

# AN ECONOMIC ANALYSIS OF THE RISE OF SERVICE MARKS

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**Abstract.** This paper claims that the structural and competitive evolution of modern economies has increased the importance of service trademarks. Among other factors, the decline of human intermediation in many services plays a relevant role. Although trademarks of goods are still dominant, the share of service classes in total trademark applications is increasing in both absolute and relative terms, at a national and international level. Some basic empirical observations are shown and discussed.

**Keywords:** Trademarks, service marks, structural change.

## 1. Introduction

The economics literature has not, as yet, systematically studied the use of trademarks. Several disjointed contributions on this topic appeared in the last century, although Chamberlin, one of the most quoted economists of the 20th century, devoted several pages of his famous study to them.<sup>1</sup> Surprisingly, Chamberlin's analysis of trademarks and market power has been ignored for many years. In more recent times, Landes and Posner and Economides have presented the most thorough theoretical studies on trademarks analysing the rationale behind trademarks and trademark laws in modern economies.<sup>2,3</sup> Finally, few marketing scholars have attempted to consider trademarks as a separate issue.<sup>4,5,6</sup>

Until a few years ago, there were no empirical studies that analysed trademark data. The paper by Allegrezza and Guards-Rauch was the only one that attempted to explore the determinants of trademark deposits.<sup>7</sup> Other authors have used trademark data (as an independent variable) to glean information about the market value of companies and their ability to innovate.<sup>8,9</sup> This lack of empirical works may be due to several factors. First, trademark offices have only recently begun to make data public. Moreover, national offices have paid little attention to collecting such data in any homogeneous form, and only now do we have standard analytical techniques to pool and analyse the information available. Second, it seems that compared to patents, trademarks have been considered less worthy of empirical attention. The main reason is that patents, unlike trademarks, are seen as very much related to technological progress and therefore to economic growth. Another possible reason is that, as noted by Greenhut, a trademark ensures its owner a much lower monopoly rent than a patent does, at least potentially.<sup>10</sup> In actual fact, firms have always been trading trademarks, whose prices have sometimes reached very high levels. Moreover, the sale of a firm often means essentially the sale of a word or figurative trademark. Finally, and more generally, trademark theory was probably not sufficiently developed to warrant empirical studies. In the last few years the availability of national and international trademark data has increased substantially. There is thus room for empirical studies that may shed some light on a practice that so far has been partially neglected by the economics literature. In fact, some studies have recently analysed the patterns of international trademarking.<sup>11,12,13,14,15,16,17</sup>

In these studies, trademark statistics are used to develop empirical analyses in different directions. For example, some papers examine the distribution of trademarks across economic sectors, and the focus is on trademarks registered in classes of goods, while the empirical analysis does not include services. One of the possible reasons is that the Nice classification (available at <http://oami.eu.int/en/database/euroace.htm>, 13 June 2006), which serves to determine the scope of protection of trade marks, is sufficiently disaggregated in the case of goods, whereas services are aggregated into a small number of classes.

The relationship between trademarking and the evolution of services in modern economies has thus rarely been examined. This paper focuses on the role played by trademarks in the service sector and has the following objectives (Hereafter, I use “service trademarks” and “service marks” as equivalent expressions).

The first aim is to highlight the factors which increased the importance of service trademarks in modern advanced economies. Secondly, I will discuss some empirical observations about service trademarks. These observations are characterised by a higher level of aggregation with respect to other studies, which often focus on specific types of services or individual countries. This will allow me to outline some general trends. Finally, I will propose some interpretations of the observed phenomena, in the light of the previous discussion.

I believe that these issues are important because they: a) concern one of the most important forms of intellectual property rights in the “dominant” sector of advanced economies; b) raise several concerns about the informative power of current official statistics on trademarks, and about the way they are collected and pooled.

The paper is organised as follows. Section 2 briefly describes the “standard” interpretation of economists about the function of trademarks and trademark laws. Particular emphasis will be given to the historical explanation of the rise of trademarks in western economies. Based on this background, Section 3 highlights those factors that explain the increased interest in service trademarks. Section 4 reports and discusses some stylised facts, while Section 5 analyses the informative potential of trademark statistics about the structural change. Section 6 concludes the paper and suggests some areas for future research.

