 1999.

Figure 6. Map of high-order services employment variation in Ile-de-France region (1982-1999). *Sources:* Insee/Iaurif, National Census 1982 - 1999.

Figure 7. *Départemental* variation of high-order services employment in Ile-de-France region (1982-1999). *Sources:* Insee/Iaurif, National Census, 1982, 1999

Figure 8. Ile-de-France region branch activities profile. *Sources:* Insee/Iaurif, National Census, 1999.

Figure 9. Ile-de-France region functions profile. *Sources:* Insee/Iaurif, National Census 1999.

Figure 10. Four economic centers' profile. *Sources:* Insee/Iaurif, National Census, National Census 1999.

Figure 11a. Peri-productive labor markets geography map. *Sources:* Insee/Iaurif, National Census 1999.

Figure 11b. Peri-productive labor markets geography map. *Sources:* Insee/Iaurif, National Census 1999.

Figures:

Figure 1:

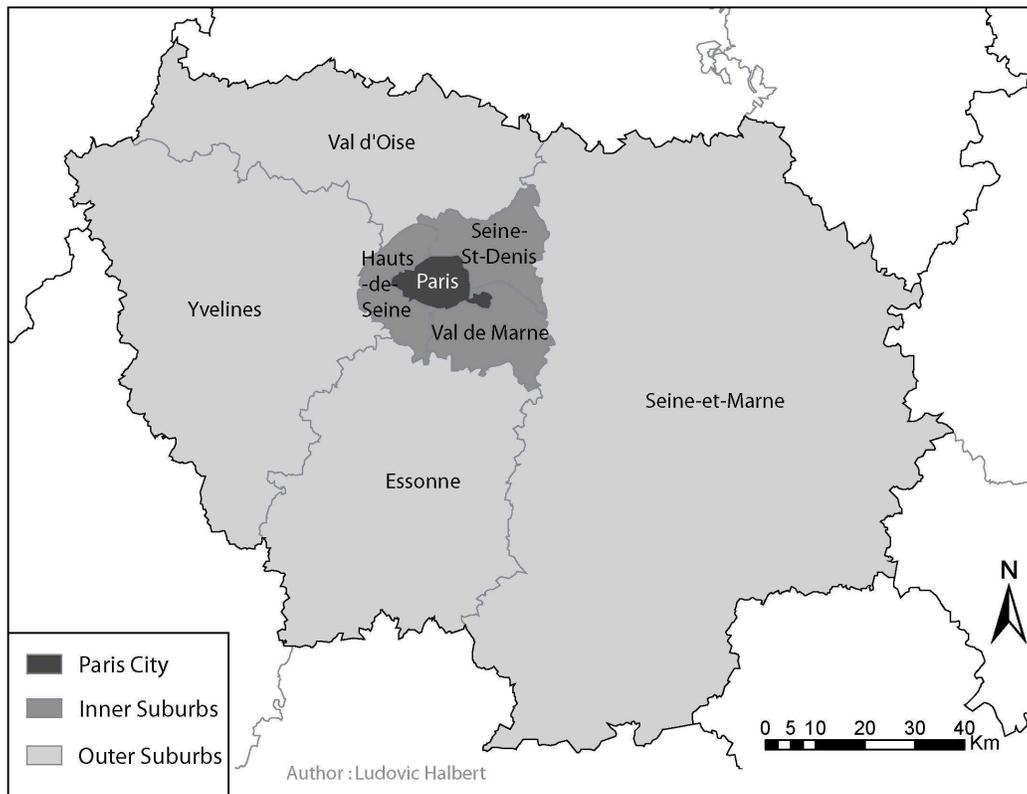


Figure 2:

