Chapter 2
Towards Increasingly "Tertiarised" Economies: Facts, Factors and Prospects

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1 Introduction

Although countries with a medium-high level of development are still being often considered as "industrialised economies", the large majority of them, if not all, are "tertiarised" economies.

Nowadays, nobody questions that all developed countries have become *service economies,* particularly when we measure this in terms of employment in service activities and even more so when employment in service occupations is considered (Schettkat & Yocarini, 2006). The data gathered from some countries of the European Union, the United States, Canada, Japan, and Australia are absolutely clear in this regard. Nevertheless, could this be applicable to regions? Are there any differences regarding the development of services within advanced countries? One of the objectives of this book is to contribute to answer both questions appropriately by providing the necessary elements for it, or by presenting at least analyses, data and points for consideration that will allow gaining deeper insights into the problem and the prevalent trends.

The main aim of this chapter is to describe the trends identified in the growth of services in the most developed countries, as well as to clarify which are the factors boosting the almost ever-increasing importance of services. This would lead to a better understanding not only of the current prevailing trends, but also of their effects and/or impacts at territorial level and the differences observed in this regard. To this end, the text firstly provides in Sect. 2 data showing the almost unstoppable trend of the service sector to increase its weight in the so-considered most advanced economies. In Sect. 3, the question of why services have grown and are currently growing, both in terms of employment and GVA, is raised. The most outstanding factors from the demand side have always been the following: (1) the increase in the

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demand of services by the households when their incomes rise; (2) the growing use of services in inter-industrial relations; and (3) the high demands for employment required to produce many services, which is directly related to its low productivity. However, these are not the only explanatory factors, as some on-going changes also contribute to understanding the upward trend of services. Section 4 focus particularly driving factors from the supply side, paying special attention to the productivity of services (an aspect which is analysed in-depth in chapter 9), but considering also some other factors actually pushing services growth. Finally, the chapter includes some reflections upon the continuing expected growth of services in the following years (Sect. 5). There are some reasons for a positive outlook, but this will of course entail some changes in the structure and dynamics of the sector.

2 The Shift of Service GVA and Employment

Some decades ago, one of the pioneering authors in analyzing the services sector, R. Fuchs, in an outstanding study for the NBER described the quiet transition towards a service society which was taking place in the main western economies. "The transition from an agricultural to an industrial economy, which began in England and has been repeated in most of the Western world, has been characterized as a 'revolution'. The shift from industrial to service employment, which has advanced furthest in the United States but is evident in all developed economies, has proceeded more quietly, but it too has implications for society, and for economic analysis, of 'revolutionary' proportions" (Fuchs, 1968, p. 2).

The evolution towards total employment in the activities of the service sector has increased almost constantly in all countries still being paradoxically called as "industrialized". The United States have nearly always been ahead in this process, and those employed in service activities in this country now account for more than 75 % of the total number of employees. However, many other countries have followed the American trail. Figure 2.1 shows the trends followed by employment in the tertiary sector from 1970 to date, taking various countries as a reference (although many others could also be included). In fact, employment in this sector is very close to or exceeds 70 % of total employment in quite a large number of the most advanced economies.

A similar pattern to that of employment is observed when taking into account GVA in current monetary values (Fig. 2.2). In all selected countries, but also in many others considered to be developed, the same trend prevails. However, it should be noted that, when GVA is measured in constant values (Fig. 2.3), the increase registered is much more moderate. As it is well-known, this is due to the fact that, in the majority of the countries, the prices of services have tended to rise above the average increase in the rest of prices. In fact, the data show clearly that in virtually all OECD countries, the increases in the prices of services have exceeded those registered by manufacturing and agricultural sectors. As a result,

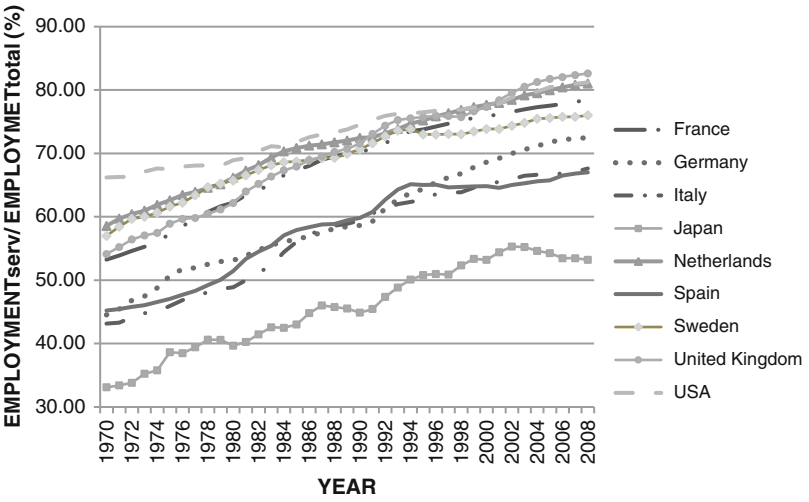


Fig. 2.1 Trends of service sector employment (% of total employment). *Source*: Prepared by the author. EU KLEMS, database