## **2. The economic functions of trademarks**

In standard law & economics literature, trademark law is seen as an incentive for business enterprises to invest in the quality of the goods and services in connection with which the mark is used and as a remedy for a specific market failure. It is thus argued that, were it impossible for consumers and for the public at large to identify the source of goods, every business would have an incentive to supply goods that have a quality lower than the average prevailing in the industry. This is because the profit generated by the individual transaction would in fact be garnered by the individual business entering into it, while the reputational costs deriving from the disappointment of the public would be externalized to the whole industry. Accordingly, the adoption of a sign, which links the goods to a source constant over time, is seen as a device to overcome this difficulty.<sup>3,18</sup> In a similar vein, it is often noted that while the presence of a trademark lowers the search costs borne by consumers, it also enables the public to repeat, over time, purchases which have initially proved satisfactory, and to avoid in the future the ones which have failed to do so. Firms offering a satisfactory price-quality combination are thus rewarded; the ones who fail to do so are punished.

Although the standard rationale of trademark protection lies in its function of designating the origin of the goods, lawyers tend however to add that thereby an incentive is built to encourage firms to invest in the quality of the goods they offer to the market. In fact, in the last fifty years, trademark laws have evolved considerably. For example, since 1947, 25 different US State legislatures have granted trademark protection even in the absence of the likelihood of confusion as to origin. The work of Schechter is generally considered to have provided a seminal contribution to the so-called “trademark dilution” doctrine, underpinning this legislative development.<sup>19</sup> According to this doctrine famous trademarks should be granted protection even in the absence of direct competition between the senior and the junior user and in the absence of a risk of confusion as to the origin of the marked goods. The rationale behind this extension of protection is to avoid both the “dilution” of the promotional value of “well-known” brand names and the free-riding practice over the marketing expenses which contributed to creating the very same value.

This theoretical framework concerning trademarks and trademark laws has been elaborated primarily in relation to the trade of goods. There are two main reasons for this. In general, economics literature has analysed markets of goods more in detail than

markets of services. The economics of services has rarely been considered as an autonomous subject of research, and services have sometimes been seen as a “Cinderella” within economic science.<sup>20</sup> Therefore, scholars did not attribute specific characteristics to the intellectual property rights of services. In addition, the diffusion of trademarks and the evolution of trademark laws are actually linked to markets of goods, rather than to services, as is implicitly argued by Wilkins.<sup>21</sup>

Wilkins claims that the development of big modern US corporations during the nineteenth century led to greater attention to brand names.<sup>21</sup> In fact, without brand names these companies could not exploit the economies of scale and scope which characterise large dimensions. What is the relationship between brands and trademarks? The use of trademarks to identify the producer goes back to ancient Greece; however, until the nineteenth century the small dimensions of both seller and buyer meant that they could have a direct contact: the assurance of the origin and quality of goods occurred while the trade took place, and the “brands”, though existing, required no particular legal protection. By contrast, large modern corporations, because of their size and output, are characterised by a separation of producer and consumer through a distribution chain. This is even more true in the case of multinational companies. The reputation of the seller and thus the quality of goods offered can no longer be ascertained through the “intimacy” of buyer and seller, although the need for product differentiation still remains. “When the separation between producer and buyer occurs, the name and reputation become intangible property rights that require legal support”. Wilkins then reports some examples which establish the validity of her proposition.<sup>21</sup>