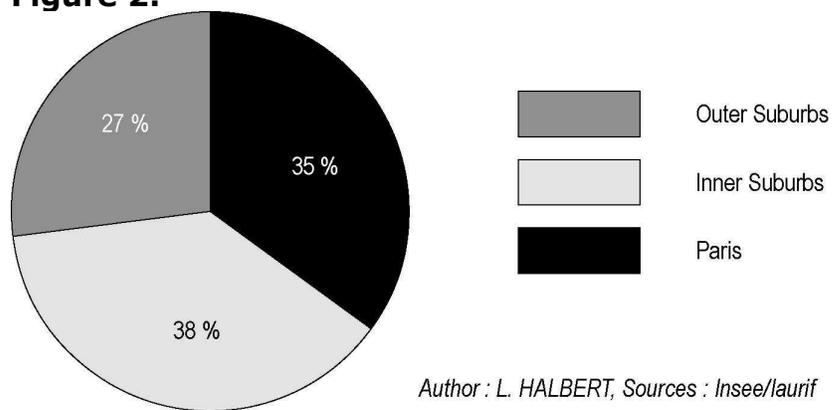
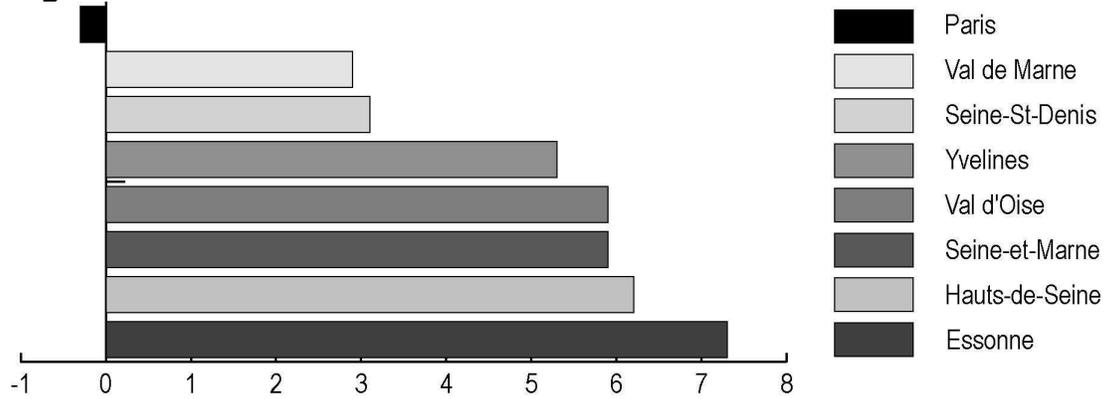


Figure 3:



Growth over the period 1982-1999 in %

Author : L. HALBERT,
Sources : Insee/laurif

Figure 4:

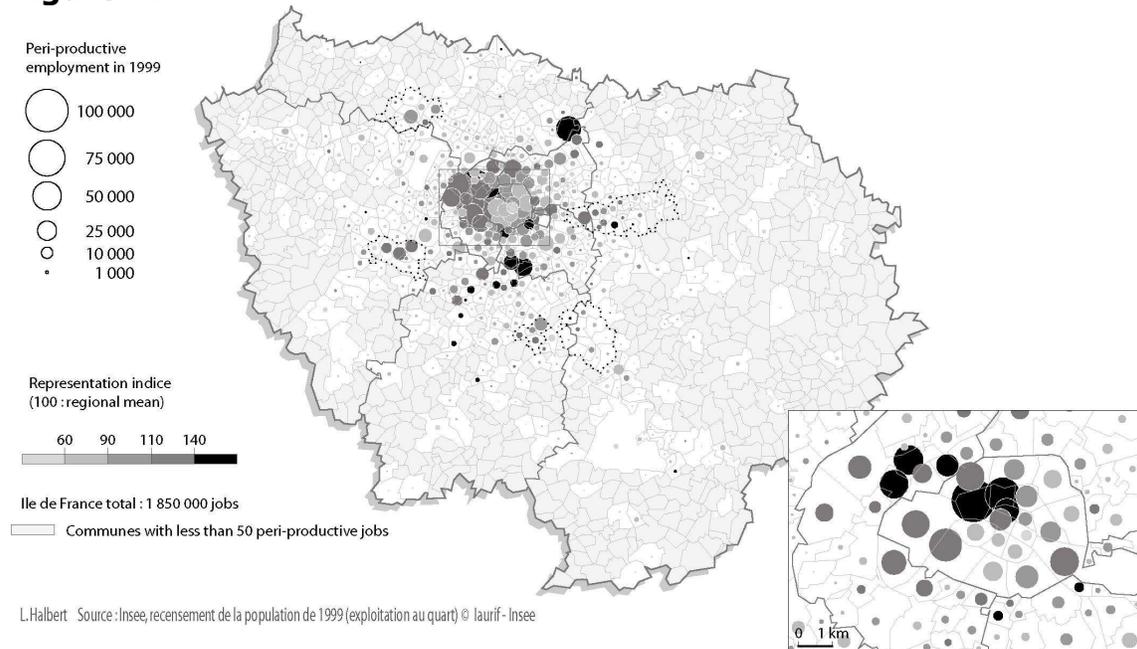
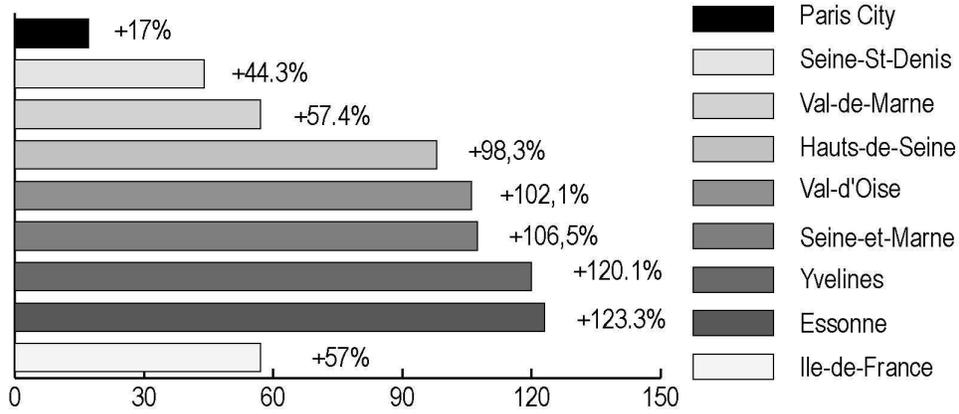