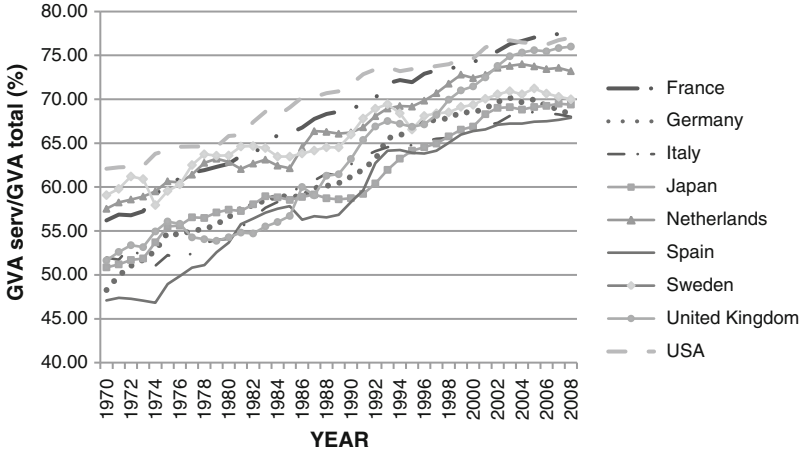


Fig. 2.2 GVA of the service sector as a function of total GVA (current prices). *Source*: Prepared by the author. EU KLEMS database

the increase of service GVA is partly due to this price differential (OECD, 2005a, 2005b).[1]

The advance of services reflects to a large extent the structural changes brought about almost inexorably in the economies by economic growth. Kaldor (1961),

[1] This behaviour of the prices of services has driven up the general price index of many economies, with the corresponding inflationary impact and a negative influence on their competitiveness.

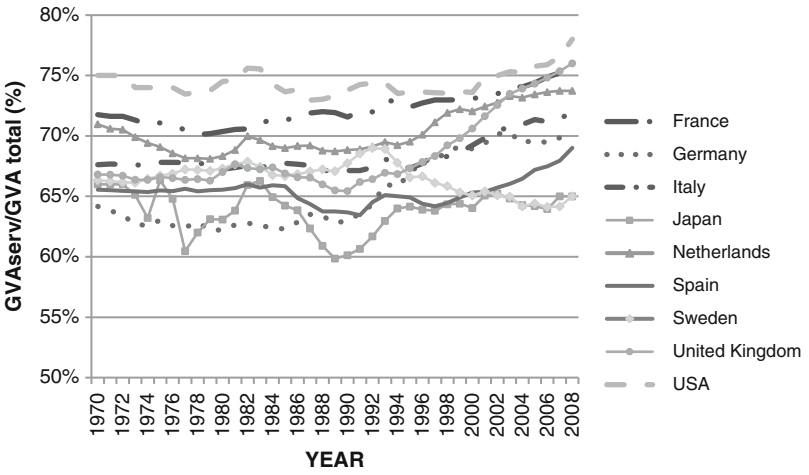


Fig. 2.3 Evolution of GVA of the service sector (constant prices). *Source*: Prepared by the author. EU KLEMS database

Kuznetz (1971), and Maddison (1980), among others, already demonstrated this fact more than three decades ago this fact, i.e., the existence of empirical regularities in the structural transformation of advanced economies. More specifically, Kuznetz and Maddison underlined the canonical shifts of output and labour from agriculture to industry, and later on from manufacturing to services. Both authors also highlighted a fact which has generated a fair amount of literature and a broad discussion. They stated, among other things, that productivity increases in the service sector were much lower than in other sectors of the economies (manufacturing, but also primary productions), and service prices tended to increase more rapidly. This is an important point underlined also by Baumol (1967) in order to establish the theory known as the "cost disease". According to this approach, the expansive dynamics of services should result, as a consequence of the low productivity rate of most of the activities in the sector, in a global growth tending to decrease. That is to say, the expansion of the tertiary sector in developed countries should lead to lower growth rates than in other previous stages of its development.

This theory, accepted by many for years, has been questioned of late after delving into the behaviour of the different and heterogeneous industries comprising the service sector (Maroto & Cuadrado, 2009; Triplett & Bosworth, 2000, 2001, 2002; Wölfl, 2003; among others). This has led to the statement that some service activities register quite high productivity growth rates comparable to or even higher than those of some manufacturing activities.

Nevertheless, without entering into this debate—which would of course apply to the case of regions—it would be worth considering those factors that apparently best explain the almost constant growth of services in the economies. We will focus our attention on the most advanced economies because, as discussed below, the possible "causes" or factors are more clearly observed in these economies. However, we

should remember that services also have a significant weight in less developed economies, although the internal composition of the sector is quite different from the advanced economies. Against the development of activities such as finance, transport, business services, personal services, and even those offered by the public sector observed in the most developed countries, services feature a much more traditional composition in the developing and more backward countries, with high underemployment and black economy rates, as well as the predominance of not very technically advanced and much smaller companies.

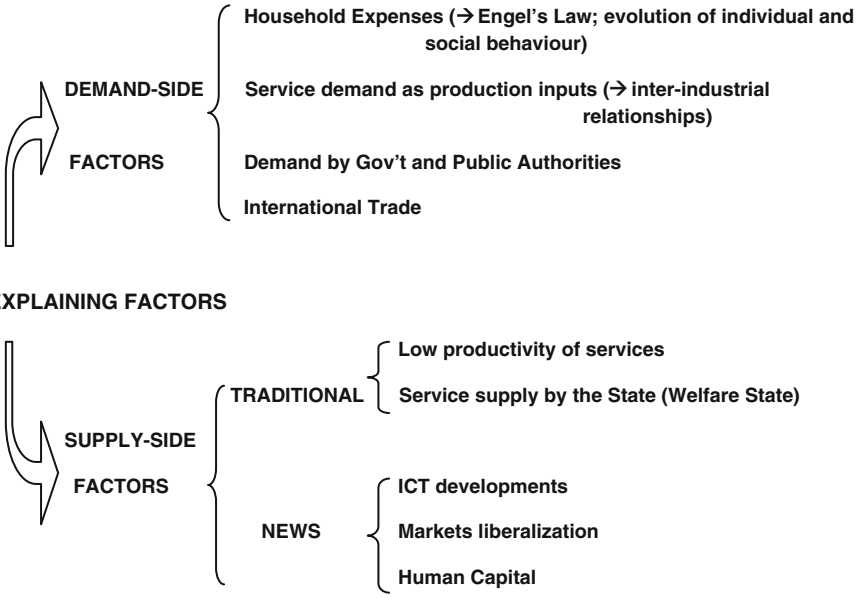
3 Why Do Services Grow? Factors Behind the Expansion of the Sector

Once the near-constant growth of services in developed economies has been accepted as a fact, it is necessary to consider which are the main factors underlying this process. In fact, the explanations provided are quite varied, although some of these are agreed to be much more influential than others, such as the evolution of per capita income or the productivity of services. However, it is clear that there are various independent factors explaining the expansive process of the service sector.

