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Section ARTICLES

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Service industries and regional analysis. New directions and challenges

Juan R. Cuadrado-Roura *

ABSTRACT: The service sector currently accounts for the largest share, both in terms of GDP and employment, of all developed economies, as well as many of the so-called emerging or developing ones. In spite of this, it has been the subject of far less research than manufacturing, although the situation has started to change in the past three decades and it must be pointed out that some activities —such as finance, commerce, transport and those most closely linked to tourism— do have significant analytical literature. In any case, this sector is undergoing very notable changes deriving from new technologies and the progress of digitalization, as well as economic globalization, in which services are playing a particularly relevant role. These changes demand specific and in-depth analyses to explain their causes and to understand their spatial and territorial effects. The objective of this work is to underscore the need for greater research effort focusing on the regional and urban aspects of services, and to suggest certain facts and trends that seem particularly relevant. Undoubtedly, services should occupy a privileged position in the new frontiers of Regional and Urban Analysis. This work aims to justify that need and pose some topics of interest for new research.

JEL Classification: L80; R11; R34; O33.

Keywords: Service sector; growth factors; location and concentration; ICT and digitalization; research agenda.

RESUMEN: El sector Servicios es hoy el que mayor peso tiene en todas las economías avanzadas, tanto en términos de PIB como por el número de personas ocupadas, pero también en muchas de las economías calificadas como emergentes o en proceso de desarrollo. Sin embargo, ha recibido mucha menos atención investigadora que las manufacturas, aunque esto ha empezado a cambiar en las tres últimas décadas y hay que reconocer que algunas de sus ramas — como las finanzas, el comercio, el transporte o las más vinculadas al turismo — cuentan con una notable tradición analítica. En todo caso, es un sector que está registrando cambios importantísimos derivados de las nuevas tecnologías y de los avances de la digitaliza-

* Professor Em. of Applied Economics. University of Alcalá. Madrid. Former President of the European Regional Science Association. Founder-Director of the IAES, Institute of Economic and Social Analysis, a University Institute of the U. of Alcalá.

ción, a lo que se suma también la globalización económica, donde los servicios están jugando un papel particularmente relevante. Estos cambios demandan análisis específicos y en profundidad para explicar sus causas, pero también para conocer sus efectos espaciales o territoriales. El objetivo de este artículo es, precisamente, subrayar la necesidad de realizar mayores esfuerzos investigadores sobre los aspectos regionales y urbanos de los servicios y sugerir algunas tendencias y hechos que parecen particularmente importantes. Los servicios deben ocupar, sin duda, un lugar destacado en las nuevas fronteras del Análisis Regional y Urbano. Este artículo se orienta, precisamente, a justificar esta necesidad y a plantear también algunas cuestiones de interés para nuevas investigaciones.

Clasificación JEL: L80; R11; R34; O33.

Palabras clave: Sector Servicios; factores de crecimiento; localización y concentración; TIC y digitalización; una agenda para investigaciones.

1. Introduction

Although the most developed countries are still called «industrialized economies», it is a fact that they have all become *service economies*. The data gathered from many European countries, the US, Canada, Japan and other economies are absolutely clear. In all of them, service activities account for around 70% or more of total employment and GDP. Additionally, it is also true that the process of economic «tertiarization» is an established fact in a large number of less developed economies, as well as in all those labelled as emerging, even though the picture is highly heterogeneous across some groups of countries [1].

World statistics (UN, OECD) clearly show that the service sector has grown worldwide since the seventies, although at a different pace in each region. Empirical evidence also shows that, while services growth in developed economies seems to follow a rather constant pattern, developing and emerging economies are characterized by much more irregular trends, due not only to the structural changes accompanying their growth processes, but to the implementation of market-oriented reforms and the uneven effects of their internationalization processes.

Additionally, there is another important and well-known feature that ought to be highlighted. The service sector is composed of a wide variety of market and non-market activities, ranging from transport and retailing, to hotels, restaurants, financial activities, business and personal services, education, health and the public administrations. The internal structure of service sector GVA and employment in each economy clearly reflects this fact, as well as the logical differences when comparing certain

[1] Tertiary activities in Central-Eastern European economies represent a lower share, ranging between 52% and 66% of their employment and GDP. In Latin American countries, the service sector accounts, on average, for 59% of GDP but some remarkable differences exist between them too. In developing Asia, services account for around 50-55% of GDP, on average, but India leads this ranking (62%) and Singapore reaches much higher levels due to its high specialization.

countries with others. At the same time, it is evident that not all service industries grow at the same rate or display the same dynamism. OECD figures show that, in the most developed countries, finance, insurance and business services are the largest and most dynamic group of activities, followed by community, social and personal services, wholesale and retail trade, hotels and restaurants. In any case, cross-country analysis shows not only that important differences exist between economies but also illustrates the fact that, in recent years, some service industries[2] have lost employment due to restructuring processes and the speedy development of new technologies. The share of transport and communications in total employment, for example, has stagnated and even shrunk in practically all OECD countries, but their contribution to GVA has clearly increased.