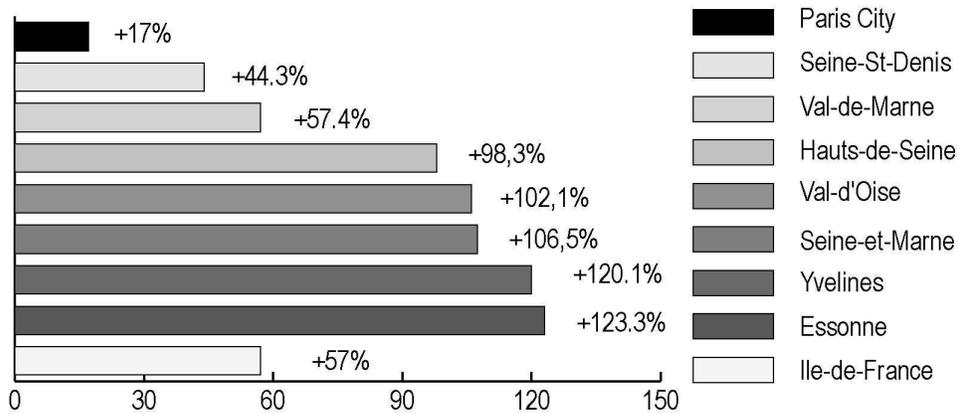
Figure 5:



Growth over the period 1982-1999 in %

Author : L. HALBERT,
Sources : Insee/laurit

Figure 6:



Growth over the period 1982-1999 in %

Author : L. HALBERT,
Sources : Insee/laurit

Figure 7:

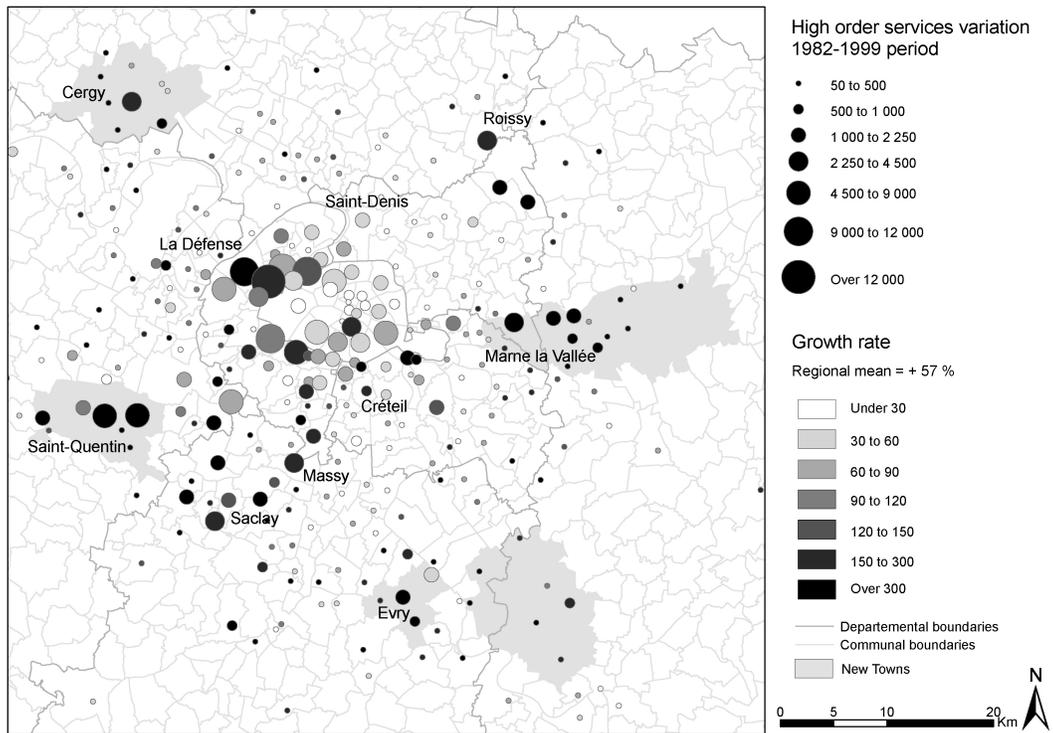


Figure 8:

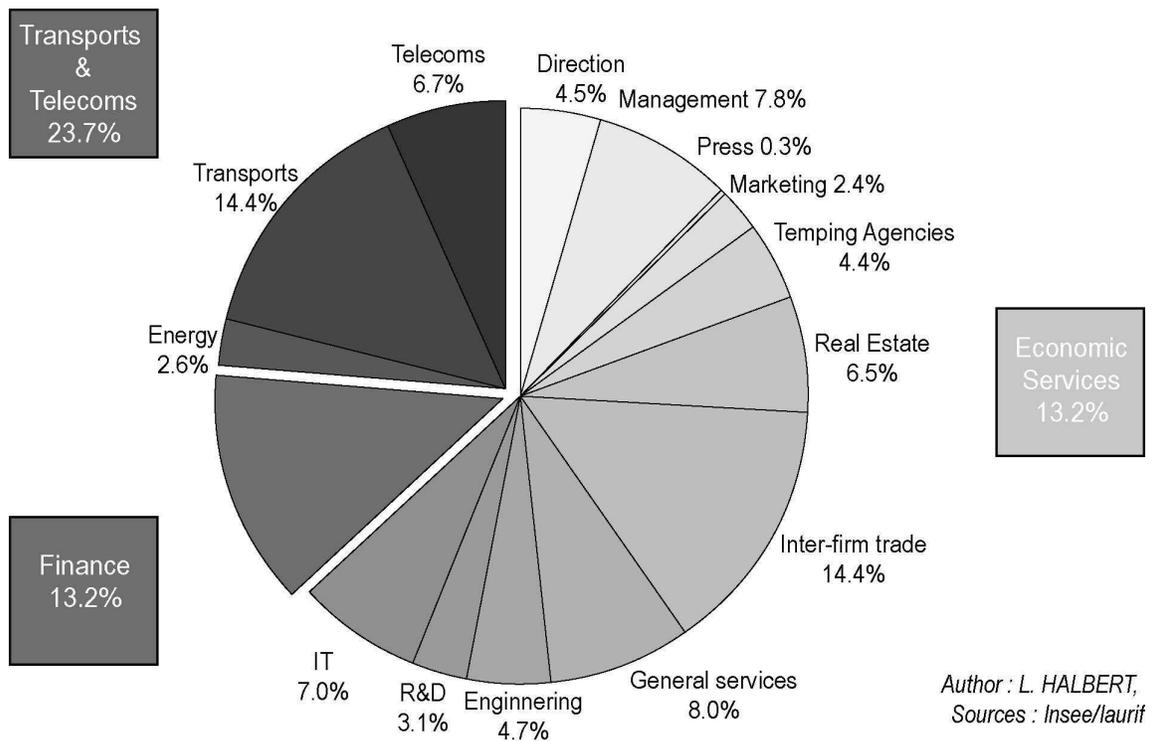
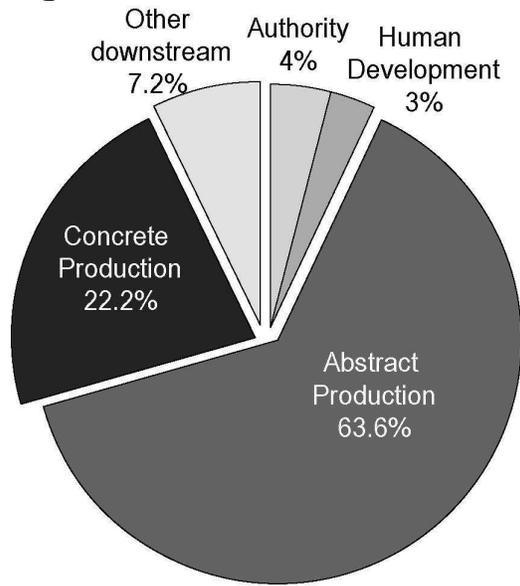