It was initially proposed that a determining reason was simply the changes undergone in the consumption patterns of citizens as their incomes increase. Almost at the same time, and together with this proposal, it was highlighted that the labour demands required by many services brought about a lower productivity compared to the case of the production of goods. Fourastié (1949) already referred to this fact as the basic factor in the expansion of tertiary activities. This hypothesis then gave rise, as previously mentioned, to the theory of the reallocation of resources from the most to the least productive activities, as in the case of services (Baumol, 1967; Baumol & Bowen, 1965), with a corresponding impact on the rates of change in total product, costs, and prices.

The relationship between the growth of services and the increases in terms of per capita income was stated early on as one of the possible reasons for growth of the tertiary sector as a whole (Clark, 1940; Fourastie, 1949). Nevertheless, there have been other arguments aiming to explain the expansion of services by linking it to the decline of industry, which has become apparent in almost all of the most developed countries, particularly as a result of the consequences of the 1970s crisis, which originated extensive literature regarding the *deindustrialisation* of the most advanced economies and their role in favour of the continuous increasing importance of services in the productive structures of such economies (Blackaby, 1978; Cairncross, 1978; Gemmell, 1982; Gershuny, 1978; OECD, 1975; among others). This hypothesis was well supported by two arguments that are still valid: firstly, the organisational changes taking place in industrial companies, which determined the *outsourcing* of many services previously produced "within" the manufacturing

Table 2.1 Factors explaining service growth



Source: Prepared by the author

companies; and secondly, the off-shoring process of industries occurring in recent decades, which has resulted in the relocation of manufacturing companies from the most advanced to poorer countries, with lower salaries and costs.

Consequently, two issues have become clear in recent years regarding the factors explaining the expansion of services. The first is that there is no single factor, not even a main factor, but several of them. The second is that, besides the "economic" factors, other types of factors are in place. Therefore, although the increase of expenditure on services by individuals and families is primarily related to their higher incomes, other factors clearly affect the changes in the families' expenditure structure, for example the urbanisation processes, the entry of women into the labour market, the ageing of the population, and the incorporation of young people as consumers.[2] Moreover, the outsourcing processes have not only affected the growing demand for services by companies, but also other productive and organisational changes, as well as the growing complexity of the business environment, both from the fiscal, legal, or technical perspectives and also due to the increasing competition and the need to internationalise.

The factors that have had an impact and still affect the expansion of services may be arranged according to different approaches. However, we consider that the clearest way to organise them is according to their comparative influence from the demand and supply viewpoints, as it is synthetically shown in Table 2.1.

[2] See Mañas, Gabaldon, and Cuadrado-Roura (2002).

This division, as useful as it may be, should not be taken too rigidly, as the growth of some service activities is very often due to demand and supply factors at the same time. Moreover, the fact that the factors shown in this table are always included within a specific legal-institutional framework affecting the conditions related to the establishment, production, and distribution of the services must be also taken into consideration. In this sense, it should be noted that services are a sector that has been and still is subject to several regulations by central, regional, and local governments.

Factors described in Table 2.1 deserve some explanatory comments, which are presented following the same order as in the table.

4 Driving Factors of Services Growth from the Demand Side

4.1 The Increase in the Household Consumption of Services: Demographic and Social Changes

The rise in the levels of per capita income has been undoubtedly a significant factor that boosts the demand for services. We must first turn necessarily to the well-known "Engel's law" when searching for the reasons accounting for this fact. The law establishes that the evolution of household incomes gives rise to changes in the expenditure structure due to the different income elasticity values.[3] The result is that the expenditure on basic necessities tends to decrease proportionally to the increase of income level, whereas other expenses—including many services—not included previously or rather included in the structure of household consumption since they were considered unnecessary or even a luxury, absorb higher levels of expenditure as income rises (Falvey & Gemmel, 1996; Kravis, Heston, & Summers, 1981; Maddison, 1980). This happens, for example, in the case of education, health, transport, or leisure and culture expenses, whose relative costs have also tended at times to decrease and become more affordable.

Numerous authors have analysed the household consumption performance and consumption patterns of goods and services. See, for example, the works carried out by Fuchs (1968), Gershuny (1978), Gershuny and Miles (1983), Gregory, Salverda, and Schettkat (2007), among others. Moreover, there exists a fair amount of researches referring to a specific country or comparing different countries (Mañas et al., 2002; Schettkat, 2004).

However, it is worth highlighting that the only cause for this higher level of expenditure on services is not the behaviour of income and price elasticity, but also a series of demographic, social and cultural changes. Some examples of these changes include the ageing process of the population of some advanced countries

[3] Fisher (1935) and Clark (1940) applied this law to the changes in the demand for manufactured products and stated that the elasticity of demand for many goods was less than one, while that of services and luxury items was more than one.

(mainly in Europe), the past and present processes of growing urbanisation (involving changes in lifestyles and in the type of expenses to be made), the entry of women into the labour market (Mañas et al., 2002; Yang and Magrabi, 1989), the greater attention paid to personal care, and the evolution of some more general patterns of social behaviour due to specific sociological and cultural changes.