All these changes —the global increase of the service sector, its heterogeneity and the internal changes of the sectoral structure— require specific and in-depth analysis in order to explain ***«why»*** and, above all, ***«where»*** they are taking place and their consequences. The reason seems evident: these changes and ongoing processes are clearly reflected at a **regional and urban scale** and **their effects are not homogeneous**. In particular because, in the medium- and long-term, they determine a higher or lower growth capacity for regions, and also because the evolution of some specific service activities can be used to explain both the modernization processes, or lack thereof, of some regions (and/or cities) and the existing and potential socioeconomic dynamics operating between them. Finally, these factors require, as we will show, more and increasing research efforts on the part of regional scholars and researchers.

This work is structured into four sections following this introduction. The first (section 2) focuses on highlighting the reasons why services activities, which were once marginal, nowadays have and must hold a particular interest for regional research. Section 3 looks at the changes currently undergone by some service industries which have given rise to the expression: «new service economy», implying the creation of new services, changes in some traditional services and, likewise, new attitudes in the demand for services by households and individuals, as well as businesses. This aspect is closely tied to technological progress, the digitalization of the economy and rapid globalization processes. Section 4 examines whether the currently prevailing process, from a territorial perspective, is a strong concentration of services and, if so, which of them seem to lead this trend, or if there are also some decentralization and de-concentration processes in action. The reasons and questions associated to both scenarios are linked to urban and regional analyses and the need for further, in-depth studies. Lastly, Section 5 offers some ideas of a possible agenda of topics which seem to require further research from a territorial perspective. Certain ideas are posed in this respect which, naturally, do not account for the full range of possible fields of study that would enable progress towards new frontiers of knowledge. The work is closed with a brief final remark aiming to underscore the reasons that have led us to it.

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[2] E. g.: wholesale and retail trade, with substantial changes in the companies, their dimension and operation.

2. From an underestimated sector to a clearly increasing analytical interest

Literature on the service sector has increased substantially over the last two/three decades, particularly from a macro point of view (employment, productivity, prices, economic growth,...) and also regarding some specific activities, like commerce, business and financial services, transport and tourism. However, despite recent and important advances, services are still lacking considerable attention by researchers and they are also frequently underestimated by politicians. The historical background considering services as unproductive activities still persists[3]. In fact, it was not long ago that certain theses were posed, such as those by W. Baumol, J. Nusbaumer, J. de Bandt and others[4], arguing that, sooner or later and as a consequence of their inferior productivity, the expansion of services would cause countries (regions) to register decreasing economic growth rates and even a certain trend towards stagnation. In addition, this is compounded by the fact that some policy makers continue to consider services as second-order activities for economic growth, both at a national and regional scale.

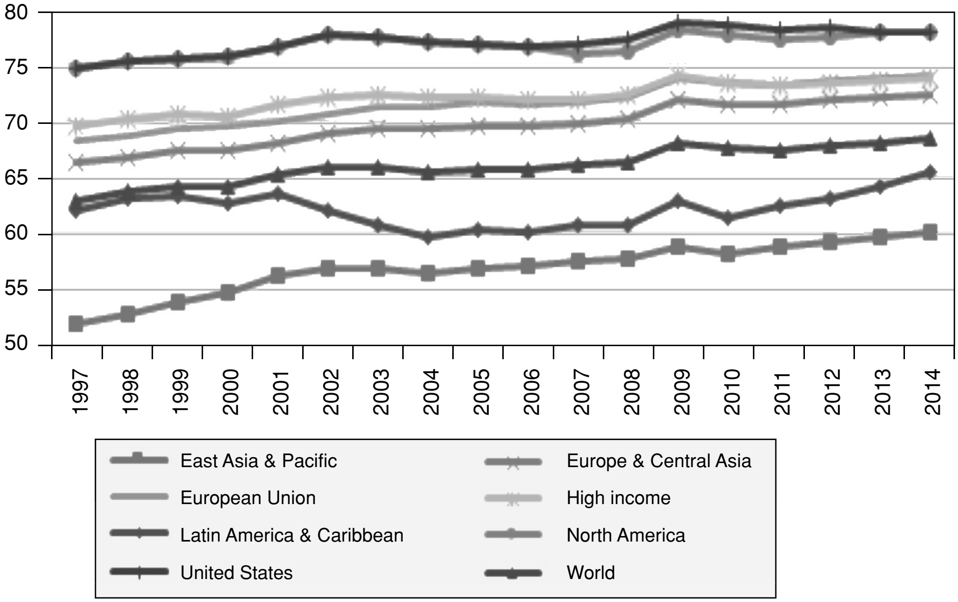
Nowadays, these attitudes are changing, particularly in the most developed countries. The number of books and articles on service trends, problems and policies has greatly increased between the mid-90s and the present, and there are many arguments supporting the need to pay much closer attention to the role of service activities in our societies and, of course, in the field of Regional Science. Firstly, as previously mentioned, because they account for the main share of our economies but, above all, because service activities are increasingly integrated into the overall production system. It is a fact that all manufacturing activities, as well as many service industries, require services as inputs to produce, design and distribute their goods and/or final services. Secondly, because service industries are playing a truly active role in market integration and the globalization process, both at a national and international level. Thirdly, the creation of new jobs, added value and income is increasingly tied to the performance of services, and this is not only true at a national level but also from the regional point of view. Finally, because the development of certain service activities (education, health, leisure and personal services) is directly related to the increasing welfare of our countries, regions and cities.