This analysis fits particularly well the exchange of goods, while it is not “historically” adequate for services. The reason is that the provision of services in the nineteenth and much of the twentieth century was substantially based on human intermediation. In most services, the relationship between buyer and seller is a direct one. Therefore, the assurance of the quality of the service is given by the service provider, personally. For this reason, the legal support of service brands has probably not been considered important. Consider, for example, the provision of medical services. If an individual faces health problems he will contact a private or public entity, and the latter will certainly have a name, as well as the specific “products” offered to clients. However, potential “clients” usually go personally to the medical center which provides analyses and therapies. Here, each individual has a direct contact with the service provider (the doctor). In

addition, the patient will probably refer to the same person when, for example, he needs to replicate a medical analysis or to check the results of a therapy (in more general terms, when he needs to renew or modify the terms of the contract). Even in the public system, where doctors are potentially interchangeable, patients often establish a long-term relationship with the same person, who guarantees the provenience and the (constant) quality of the service. The same happens in bank services: in most cases, those who possess assets in a certain bank can choose always to deal with the same person who will guarantee the source and quality of the service offered. This does not mean that “brand names” (of hospitals or financial institutions) or individual names are unimportant, rather that they do not need an intense legal protection.

There are many other cases of the buyer-seller intimacy in the provision of services (for example, legal services and temporary accommodation). Therefore, it is reasonable that service firms have relatively lower incentives to protect legally their distinctive marks. In practice, we should expect trademarks to be deposited more intensively in classes of goods, all else remaining constant.<sup>22</sup> In fact, services account for 60-70% of GDP and employment in advanced countries, while the trademarks deposited in service classes constitute a much lower share of total trademark applications (we will examine these data more in detail in Section 4). Probably, this “stylized fact” had some influence on the economic literature, which first analysed the role of trademarks of goods, rather than services.<sup>23</sup>

There is an argument that partially goes against the interpretation given above and against the empirical observations. Some authors claim that the intangible nature of many services should bring about an intense use of service marks. In fact, services are often described as *experience goods*, because it is difficult to ascertain their quality before purchase and consumption. Sometimes, the nature of services makes it difficult to know their quality even *after* consumption. This type of services is usually defined as *credence goods* (for example, legal services and education). The problems of asymmetrical information deriving from this environment should mean that reputation (and therefore trademarks) would be used as a signal of service quality. The more difficult it is to ascertain the quality of goods and services, the higher the recourse will be to legal tools (such as the trademarks) which at least provide an indication of the average quality of the products offered.<sup>24</sup> Hence, the nature of experience and/or credence goods of many services should imply an intense use of trademarks of services. Despite this, empirical observations show that trademarks have been used primarily for

goods. It seems that the buyer-seller intimacy argument has been sufficient to reassure buyers about the quality and the origin of the services offered, at least so far.

The next section discusses whether in the last 30 to 40 years some structural, competitive and organisational changes of modern advanced economies have affected the relatively scarce importance of service trademarks. The very same factors should raise the interest of economists and lawyers towards the analysis of service trademarks.

### **3. The evolution of economies and the rise of service marks**

Before I deal with the issues regarding the relationship between trademarks and services, I will outline the essential characteristics of applying for a trademark and, registering and protecting it. A firm may use three types of trademark: national, "international", and regional. Almost all countries in the world register and protect trademarks. Each national office keeps a Register of Trademarks which contains full application information on all registrations and renewals, facilitating examination, search, and potential opposition by third parties. The effects of such registrations are limited to the country concerned. If a firm wants to protect its distinctive signs at an international level, three options are possible: registering a trademark directly at an office of a foreign country, registering a trademark at the World Intellectual Property Organization (WIPO), or using a regional system of marks, such as the community trademark at the Office for Harmonization of Internal Market (OHIM). The last two options avoid having to registering a trademark at individual national offices.

The WIPO administers a system of international registration of marks. This system is governed by two treaties, the Madrid Agreement Concerning the International Registration of Marks and the Madrid Protocol. A person who has a link (through nationality, domicile or establishment) with a country party to one or both of these treaties may, on the basis of a registration or application with the trademark office of that country, obtain an international registration having effect in some or all of the other countries of the Madrid Union. At present, more than 75 countries are party to one or both of the agreements.

The community trademark is a prominent example of the regional systems of trademark registration. Adopted in 1996, the community trademark is deposited at the OHIM based in Alicante (Spain), and once registered it is automatically protected in all

countries of the European Union. Also non-European countries may apply for the registration of a community trademark.