The higher demand for services by individuals and families is not, obviously, the only factor that has boosted the expansion of services. However, it has been and still is one of the main protagonists in the process of tertiatisation of economies. The *surveys on household income and expenditure* conducted by the majority of advanced countries reveal the continuous increase of the relative weight of services in the household expenditure structure. At the beginning of the 1990s, this expenditure meant on average less than 30 % of income, a percentage that nowadays is around 45 % of the average monetary expenditure per household. By contrast, the average expenditure of households on food has fallen from 33–34 % in 1970 to approximately 20 % in 2010, though there exist obviously wide differences due to income levels and the places of residence.

Prices have also affected the weight of services in household expenditure as they have tended to rise to a larger extent rather more than manufacturing products and raw materials. On the other hand, we should remember that the increasing importance of consumer services is not only quantitative, but also qualitative. In fact, the household consumption of services may be understood both as a consequence of development and social modernisation and also as an explanatory cause of these processes. Certain services constitute a paradigmatic tool of the improvement in standards of living, which is translated into the increasingly general possibility of enjoying services related to leisure (entertainment, travel, sport...), culture, or aesthetics, for example. Yet, it is also worth mentioning that some services seem to have become essential elements for families, such as those related to private training and education, childcare and elderly care, or assistance with household chores. Finally, as previously pointed out, the significant entry of women into the labour market has too resulted in the increase in consumption of specific services (meals outside the home, laundry, transport, etc.). This was already highlighted many years ago by Shaninger and Allen (1981), Jacobs, Shipp, and Brown (1989), Magrabi et al. (1991) and the idea has become consolidated.

Furthermore, the empirical analysis of expenditure on services by individuals and families enables us to demonstrate the existence of very clear differences in the dynamics of the various services. Thus, there is evidently a group of services on which expenditure has increased proportionally more than on others from the 1990s to date. This is the case of insurances (featuring an average annual growth of 6.5 %), telecommunications (above 5 %), hotels and travelling (3.9–5 %), personal care services (3.5–4 %), and services related to leisure and culture (around 5 % in the European countries, although with significant differences by countries, but always showing an increase).

At the other end of the spectrum we find home and repair services (with a negative variation above −7 %)[4] and private transport services (−1.2 %), which, according to Eurostat, registered a fall in expenditure during the period under analysis (1990–2008). Similarly, although medical and transport services show slight increases in final expenditure, a loss of their relative weight is also observed regarding the total household expenditure. In addition, this fact is not disconnected from the supply of these and other services by the public sector. Finally, there is a group of services (regular meals outside the home and nurseries) which have slightly increased the average family expenditure, although their weight remains constant compared to total expenditure.

4.2 *Increase of Intermediate Consumption of Services by All Productive Activities*

In all advanced economies, services have clearly increased their importance as inputs in the production functions of the productive sectors, such as manufactures, energy, primary production, or the majority of services themselves, which also use other services as inputs to produce the services they offer. In short, what has been happening for several years is that intersectoral demand for services has increased substantially in the most developed economies (Elfring, 1988a, 1988b, 1989). This has occurred partly as a result of the organisational and productive changes that have taken place in companies, so that some services that were previously "produced" in-house have been gradually outsourced to other companies, more specialised in services, which has led to reduce costs (Camacho & Rodríguez, 2007; Cuadrado-Roura and Rubalcaba, 2000; Kox, 2002; OECD, 2005a, 2005b) and also to improve the quality of business and producer services. In addition, the growing complexity of the environment in which companies operate (legal and fiscal problems, requirements for exporting, design and advertising difficulties, etc.) has also boosted the demand for external services (Rubalcaba, 2007).

There is no question that modern companies are large consumers of services, but this issue requires further clarification. The outsourcing processes mentioned above have also brought about a "statistical effect" that has caused the service sector to increase its dimension in all economies due to the creation of specialised companies that did not previously exist or whose employees and production were *within* the manufacturing or service companies themselves. Nevertheless, these changes in business organisation are not just a transfer of employment from one sector to another (from the industrial sector to the service sector), but are generally associated with a process defined by a greater specialisation and extension of the services requested, and also by a better quality of supply and the demand requirements. As a

[4] Gershuny and Miles (1983) already underlined the trend to self-produce services in the homes as a consequence of the cost increase involved by their demand to external producers (repairs, leisure, domestic service, etc.).

result of this, for example, a high growth of the business service subsector or, more broadly, of producer services,[5] has occurred in recent years.

Today, services account for 38 % of total intermediate consumption in numerous countries. However, there appear differences when comparing various countries and, of course, when the analysis is carried out by industries, both from the viewpoints of services and manufactures and other demanding sectors.

Some empirical analyses show that there are a very large number of tertiary activities whose products are mainly assigned to intermediate demand. Among these, overland transport and other services connected to transport, commercial distribution, financial intermediation services, and machinery and equipment renting services, as well as other business services stand out. The production of retail commercial distribution and hotel and catering activities is also included in the intermediate consumption of the remaining sectors, although their production is mainly assigned to final demand.

From the perspective of service-demanding sectors, percentages vary widely from construction (about 7.5 %) to manufacturing industries (between 26 % and 35 %) and services themselves (58–65 %, depending on the country). In any case, these weights are quite similar in all developed European countries. On average, services account for 14.1 % of the productive structure of manufactures in the EU, whose intermediate consumption mainly comes from the industrial activity itself. This average percentage is slightly lower than that of countries[6] such as Germany (15.9 %), France (18 %), or Ireland (17.2 %), and similar to that registered by Italy (13.5 %), The Netherlands (14.4 %), Finland (13.7 %), and the United Kingdom (12.3 %), among others.