The nearly constant growth of services (Figure 1) has pushed the analysis of the reasons for this growth and its driving factors. This, in turn, gave rise to certain theories and answers which, for the most part, focused on the only possible «suspect», to use the theatre term. This was the position adopted by Fourastié (1949), among others, whose ideas were recently joined by some more descriptive than explicative theories, like the thesis of tertiary expansion waves (Eichengreen and Gupta, 2009).

[3] From A. Smith, J. B. Say and other authors of the Classical School to the first Neo-Classical and some more recent approaches to economic growth and their factors. See: Studenski, 1958; Nusbaumer, J., 1987; Petit, P., 1986.

[4] Baumol, W., 1967; 1986; 1989; Nusbaumer, J., 1987; De Bandt, J., 1991.

Figure 1. Service sector evolution in % of GDP



Source: World Bank data.

The conclusion reached in recent years is that tertiary growth cannot be understood based on just one or two key explanatory elements. Instead, a large number of factors and components concur and the specific weight of each one varies in each economy. In summary, it is currently agreed upon that the growth of services in economies is due to the concurrence of a large number of both demand and supply-side factors (Cuadrado-Roura, 2013a).

From the demand side, Engel's law helps to explain why households tend to increase their demand of services when income grows, although there are also other relevant factors which area pushing the increase of service expenditure by individuals and families, including changes in social behavior and working schedules, the widespread incorporation of women into the workforce, the effects of the urbanization process and the dominant trend in most population pyramids. In recent years, there has been an increase in the research efforts associated to all of these topics at a country and cross-country analysis, but there are still many aspects that have been scarcely or poorly studied at a regional scale. Moreover, it is also evident that the variations observed at a regional and urban scale are not stable, but instead show differences in their intensity and causes when comparing several years and/or when studying events throughout various decades.

Along with consumption demand, and even more importantly from the standpoint of its weight and the perspective of intersectoral relationships, is the increasing importance of the demand for services by manufacturing, agriculture and service industries, including outsourcing processes of some services previously provided within industrial firms. The analyses conducted for some European countries indicate that the «services» component of manufacturing always follows a rising curve in input-output comparisons, and that, in some manufacturing activities (agro-food industries, metal transformation, chemistry and pharmaceutical, transport equipment, etc.), services account for over 28.5% of the total inputs, direct and indirect.

We must also take into account «servitization» processes currently taking place in the manufacturing sector[5]. These spreading processes are also related to a progressive integration between industry and services. A growing number of businesses —large, medium and also small— are offering services alongside their products: training the staff who will use their equipment, replacing obsolete models, payment for hours of use (as exemplified by Rolls-Royce with aircraft engines), designing transport programs as a prior step to supplying rolling stock, etc.

Lastly, there are two more factors on the demand side which favor services growth: the increasing international trade of services, particularly taking into account value added chains (see OECD and WTO new data series on Added Value and Trade)[6], and services demand by Public Administrations (at state, regional and local levels), both in the decision-making processes of these institutions and to enable private companies to supply some social and public services through outsourcing and concession systems.

From the supply side, perhaps the most accepted factor explaining services growth is the low productivity traditionally associated with this sector, which is linked to the increasing number of people required to raise the production of a good number of services. Nevertheless, although the idea that services productivity is always very low and that the sector acts as a «delayer» has been gradually questioned in recent literature[7], it is still valid to understand the increase in employment in many service activities, e.g.: retail, hotels and restaurants, personal services, education and others. As it has already pointed out, some recent analyses have shown that, indeed, certain services activities register labor productivity and multifactorial productivity levels and growth rates which are comparable to manufacturing industries, generally associated to better results. Such is the case with some branches of transport, finance and business services. This point has practically not been tested at a regional scale and merits a closer look, although the expected results are not very different from those obtained in national and cross-country analyses.

In addition, other factors explaining services growth from the supply side include those non-market services produced by public administrations and linked to the welfare state development. Of course, it is also necessary to point out recent decisions re-

[5] See: Ahamed *et al.*, 2013; Crozet and Milet, 2015; Neely, 2013.

[6] WTO: International Trade Statistics; Manufacturing Trade and Services Commerce.

[7] See f. ex: Triplett and Bosworth, 2006; O'Mahony and Van Ark, 2003; Bosworth and Triplett, 2007; Maroto, 2012 and 2013a; and Maroto and Cuadrado-Roura, 2009. W. Baumol rectified his previous position pointing out the role of innovation, knowledge and ICT in the recent evolution of services and the productivity of some service industries (Baumol, 2002).

garding the liberalization of service markets and several stunning ICT developments, which are contributing to create new services and to improve some of the more traditional ones. ICT has become one of the most significant driving forces for services development, generating a large number of new services, modifying and transforming traditional services and introducing clear changes in the channels of services delivery. As pointed out in various recent analyses, there is hardly any service that has not been or is currently being affected by ICT, either directly or indirectly.