Figure 9:



Author : L. HALBERT, Sources : Insee/laurif

Figure 10:

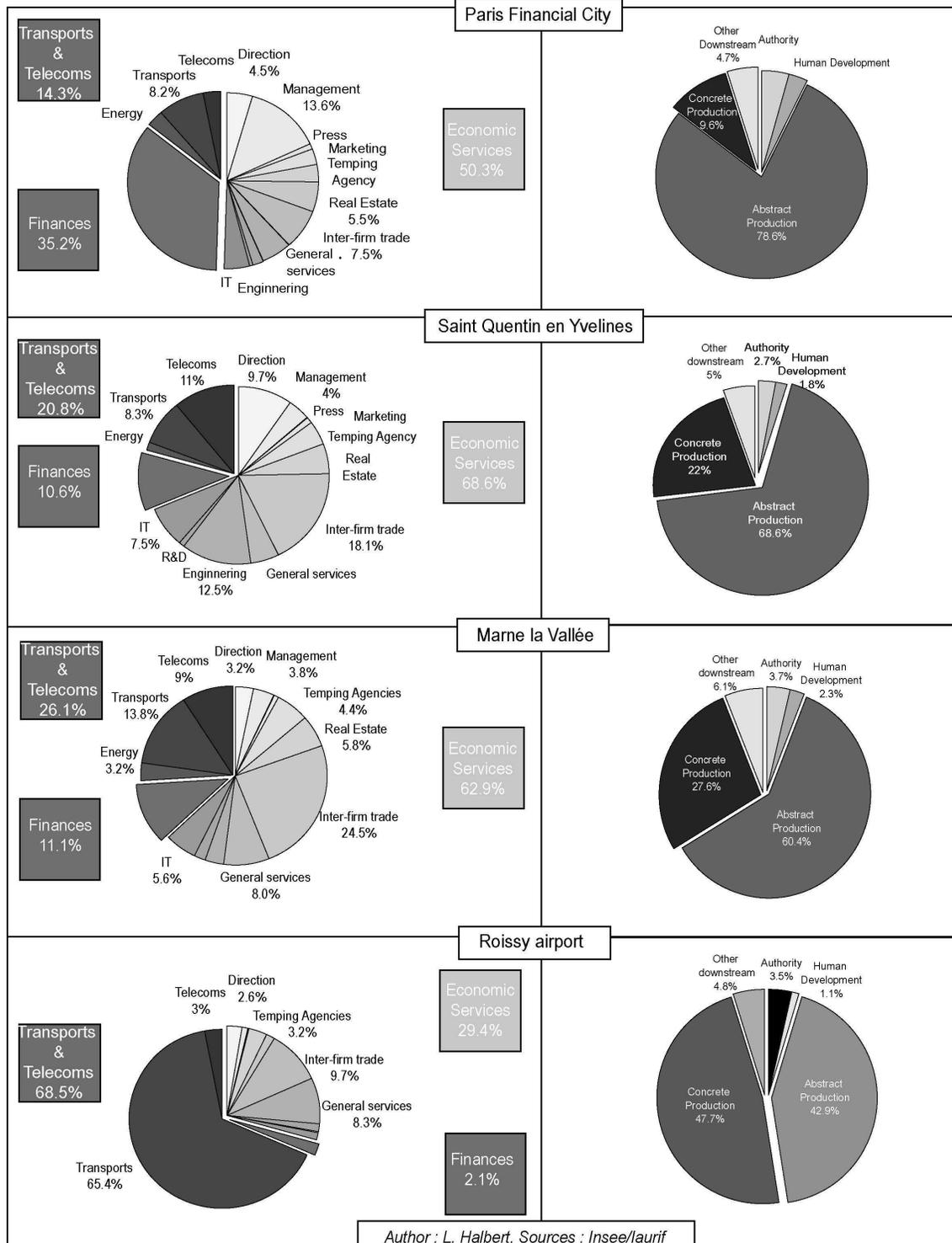
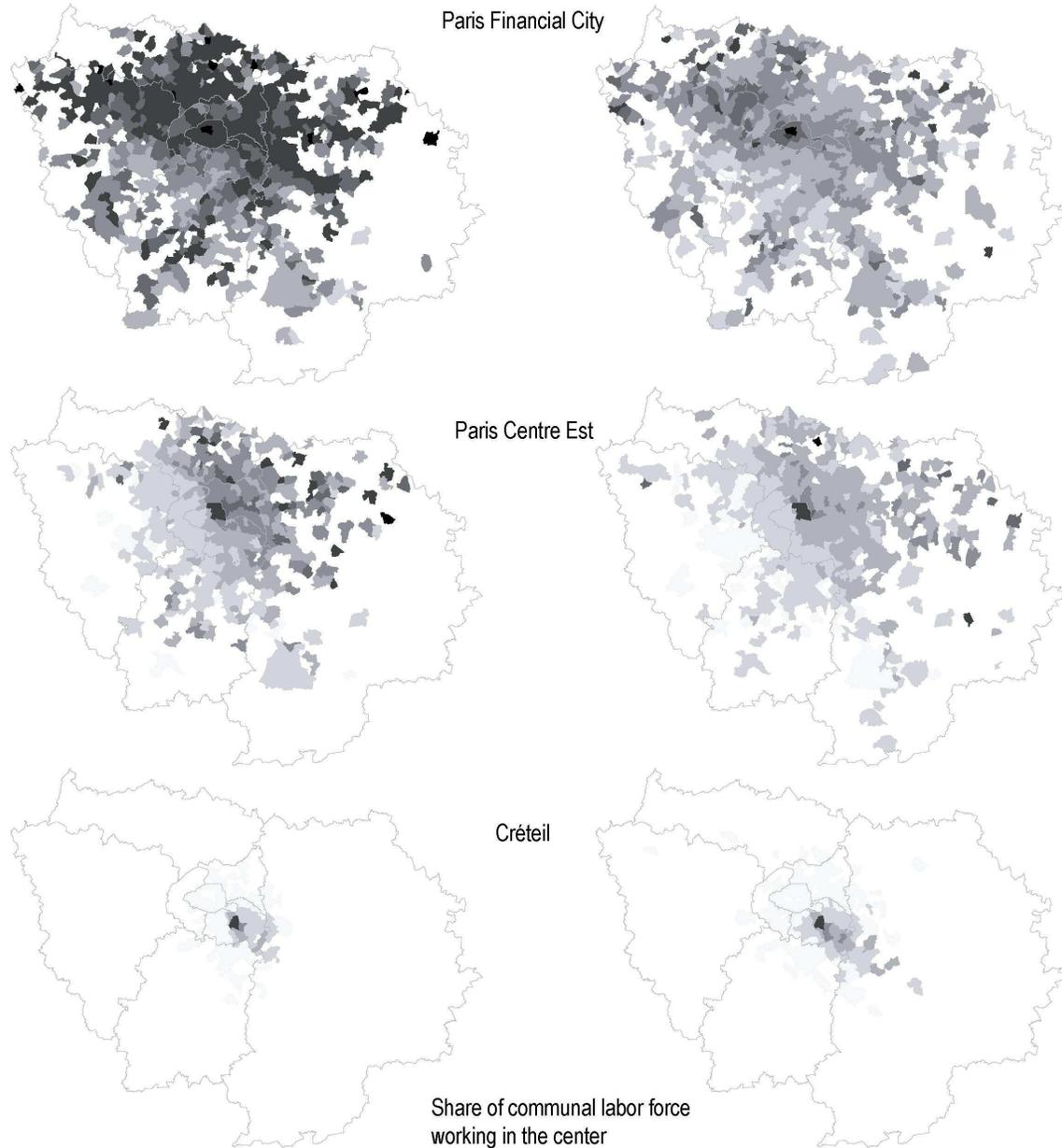