One of the consequences of the aforementioned facts is that services and the rest of the productive system are progressively interwoven. This also causes differentiating between goods and services, as was done in the past, to become increasingly difficult (Greenfield, 2002; Pilat & Wölfl, 2005). Furthermore, another important fact is that it is not easy to determine the contribution of services to the improvement of productivity in the rest of sectors, particularly in the industry sector and in several service activities which also employ services as production inputs. This issue is still the subject of open research and discussions regarding the measurement of productivity (Bosworth & Triplett, 2000; Kuroda, Motohashi, & Kazushige, 1996; Maroto, 2009, 2010; Maroto & Cuadrado, 2009; Nordhaus, 2000).

4.3 International Trade of Services

The expansion of international trade of services (transport in its various forms, financial services, tourism, consultancy and technical assistance, etc.) has also

[5] Including transport and storage, renting of machinery and distribution services.

[6] Figures estimated from the National Input–output Tables, 2005. Eurostat databases.

played a growing role in driving the expansion of services on the demand side.[7] However, the differences between countries are remarkable. The Netherlands is an extraordinary example showing the importance the export of services has held in its economy. A rather similar case is the United Kingdom, particularly in the areas of business services, financial services, and transport. In other countries—Italy, Spain, and even France—tourism has been a significant driver for the expansion of the hotel and catering sector, transport services and other activities linked to the reception of visitors. In the latter countries, however, the export of other services represents a significantly lower percentage.

When it comes to assess the role of international trade in favour of the expansion of services, it is worth noting that the expansion of the supply of many services is not carried out via commerce, but through direct investments in other countries, by creating subsidiaries and acquiring or owning a share in local companies (Cuadrado-Roura, Rubalcaba, & Bryson, 2002; Illeris, 1989; OECD, 2005a). This means that their production does not appear any longer in the national accounts of the country. This has been the case for sectors such as banking, telecommunications, surveillance, water distribution, and other services. Only the revenues derived from transferred benefits and royalties will appear in the balance of payments.

Some recent contributions reduce the importance of international trade as a driving factor for the expansion of services (Savona & Lorentz, 2009). The reasons adduced are technical—the need for many services to be provided in situ—and also institutional and regulatory due to the barriers and controls hindering the international trade of many services. The WTO has estimated based on data from 2007 that, while services account for around 66 % of the world GDP, they just represent about 17 % of the world trade. Figure 2.4, which compares the coverage of the trade of goods and services by countries, shows, as already mentioned, that differences among countries are significant (Di Meglio, 2010). Scandinavian countries, together with The Netherlands and Belgium are net exporters of commercial goods and services (upper right quadrant). However, other countries (Germany, Japan, Canada) are net exporters of goods, but net importers of services. Finally, there is a broad group of countries (from the United States and the United Kingdom to Spain and Portugal) characterised as being oriented towards the export of services and the import of goods, although with significant differences among them. Due to their importance and level of specialisation, the exports of services vary from tourism (Italy, Spain, Greece, Portugal) to financial services (Luxembourg, the United Kingdom), or also to a growing specialisation (ICTs) achieved through off-shoring (India).

[7] Obviously, countries also acquire services from other countries, but we refer here to the role of the demand for services received by a country, which boosts this sector of its economy.

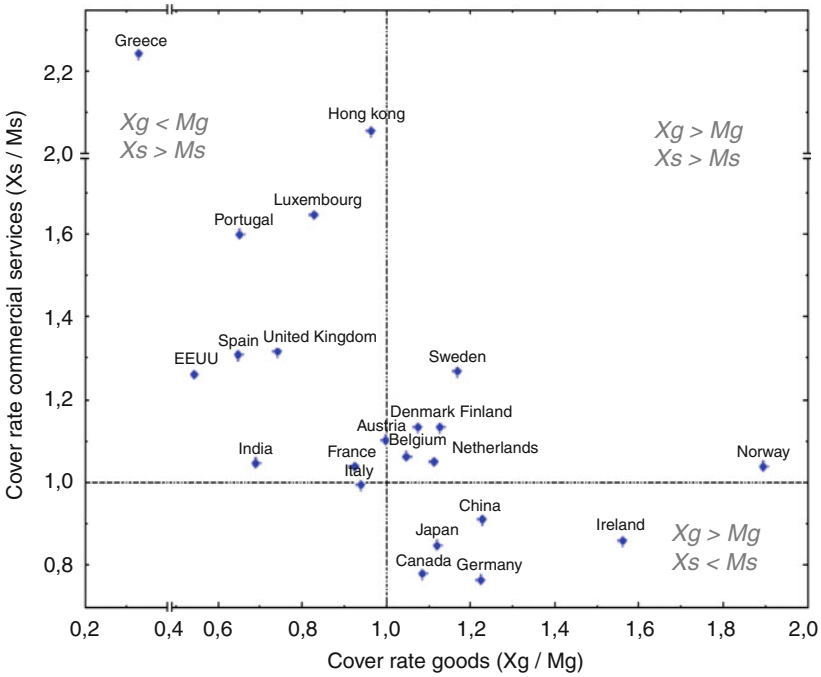


Fig. 2.4 International perspective on goods and commercial service trade. *Source*: Di Meglio, 2010, Figures from WTO (World Trade Organization). Note: X = exports, M = imports, *g* = goods, *s* = commercial services. Commercial services are services sector excluding government services

4.4 Demand for Services by Governments and Public Administrations

Administrations, either national, regional/state or local governments, have also contributed and continue to contribute to promote the demand for services as they need a wide variety of services in order to operate, for example, advice, reports, project assessments, policy impact assessments, transport, etc. However, rather than a quantitative increase in the demand for these services, two clear trends are observed: on the one hand, a transfer of the economic activity from public administrations to private companies (outsourcing), which is justified by the increasing complexity of many decisions and actions of the public sector; and on the other hand, cuts in the increase of public expenses and bureaucracy, which have recourse to demand that the private sector collaborate with public authorities and contribute to solve certain problems, supplies and necessities, often through a public-private collaboration.