3. Towards a «new» service economy?

Today, nobody can argue the strong interactions existing between services and the other economic sectors (including the services sector itself). It is also clear that the economic system cannot operate efficiently without well-established and dynamic financial, communication, distribution and transport mechanisms, and this is valid not only from a national and supranational perspective, but from the point of view of regions and cities. On the other hand, the importance and the crucial role of business services, from consultancy, to engineering, design or information, is beyond any doubt in relation to the development of any national or regional economy and its progress in terms of efficiency and competitiveness. However, as previously indicated, most analyses address individual countries or establish comparisons between countries, whilst the number of publications adopting a territorial —regional— approach is far lower. This is particularly true for analyses of less-developed regions, which have received less attention and whose possible role as part of regional development policy programs has been dismissed. Some cases have unexpectedly shown that the development of a services activity —like tourism, for example— could become a growth engine and even a more stable activity than several manufacturing processes, particularly in terms of long-term evolution.

There is also a fact that should be clearly highlighted. It is linked to the «changes» taking place in both the production of existing services and the rise and development of new ones. This has led to extensive discussion and work on what has been called the «**new services economy**», which have registered a considerable increase in the literature in recent years[8].

There are several aspects lending support to the idea of a «new services economy» and justifying an intense study of some new activities linked to innovative technologies, as well as the changes undergone by some, more traditional services.

Firstly, many of these services, like the e-services group, are indeed *new*, and it is also true that many old or traditional services —from distribution to personal services— are now being provided on a *new basis*, as pointed out in the previous section. Nowadays, an increasing number of services have been digitalized, for example, and can be stored and exchanged through additional electronic transactions. There is no

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[8] I. Miles, 2005; Rubalcaba, 2007; Maglio, P. P., Kieliszewski, C. A., and Spohrer, J. C., 2010; Gallouf, F., and Djellal, F., 2010; World Investment Report, 2012.

doubt that a major transformation of services is taking place. Such transformation is mainly being driven by **digital technologies and ICT networks**. Digitalization allows that many services can be reproduced very cheaply and accessed very easily, thus substantially increasing the economies of scale associated to their production.

Secondly, the «new services economy» can be characterized by a concept of services no longer confined to the boundaries of an economic sector or to a big set of heterogeneous activities. The «new services economy» transcends the traditional division between services and manufacturing activities. This is rather logical, as the relationship between industry and services cannot be actually understood or analyzed separately. As I have suggested in other works, we are actually progressing to a serv-industrial economy.

Finally, new trends in terms of demand for services by households and individuals are also changing, particularly in the most developed countries. This change is partly owed to the fact that new technologies —particularly through Internet developments— modify several traditional services and leave space for new services, therefore also changing the way in which they are supplied and used.

A patent evolution of the cultural and social habits and practices is taking place in this field, mainly due to the internationalization and globalization processes that are clearly observable in services. Examples of this trend abound, as in the case of demand for services provision, acquisition of books, music, travel tickets, retail commerce in general, etc., and are directly affecting the companies which supplied these products in the past. This is undoubtedly impacting, directly or indirectly, the more traditional businesses established in both the richest and the least developed cities and regions, as in the case of bookshops, travel agencies, film and music rental and purchase stores, training centers, etc.

All these changes have a fairly direct relationship with new aspects which can also be observed in the evolution of cities. As pointed out by Anttiroiko et al. (2013), recent changes in service environments have changed the preconditions for their production and consumption. These changes include unbundling services from production processes, growth of the information economy, the search for creativity in service production and consumption and the expansion of digital technologies. These contextual changes affect city governments because they provide a range of infrastructure and welfare services to citizens. Indeed, concepts such as «*smart city*», «*intelligent city*» and «*knowledge city*» establish new horizons for cities in undertaking their challenging service functions in an increasingly cost-aware, competitive and environmentally-oriented setting.

Summarizing, although the term «new services economy» may perhaps seem exaggerated, it appears to be beyond all doubt that a large segment of service industries are undergoing a revolution that affects both the production of their services, and their range and delivery, as well as the position of their consumers, whether they be individuals, households or businesses. All this is directly related to the changes taking place at a territorial level, some of them very rapid. Undoubtedly, this is a field which requires further regional study.

4. Services, regions and cities. Concentration or de-concentration?

From what we have seen, it seems clear that the expansion and changes experienced and/or in process by services have a **variety of important territorial consequences and effects**. These aspects are receiving increasing attention by regional and urban researchers, but it is clearly a field which requires new contributions and further updates.