Figure 11a:

1982

1999



Share of communal labor force
working in the center

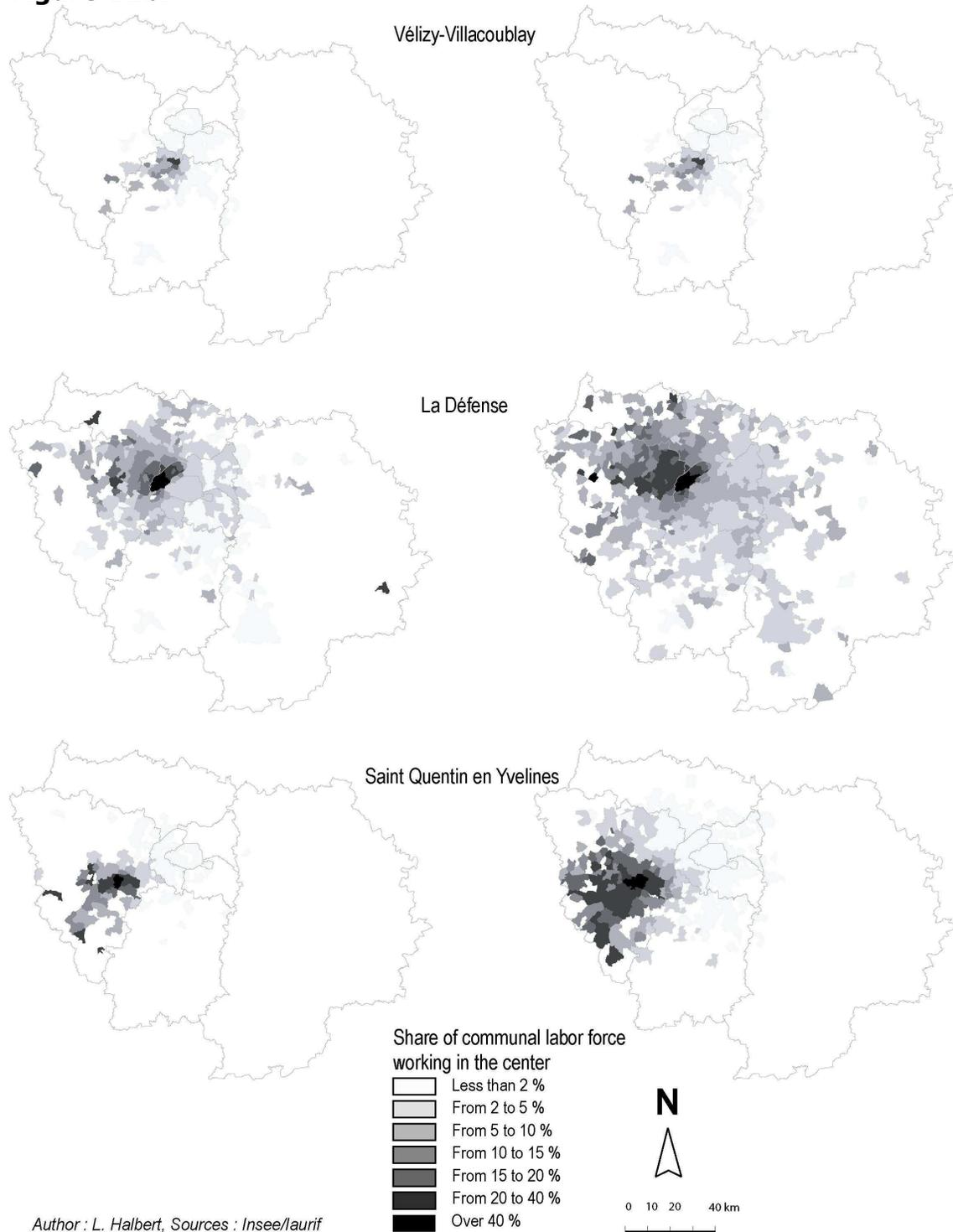
-  Less than 2 %
-  From 2 to 5 %
-  From 5 to 10 %
-  From 10 to 15 %
-  From 15 to 20 %
-  From 20 to 40 %
-  Over 40 %



0 10 20 40 km

Author : L. Halbert, Sources : Insee/aurif

Figure 11b:



Author : L. Halbert, Sources : Insee/laurif