5 Driving Factors from the Supply Side

Table 2.1 also illustrates the main factors promoting the expansion of services from the perspective of supply. Undoubtedly, the most important factor is the one that relates the production of services with productivity and the high employment requirements by the majority of service industries.

5.1 Low Productivity of Services as a Driving Factor

Data from the most advanced economies show that, generally speaking, there is a clear relationship between the weight of services in terms of employment over the total amount of people employed and the growth of productivity. Therefore, the greater the significance of services, the lower the rates of increase of their aggregate productivity by worker (Fig. 2.5).

This trend would confirm the theory developed by Baumol et al., which we have already commented upon. The explanation is apparently simple: the production of many services requires a high use of the labour factor which, unlike what happens in manufacturing, is not easily replaceable by either capital equipment or by technology. There are many services—from the so-called "personal" services to trade, hotel and catering sector, and the majority of business services, for example—in which the production of the service in question requires the use of a great amount of staff and any increase in the supply results in a parallel increase in labour. This clearly happens when a service involves simultaneity of production and consumption,[8] but also to some extents when it is not exactly like this (e.g., hotel and catering sector). This happens even when possibilities of technification and greater capitalisation exist, as in distribution and education sectors. When more capital and technology are applied, the quality of service tends to improve, but, on the whole, the rate of change in productivity does not.[9]

However, the rates of change in average productivity of the main service industries show remarkable differences, and while some register generally low productivity indicators (hotel and catering sector, trade, other services, and

[8] Such is the case of many personal services.

[9] This statement immediately suggests that, in many cases, the measurement of service productivity is made according to the same pattern as in the case of manufacturing, i.e., by linking the GVA to the number of employees or to the number of hours employed. Undoubtedly, in sectors such as health, education and others, this form of measurement is not exact. The employment of more and better equipment and technological developments enables an offering of higher quality services. However, it is arguable that the output of such activities may be identified just with GVA and not with other very different product indicators related to health or levels of education. See the excellent research carried out by Maroto (2010) regarding the productivity measurement issues in the services sector and the different positions in this regard.

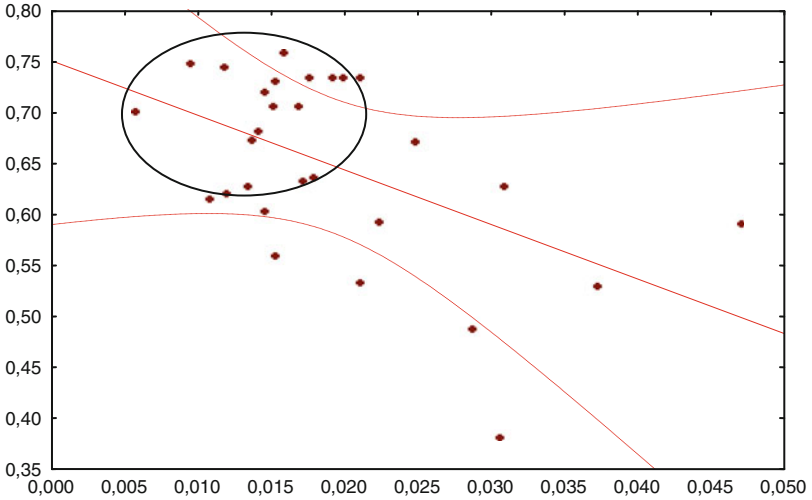


Fig. 2.5 Relationship between service weight and productivity increase average (1980–2007). *Source:* Cuadrado-Roura and Maroto-Sanchez (2010). Figures: EU-KLEMS, 2009. Notes: X: productivity average annual growth (1980–2007); Y: average weight of the service sector in the economies

health and education, for example), other industries record comparatively high rates (transport, communications, and financial services). Several recent works ((O'Mahony & van Ark, 2003; Oulton, 2001; Maroto & Cuadrado, 2009; Wölfl, 2003, 2005 among others) have highlighted that, within the service sector, very different behaviours in labour productivities can be observed by industries. Some of these endorse the theory that their productivity is low and that their rates of change are always highly reduced. But, in other cases, the indicators evidence that some industries have registered much higher rates of change in productivity and are comparable to or higher than the average in manufacturing. This is the case of activities in which the incorporation of technological developments and the substitution of employment by capital are not only feasible, but essential for the efficiency of those companies operating in such activities to achieve high levels of efficiency. The analyses referring to several advanced countries indicate that the financial sector, communications and some transport activities record very high productivity changes related to capital per worker and technological developments, which also determine cuts in staff. Additionally, in ICT-related services and some business services there are positive effects on the productivity of other sectors and activities (Baumol, 2000; Maroto & Cuadrado, 2009; Rubalcaba & Kox, 2007; Triplett & Bosworth, 2002; van Ark & Piatowski, 2004; Wölfl, 2003, 2005).

Of course, the final conclusion does not consist in denying any validity to the theory that the average rates of change in aggregate productivity of services are

rather low and that this is the case in quite a number of their industries. This fact is linked to the high correlation existing between the delivery of many services and their growth with the labour requirements demanded by their production. However, this theory must be questioned when data disaggregated by service industries are used. Furthermore, we must also remember that the measurement of productivity of services raises very serious issues, both regarding the assessment of their output and the measurement of the factors involved in the respective production functions (Maroto, 2010).