As previously mentioned, some of the changes observed are taking place too rapidly for any conclusive theoretical approaches and empirical analyses to be settled. For example, in the field of localization and spatial distribution of services activities, where the contributions by Christaller (1933) and other pioneering authors on the location and concurrence and agglomeration models are still being fruitfully used to explain how and where services industries tend to locate (Mulligan, Partridge and Carruthers (2012). The gravity models developed on the basis of work carried out by Reilly (1931), the probabilistic models (Huff, 1963), and the spatial interaction models are still useful, although there are recent and interesting contributions regarding the localization of business services and «knowledge-intensive business services» (KIBS) (Gallego and Maroto, 2012), as well as retail and wholesale. The new approaches developed on the basis of the NEG (New Economic Geography)[9] must also be taken into account, as well as some recent contributions to urban economy and the role of big cities and their growth in recent decades. Many of these contributions pay special attention to the processes of services concentration which are taking place from a spatial standpoint, as well as the factors which explain it, both at a regional and city level. In this sense, some works on monocentric cities and central business districts have set out very interesting working lines (Anas *et al.,* 1998; Glaeser and Gottlieb, 2009, for example). Nevertheless, parallel de-concentration processes have also been detected, both in some previously traditional activities, like the commerce sector and new forms of retail and wholesale (malls, hypermarkets...), and some professional activities, logistic centers for land transport and others.

S. Illeris (1989a and 1989b) summed up some of the most prominent features of services location in the 1980s. According to this analysis: 1) service employment is (was already) more concentrated in big cities than the population as a whole; 2) financial services, business services, and wholesale trade are overrepresented in big cities; 3) retail trade and public services were and are more evenly distributed following the distribution of population; and 4) some activities show special localization patterns; e.g. hotels/restaurants logically overrepresented in tourist areas.

[9] The bases of NEG were set out by Krugman, 1991, 1998, and Fujita, Krugman and Venables, 1999, but subsequent development has been carried out by numerous authors who have delved deeper into center-periphery relationships, agglomeration economies and trends towards or away from concentration of productive activities. An assessment of the objectives and approaches, as well as the degree of novelty and limitations of this methodological school is carried out by Cuadrado-Roura, 2011, 2014.

These trends showed that many services tended generally to be **spatially concentrated**, particularly in large cities (Taylor, 2004; Taylor, Hoyler and Sanchez-Moral 2013; Cuadrado-Roura, J. R. and Rubalcaba, L., 1998; and Cuadrado-Roura, 2013b). However, the analysis carried out within the FAST II program (European Commission)[10] revealed that in most countries (in the EU and also in the United States), some services showed higher growth rates in rural areas and small towns in the periphery than in big cities[11]. Furthermore, the relationship between industry and services and the capacity of large industrial centers to attract services were also highlighted. In fact, many papers published in the 1980s emphasized the role of services in enhancing the prospects of attracting and retaining manufactures[12].

The role of services in agglomeration economies lies within the foundations of a good number of recent contributions. Yet, the focus on this issue and its better understanding has much in common with «New Economic Geography» (NEG) approaches (Ottaviano & Puga, 1998; Venables, 2001; Duranton and Puga, 2002 and 2005) and also with the contributions to the growth of cities and other contributions linking agglomeration economies with ICT and cities (Glaeser et al.,1992; Glaeser and Gottlieb, 2009). However, this type of economies were not only linked to cities as protagonists, but also to the relationships between the expansion of services and regional development, as well as the regional disparities caused by the different growth rates of services and their composition.

It is unquestionable that the spatial distribution of services shows notable asymmetries in several countries and, naturally, at a regional scale. As illustrated in Table 1, services-oriented regions are almost systematically headed by a capital-city or some metropolitan regions in Europe. The share of service activities in total employment is highest in central regions located in the United Kingdom, Belgium, Sweden, France, Germany, Luxemburg, the Czech Republic and a good number of countries. Of course, regional disparities are very important in Europe. The share of Inner London's services in total employment in the area is above 87%, as is also the case in Brussels and Stockholm, whilst the lowest share corresponds to Nord-East region, in Romania, with 29.4%. Statistics show that practically all European regions have experienced an increase in the share of employment held by services between 2000 and 2015. However, this has been accompanied by a simultaneous concentration process in terms of people occupied in service industries, as well as activities qualified as «advanced services».

The location of services, including their diversity and the most influential factors and drivers, is one of the topics that has been most widely explored, but it

[10] Numerous documents were prepared (*Fast Occasional Papers)* as part of the FAST II (Forecasting and Assessment in Science and Technology) 1982-1986 program. The subjects of expansion, employment and localization of services, as well as the influence of new technologies was analyzed within the framework of this program.

[11] However, several recent studies have shown that, along with the dominant force of concentration, there are also other factors at work driving de-concentration and dispersion of services.

[12] Pedersen, 1986; Bailly and Maillat, 1988; Stabler and Howe, 1988; Illeris, 1989a and 1989b; Hansen, 1990; Maroto, 2009.

Table 1. Regional Specialization in Services in the EU-28

Country	*Top ten regions in 2010*	*Share of Services in Total employment (%)*
UK	Inner London	87.7
BE	Brussels-capital region	86.7
SE	Stockholm	86.2
FR	Corse	84.9
DE	Berlin	83.2
FR	Île de France (Paris region)	83.0
CZ	Prague	81.7
LU	Luxemburg (Grand-Duchy)	81.4
UK	Outer London	81.1
UK	Surrey, East/West Sussex	80.9

Source: Eurostat. Services include NACE codes G to Q.

continues to be an open subject about which no conclusive statements can be made. As I have pointed out previously, the fast development of ICT and its incorporation into services, together with the creation of new services and the organizational changes in companies are **altering some of the conclusions that seemed to be valid in the past,** although some changes taking place recently had already been foreseen. Cities and large metropolitan areas are the major protagonists of the concentration of services, both because they generate the highest percentage of demand (increasing population size, plus the purchasing power of their inhabitants as consumers, plus the concentration of headquarters,...) and also because they attract the location of «new» service industries. However, the development of transport (Glaeser and Kohlhase, 2004; Rietveld and Vickerman, 2004) and the technological changes (ICT and digitalization) have transformed distances, making it possible for services not to be necessarily located at the center of a large area, but also in the periphery of cities. Could we talk about a «de-concentration» of services in large metropolitan areas? What is the relevance of being able to obtain more services from our homes or offices without the need to move or travel, be it purchasing goods, travel tickets, books, acquiring information or resolving administrative issues?

At the same time, some medium-sized cities and rural areas have also managed to attract service providers whose market does not depend on the surrounding population. This is the case of professionals involved in activities such as design, engineering, leisure, architecture, etc., although this phenomenon cannot be generalized. A more specific case, mainly covering more extensive areas, is the concentration of tourist supply and demand, which in many cases has provided very significant growth advantages to regions previously registering medium or even low development.

5. Agenda of possible topics related to services requiring further research

The previous sections have underlined some of the reasons to pay increasing attention to services activities from the territorial perspective. We have considered several questions and already mentioned some of the aspects and processes that seem particularly relevant, and which could/ought to be the subject of new empirical analyses and theoretical contributions. Nevertheless, it is possible to make certain additional suggestions to be taken into account regarding possible «new» analyses of services activities at a regional and urban scale.

The following list is, obviously, not a comprehensive one. But an analysis of current developments in the sector and its main branches, as well as a review of the recent literature, lead to suggest certain issues and aspects requiring further research:

1. ***In-depth analysis of factors and drivers underlying services growth***. Two issues have become clear regarding the factors explaining the expansion of services, particularly in the most advanced economies. The first is that there is no single factor, not even a main factor, but several of them. The second is that other types of factors are in place, besides economic ones. Although the increase of services expenditure by individuals and households is primarily related to the increase of their incomes, other factors clearly affect the changes in household expenditure structure, including increasing urbanization processes, the entry of women into the labor market, the population ageing, and the incorporation of young people as consumers. Additionally, other factors pushing services from the demand side are the *inter-industrial demand* of services by manufacturing (linked to outsourcing processes), international trade and the demand for market services by public administrations.

From the supply side, two factors are also helping to increase the tertiarization process of economies: i) the low productivity of a good number of service activities, which always require larger workforces to increase their production, in turn leading to an analysis of the regional structure of services and the evolution of their productivity; and ii) the role and weight of non-market services supplied by States and other public authorities linked to welfare state developments. Other factors, such as ICT development and de-regulation processes, are also influencing the production of both traditional and new services.

Finally, it is also worth paying more attention to the increasing direct and indirect (through value chain analysis) international trade of services (and the role of particular regions in this field), the presence and developments of «creative» services and the experiences of policies aimed at promoting them. From a regional and urban perspective, all of these topics offer a wide field for new analyses.

2. ***Globalization, trade and foreign investment***. The globalization of tasks rather than sectors, offshoring and outsourcing of service functions, de-industrialization in favor of services and decentralization of intertwined functions are reshaping the division of labor in the subnational economies of advanced and emerging economies. Regional economies and cities are increasingly competing to seize the opportunities

which these new trends offer. All these changes affect the service sector. It is through the service sector that most outsourcing of tasks takes place, it is the service sector that is the most engaged in offshoring of functions and it is in the service sector that jobs and productivity are most affected by the new globalization trends. Empirical analysis carried out distinguishing between «highly globalized regions» and «local regions» [13] has shown that higher productivity growth rates are associated with advanced services industries in globalized regions. In Western countries globalized regions are the only ones where a significantly higher specialization in advanced services activities is associated with the virtuous regions. Thus, the overall conclusion is that the service sector is increasingly important for regions to be able to compete in a globalized world.

Globalization is also strongly related to the increase of international trade and Foreign Direct Investment (FDI) in services. Trade in services has grown faster than in goods and it now represents about 20% of world GDP. However, as pointed out previously, the contributions based on the analysis of value chains and added value show that the weight of services in exports is over 50% in developed countries, and this should also be tested at a regional scale because differences between regions can be, and in many cases are, very pronounced. In addition, there has been a marked shift of FDI, from the manufacturing sector towards services activities worldwide.

The latter point is clearly reflected in the growing presence of international capital in service supply chains of all kinds, from retail to healthcare and, of course, business services (in particular, KIBS) [14], which are increasingly internationalized and operating through the Internet. The analysis of these changes from a regional perspective —and also from the urban standpoint— provides wide fields with scarce knowledge and clear implications for the real growth and potential of any region or city.