5.2 Services Delivered by the State and Other Administrative Levels as a Driver of the Weight of the Sector

Public Administrations have been and still are playing a leading role in the growth of services. In fact, the public sector is a supplier and producer of services at its various levels. However, being a supplier does not mean being a producer at the same time (using its own staff and facilities) because the services from private companies may be hired (accounted for in market services). But, in any case, the State, the regions, and the municipalities are clear producers of services.

The development of the Welfare State (WS) boosted, particularly from the Second World War, the expansion of public services and, therefore, of the positions that these services require if directly produced by public entities. Such services include public education and health, social and assistance services, as well as others which are more conventional, such as the army, legal services, etc. Due to their nature, the majority of these are often qualified as "non-market" services. However, it is evident that the extent and extension of these services have also driven up the weight of those employed in the services sector, particularly in the European countries.

From the 1980s to date, many countries have tended to reduce their role as service providers, either by ceasing to render these and transferring their possible demand to the private sector, or through their outsourcing to private entities and companies. The privatisation processes have also resulted in the fact that some previously public services are now produced by private companies, although these may be subject in some cases to regulations in the delivery of the service in question, as well as to subsidies to cover deficit services considered as socially necessary. Nevertheless, at least in relative terms, the weight of the number of employees from Public Administrations has not fallen.

According to EU-KLEMS figures, there are numerous countries where the employment in non-market services accounts for more than 25 % of total employment (Table 2.2) and the trend even indicates that, in the last 30 years, not only the number of people employed in non-market services has increased, but also the

Table 2.2 Employment in non-market services (% of total employment)

Country/area	1980	1990	2000	2007
Belgium	24.14	26.55	27.83	29.32
Germany	20.79	22.39	24.55	25.40
Spain	15.46	19.63	20.94	20.51
France	26.24	29.97	31.18	31.17
Italy	22.90	24.98	24.48	22.30
Netherlands	28.27	28.09	25.96	28.58
United Kingdom	22.02	24.97	25.56	28.14
Sweden	34.38	36.29	34.80	35.20
USA	27.43	28.12	28.18	30.42
Japan	11.20	12.22	14.40	16.66
Eurozone	**22.24**	**24.73**	**25.79**	**25.89**
Euro-15	**19.63**	**22.15**	**23.51**	**24.12**

Source: Own elaboration, EU KLEMS data base

percentage they represent over total employment. Consequently, the upwards contribution to service employment by services included within the "non-market" group is clear.

5.3 *Other Factors Having an Impact on the Supply and the Expansion of Services*

Besides the two factors having the greatest impact on the growth of services—productivity and public services—other influential factors exist, although these are not easily quantified. Among these we find new technologies (ICTs) and the higher average qualifications of people employed in many services, a fact that has also promoted the expansion of their supply. Moreover, the liberalisation of service markets is another of these factors.

New technologies are having an important impact on the offer and diversification of services, not only from the supply, but also from the demand side. In terms of supply, their main influence is reflected in the innovations that ICTs enable to develop. This does not only give rise to new services but also to new forms of producing those already existing. Their impact is particularly significant in industries such as finance, distribution services, health-related services and, obviously, the transformation of telecommunications, but their influence extends to virtually all service activities and their production: press, leisure, transport logistics, etc.

The development of ICTs not only expands the production of services, but also their productivity (Pilat, 2004), and leads to improvements in the quality of services and the emergence of new ones, the reduction in the time required for their production and the narrowing of the distance between producers and those requiring the service. In short, technological changes boost a "new" tertiary sector and, at the

same time, improve the supply of many of the most traditional services while they promote changes in the organisation of companies and extend the market areas that they may supply, either within each country, across borders, or even at a global level.[10]

The influence of ICTs is also present from the perspective of the demand for services, as it is diversifying the range of services available and the easier access to them through telecommunications in many cases.

The overall improvements in **education and human capital** are too playing a significant role in the supply of services. There are many service industries in which human capital is vital (Messina, 2004; OECD, 2005a, 2005b). In fact, despite the existence of routine services which do not require highly qualified staff—industrial cleaning, surveillance and personal services, for instance—many other activities require more and more qualified personnel. As pointed out by the OECD (2000) in the 1990s, the proportion of university and non-university staff in service activities was then three times that of manufacturing and all the signs are that this proportion will tend to rise. Furthermore, the improvement of human capital also has effects on the demand for services, as preferences for culture, travelling, sports, personal care, gastronomy, etc. tend to increase when the education level is higher.

6 Final Comments and Remarks: The Expansion Prospects of Services and Their Territorial Implications

The near future of service industries will essentially continue to be marked by the influence and behaviour of the factors indicated as drivers of the expansion of services in recent years. Some of these are currently hinge on the effects of the financial crisis, which is affecting virtually all of the most "industrialised" economies.

In terms of demand, the four main driving forces of the sector's growth have been and continue to be the consumption by families, the increasing use of services to produce goods and services, the demand by Public Administrations, and the international trade of services. Based on this, everything suggests that all these factors will continue to boost the production of services once the current recession is overcome. Under normal conditions, it is be expected that per capita income reaches the level recorded before the actual economic and financial crisis. Therefore, the fulfilment of Engel's law, along with the social and cultural changes that contemporary societies are undergoing, will cause the demand for services by

[10] Amazon is one example of a company offering services at an international scale. Others devoted to sport activities and material have also changed their offer as they incorporate customer loyalty programmes including connection with and information on important events, etc. The example shown by Barrabés Cº demonstrates how a company from a village in the Pyrenees can provide services and offer high-mountain and climbing equipment in the United States, Kuwait, or South-East Asia.

families to continue to grow in order to cover personal, leisure, and cultural services, as well as transport, private health and education, among other services.