3. ***Services productivity and regional growth***. A wave of economic literature on productivity in the services sector has been supporting the conventional thesis that the continuous increase of services and the low productivity of these activities, as compared to manufacturing, entail a clear threat for future growth, whereby its rates should be pushed down. Nevertheless, the relationship between growth of services and labor productivity has been re-examined by recent literature (see section 2). Some service activities show an increase in productivity which is comparable to, or even higher than, those observed in manufacturing. Some regional analyses have led to conclude that structural change still plays an important role in the improvement of productivity of each region as a whole [15] and that certain services industries (financial and insurance, and some branches of transport and telecommunications) are at least as productive as the most dynamic manufactures.

The analysis carried out demonstrated that the growth of services and productivity is or tends to be positive and significant. Moreover, it has been verified that there is a

[13] See: Capello, R., and Fratessi, U., 2013.

[14] Gallego and Maroto, 2015; Delgado and Garcia-Velasco, 2013; Wood, 2006; Muller and Doloreux, 2009.

[15] Molle, W., 1996; Cuadrado, Garcia and Raymond, 1999; Bonatti and Felice, 2008; Maroto and Cuadrado-Roura, 2013.

process of convergence between those regions registering higher productivity levels at the beginning and the most backward regions. It has also been confirmed that regions that are highly specialized in services register more positive dynamics regarding productivity growth. Finally, as expected, services branches subject to market conditions have a greater impact on the variation of productivity, and this is contrary to the case of non-market services. All these conclusions need more contributions to test the observed and not entirely proven regional differences between the productive structure and the evolution of productivity (labor and multifactorial). The increasing availability of new databases with greater disaggregation by branches of activity will undoubtedly open up new opportunities to analyze the issue and provide results and possible explanations.

4. ***Employment, qualification and regions.*** Several factors concur to make services activities increase employment. Industry has transferred jobs to the services sector via outsourcing processes, and still continues to do so, but, in addition, manufacturing demands an increasing amount of services in order to produce and export goods; household expenditure on services is growing and driving new jobs, particularly because many services are of a personal nature; welfare policies have given rise to more public and private employment in services (education, healthcare, social services, administrative services...); and industrial servitization processes have led to the creation of services jobs within the manufacturing sector itself. The latter aspect has even led to the question: should everybody be in services?[16].

This job creation process observable in practically all economies has two dominant features. First, employment shows a clear duality: positions are created in routine and low qualification tasks and, in contrast, other positions tend to require high-qualification. Second, tertiary employment has facilitated and driven the integration of women into the labor market.

These changes are reflected at a regional scale in varied and interesting ways and their analysis already has abundant contributions. However, the dynamics of change in the sector and its employment are not stable or immobile, but rather under a constant evolution that is opening new research fields. In this regard, the tertiary sector has registered an increase in qualified work above that of industry (OECD, 2005). Moreover, the result is very different and attracts other businesses, or not, depending on which services are growing or developing in each territory in cities and metropolitan areas.

The analyses of regional and urban economic behaviors cannot overlook this issue. Another essential aspect is the relationship existing between some services —for example, many services for businesses— and the available workforce. At the same time, an increase in qualified and specialized stable employment appears to be linked to advanced services where the accumulation of expertise is essential. This in turn links localization of some of these services to the existence of qualified workers and the possibility of attracting them, in addition to a review of educational and professional training systems, as well as incentives for businesses

[16] Crozet, M., and Milet, E., 2015.

and individuals to invest in ongoing training. Further studies are required about the effectiveness of some regional policies aimed at attracting new services or developing activities with a significant potential (tourism, logistic centers, business parks, etc.). Such policies may be driven by both the public and private sector.

5. ***Innovation as a key of the «new services economy».*** Contrary to a widespread perception that services industries are somewhat overshadowed by manufacturing in terms of innovation, an increasing amount of current innovation actually occurs in services[17]. As was already pointed out in section 2 and 3, this is related to technological changes and the development of the so-called «digital economy», but also to the application of recombined or «modular» knowledge bundles, which takes place but is more rarely written about from the perspective of the manufacturing industry. Service innovation, especially in more advanced economic platforms like ICT services, takes one or a combination of three forms: i) architectural, meaning a major reconfiguration of the key elements of the innovation network; ii) modular, meaning a recombination of separate but related elements which contribute to the implementation of innovations; and iii) exploration innovation, where the result of knowledge exploration, or research, can be the catalyst for innovation on a large, or even global, scale, as with the other modes.

Service innovations are opening new opportunities for regions to modernize their services and regional policies must pay much more attention to this field, which is strongly related to increasing regional productivity and to improving supply of traditional and new services. All this is particularly related to R & D & i policies and to regional scientific-technological systems.

6. ***The problem of the spatial concentration of services in major cities and the attraction of capital-cities***. The analysis of geographical concentration of services industries in OECD regions reveals[18] that the services sector is more spatially concentrated than economic activities in all sectors. Financial and business services are particularly concentrated amongst service subsectors. Additionally, specialization in financial and business services appears to be higher in capital regions and regions with large cities, and such specialization has increased among OECD regions more than other services. Nevertheless, it is clear that services sector activities are not spatially homogeneous. Some regions can be far more dependent on services, in some cases accounting for nearly 90% of their total GVA (e.g. New York, Brussels, Oslo, Ile de France, Attiki and Lazio). In contrast, services in some regions can account for less than one third of total GVA and employ less than 45% of the workforce (e.g. Campeche and Tabasco in Mexico, Atacama and Bio-Bio in Chile, Gyeonbuck in South Korea and Central Transdanubia in Hungary).

As previously mentioned, the spatial distribution of services has received significant attention by the recent economic geography and also in regional economy stud-

[17] Chesbrough, 2004; Harwing, 2004; Smith, 2004, Finish Ministry of Employment and Economy, 2010; Heiskanen *et al.*, 2007; Den Hertog, 2010; Droeg *et al.*, 2009; Salter, A., and Tether, B. S., 2014.

[18] OECD regional data base; 355 regions (TL2) in 34 OECD countries; Regional Development Policy Division.

ies[19]. It seems clear that business services and KIBS have attracted special interest, as their location is clearly more concentrated than other services and responds to the new role of services in relation to industry and globalization and production innovation processes.

One of the conclusions drawn from some of these studies on localization of services companies is that, at an international level, but also within each country, the globalization process confers advantages to large cities, and particularly to capital cities, boosting the concentration of headquarters of large services companies. Agglomeration economies favor increasing concentrations of services and headquarters through the supply of human capital, good connections and convenient international accessibility. In Europe, this is clearly the case in London and Paris, as well as Brussels, Stockholm, Copenhagen, Madrid, Warsaw, Dublin, Lisbon, Wien and Prague. Nevertheless, dynamic cities with a significant economic role, sometimes even higher than capital cities, are also very likely to attract this type of firms and foster concentration of advanced services. Some European examples include Milan, Amsterdam, Frankfurt, Zurich and Barcelona. Connection to the network of world cities is a key factor. Europe as a whole has numerous cities which are comparatively well-connected within such a network due to its multiple states. The analysis of UK, Germany and Spain, despite major differences in national urban structures, shows that all the leading cities have reasonable overall connections and the major cities have strong connections to the competing centers of economic globalization. This front clearly requires further, in-depth studies.

However, it seems necessary to point out that the mentioned facts are not necessarily permanently stable. There are various events and decisions that can promote the expansion and international presence of a city. One case, albeit not always successful, is the hosting of worldwide events by a specific city, like Olympic Games for example, which drive its attraction and recognition. Even clearer examples can be drawn from supranational political decisions (for example, the designation of Frankfurt as home of the ECB, within the EU), and the completion of large infrastructures (two examples of this would be the Eurotunnel joining France and the UK, and the Oresund bridge and tunnel joining Denmark and Sweden).

Works assessing this kind of changes from a regional standpoint are still scarce and there are clearly many other examples worthy of attention throughout the rest of the world. It is undeniable that the regional and urban effects of some of the mentioned examples are extraordinarily important, and may become even more so in the future, not just from the perspective of international commerce and tourism, but also in relation to the development of transport services, finance, services networks, etc. In this same vein, the effects of image policies with an international scope applied by some cities in seeking to become large, attractive hubs for fashion, music, fairs and

[19] Ström, 2015; Bryson and Daniels, 2015; Tanaka and Okamon, 2008; Nachum, 2000; Sheamour and Doloreux, 2014, 2009, 2008; Delgado and García-Velasco, 2013; Hanssens, H. *et al.*, 2013. See also: Cuadrado-Roura, 2013b.

exhibitions, as well as through the erection of unique buildings, like Bilbao's Guggenheim Museum[20], require further analysis.

6. A final remark

The main objective of this work has been to offer a set of reasons for services activities to occupy the place they deserve within the agenda of future regional and urban research. Until (relatively) recently, this sector had been mostly overlooked within economic and geographic research, even though some of its branches of activity, like finance, commerce, some modes of transport and activities linked to tourism, had merited attention. The focus and interest of most geographers was generally on the localization and agglomeration of services activities, even though the approaches adopted were descriptive in a high number of cases.

Moreover, economic analyses were also conditioned by widespread ideas about the low productivity of the sector, which displaced the interest of policymakers when it came to designing regional economic growth programs. Thus, the promotion of industry has always headed economic development initiatives, as well as other fronts including promotion of innovation, ideas on science and technology systems, and exports almost exclusively related to goods.

Fortunately, this situation has gradually changed and should continue to do so further, particularly from the standpoint of spatial analysis, where it seems unquestionable that there are wide number of analytical possibilities. New researches and analyses can and must contribute to explain not just issues such as territorial disparities and regional economic concentration processes, but also the potential offered by services to drive regional development and the changes which have taken place and are expected in urban settings.

Therefore, there are ample reasons to consider that Regional Science studies analyzing the services sector, factors driving its expansion, internal changes in some of its activities, interrelationship with industry, role in economic growth and the widening, or not, of regional gaps, have a wide field for development ahead. In addition, the changes that are taking place as a result of the introduction of ICT and the progress towards digitalization also open new research avenues that should be investigated from both the regional and urban perspectives.

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