In the case of inter-industrial relations, it is also clear that the demand for services as inputs to produce new goods and services will continue, as derived from the analyses based on input–output tables.[11] Furthermore, Public Administrations are not envisaged to eliminate or further reduce the services delivered to them by the private sector. By contrast, it is expected that public-private collaboration will increase in response to the reduction of the direct role of Administrations as service providers. And, finally, foreign trade in services, which has been growing significantly in recent years, is not expected to become stagnant (again once the current global situation should be overcome). The international agreements signed and the liberalisation processes of the international trade of services will contribute to this end. In this regard, the EU is developing new initiatives under the directive on the liberalisation of services and other directives on transport and communications oriented towards the promotion of the internal market for services and a greater flexibility and competence in their delivery.

The final conclusion is that, once the worst phase of the current recession would be over, the growth of services will resume, although perhaps in a more moderate way. In this sense, it seems safe to state that all advanced countries will exceed the threshold of 70 % of GVA and of the number of people employed in tertiary activities.

Yet, at any rate we are bound to witness restructuring processes "within" the service sector that should lead to a reduction in the number of companies operating in some industries, accompanied by an increase of their dimension, while in some individual cases, those firms whose profitability and viability in terms of efficiency and market are highly doubtful, such as some segments of hotel and catering trade, retail trade, and conventional transport, may disappear in the coming years.

There are **several other questions** that should be taken into consideration regarding the future of services. Will the internal market for services in Europe become a reality? Will services be more productive? Will the external investment in services be progressively more significant? Should an increase in the off-shoring of service companies be expected?

All these questions cannot be answered concisely. However, some ideas can be anticipated and we can refer to other recent studies and works providing quite solid data and elements in this regard.

Regarding the progress towards an **internal service market in the EU**, the following observations can be made. Firstly, it is evident that the EU should move towards an internal service market, as this is an essential requirement to continue progressing towards an increasingly complete and effective European integration. However, although some sectorial directives (on transport, banking and others, besides a more general directive) that point in the right direction have been approved,

[11] To this regard, see the research carried out by Pilat and Wölfl (2005) published by the OECD: http://www.oecd.org/dataoecd/43/33/34946920.pdf

the difficulties arising during the approval of the last directive on services[12] highlighted once again that the "national" interests and pressures are still very strong and that eliminating some of the existing barriers will continue to be difficult.

The question of **whether services will be more productive or not** in the future may have a more positive answer than the previous question. When highly aggregated values and indicators are used, it is difficult to deny the theory that services are a less productive sector than the rest, or at least below manufacturing and energy. Increasing the productivity per worker across services is and will remain difficult as a result of the high workforce requirements for the expansion of many of their industries, in which the labour factor is hard to be replaced with capital or technology.

This does not mean that "quality" improvements are occurring in several services and that "innovations" are not being introduced to become more efficient. In fact, as previously indicated, there are doubts about whether the "productivity" variable in services is being measured correctly. However, a large number of recent contributions to the analysis of services, already cited, has demonstrated that there are service industries where productivity records rates of change which are comparable to, or even higher than, many manufacturing activities. These are always activities where capital requirements and technological progress enable the production not only of enhanced quality services, but also services with a higher added value, such as communications, many transport activities, financial services, and even some business services. There is no reason to believe that these trends will not continue in the future.

On the other hand, we have to pay more attention to the differences between service "**innovations**" manufacturing innovations. Many services innovations rarely appear in official statistics, as the patent system, for instance, is not well adapted to the production of numerous services. Something similar occurs with the proliferation of networks, franchises, and other formulas. Yet, these innovations are a fact and the consequence of several factors: the improvement of human capital in the sector, the growing competition (even in the case of services where the producer-client contact is essential and should happen simultaneously and at a specific place), the returns of scale and external economies generated by the networks of service companies, and the increase in the size of companies. And all this appears as part of a process of "internationalisation" of services—through trade and investments—which we have already referred to.

Finally, there is another issue that should be taken into consideration when analysing the future of the service sector, particularly because it is directly linked to the services-territory relationship: the **processes of geographic** "**offshoring**"[13]

[12] Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006. Its implementation in all countries has been slower than anticipated.

[13] That is, the displacement of the production of some services to countries where production costs and regulations in force are more advantageous. This has been the case of computer treatments (where India has absorbed a large production volume), the production of books, and material for media and leisure, for example.

that have been taking place in many services. It may also be questioned whether this trend will continue in the future or not, although it seems that the answer can only be affirmative. Some recent documents analyse the offshoring processes of services at an international scale and their implications.[14] In addition to this, however, the flows of investments in service activities occurring at an international level indicate that the trends initiated in recent years will continue. These investments are often justified by the nature of a large number of services involving a direct contact between the producer and the consumer for their production and delivery. On the other hand, the ICTs developments also favour some specific off-shoring as these enable some tasks to be carried out in locations/countries lying very far from the service user, although the contact is fully kept and the production costs are reduced, as it already happens in computing activities, data treatment, publishing, and other activities.[15]

To conclude, and even considering the difficulties involved by the current economic situation, services offer quite clear prospects for growth in the coming years. Together with new possibilities to create jobs in the sector, productivity improvements in many of its industries, improvements in the quality of the delivery of almost all services,[16] and an increasing internationalisation of service companies, a trend existing for more than a decade (Cuadrado-Roura et al., 2002), can be expected.

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[14] See http://www.mckinsey.com/mgi/publications/emerginggloballabormarket/index.asp and http://www.mckinsey.com/mgi/publications/emerginggloballabormarket/index.asp.

[15] The examples of computing services, call centres, book publishing processes, etc. are well known and numerous.

[16] We could maybe exclude the so-called 'routine' services, such as industrial cleaning and domestic service, for example, where innovation is highly limited.

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