In all these cases, a trademark may be deposited in one or more classes of goods and services, defined in the Nice Classification. Currently, the Nice Classification includes 34 classes of goods and 11 classes of services. However, there were only 42 product classes until the end of 2001.<sup>25</sup> If a trademark is not used in a product class, it may be revoked (in that class) within three or five years of registration (depending on the jurisdiction). This does not prevent some firms from depositing a single trademark (name, logo, etc.) over many classes. A trademark registration may be renewed after ten years thus making trademark protection potentially infinite.

The growing interest in service trademarks is due to the structural and competitive evolution of economies, at least of those advanced in terms of income per capita. In fact, this evolution would seem to imply a larger recourse to service trademarks, as is demonstrated by the data presented in the next section. The increasing importance of trademarks in services has been highlighted by several authors, among whom Blind et al.<sup>24</sup> Here I present the most important factors which are responsible for the rising importance of service trademarks.

**Structural change.** One "simplistic" reason for the increased interest in service trademarks is structural change. The economic literature has widely documented and discussed the association between the growth of GDP per capita and the increasing share of services in terms of the GDP and total employment. In 2001, the service sector accounted for about 71% of GDP in high-income countries (World Bank), and it is still increasing. All else remaining equal, we may thus conjecture that the share of trademarks deposited in classes of services is also increasing in advanced and less developed economies. This should be true both in absolute and relative terms. In fact, as discussed in the previous section, the quality of many services is difficult to ascertain, given their intangible nature. This factor may imply that the protection of trademarks is more important for services than for goods. Therefore, when the share of services on GDP is growing, the share of trademark applications in service classes should increase more than proportionally.

Beyond these general expectations, one could also conjecture that the share of services in trademark applications of each country is quantitatively comparable to the share of services on its GDP. However, this hypothesis is not robust. In fact, the total

number of trademarks in an economic sector depends on several factors in addition to the added value generated. For example, (the more or less fragmented) market structure may influence the total number of trademarks deposited in a sector. Moreover, the role of trademarks and thus a firm's propensity to trademarking may vary from sector to sector. In conclusion, the cross-country correlation between service share on GDP and share of service in total (national and international) applications is unlikely to prove positive and significant.

**Tradability of services.** The intangible nature of many services restricts their trade at a national and international level. Despite their dominant share in GDP, services account for about a quarter of world trade (World Trade Organization). But there are reasons to expect that the importance of services in international trade will increase over time. Developments in technology, particularly in computerised information processing systems, telecommunications and transportation, and the increasing prevalence of the Internet, have increased the tradability (in terms of storability and transportability) of services, and have also created new services. The growing importance of national and international trade of services has increased the importance of protecting the related intellectual property rights. The increasing speed of Internet connections also permits a broader and quicker diffusion of words, logos and sound. Given the global diffusion of web pages' contents and the higher probability of unauthorised use, companies are more and more concerned with the legal protection of such assets when they are used as service marks.

**Decline of human intermediation.** In Section 2 I suggested that the frequent contact between buyer and seller may lead to less use of trademarks in the service sector. The determination of the quality and origin of the service provided is thus based not on distinctive signs but on the personal assurance of the seller. However, in the last forty years the intimacy of buyer and seller has been decreasing in many services and sometimes has even disappeared.

Consider, for example, the provision of bank services. Today, the majority of account holders possess a cash card so that they can withdraw cash without any intermediation by a bank cashier. The diffusion of new methods of payment is further reducing need for human beings in the provision of services e.g. credit card payments on the Internet. E-commerce is generally characterized by the absence of any direct contact between

seller and buyer, for instance in the purchase of flights, accommodation and other tourist services. In this context, it is brand names, rather than human beings, that indicate the quality and source of services. Although in some cases buyer and seller may still have some form of direct human contact, it is nevertheless the brand name that provides an initial indication about the quality and origin of the service. Service firms are thus devoting more and more attention to the management of their distinctive signs. This implies a greater recourse to the legal protection of intellectual property (patents, copyrights, designs, and, most of all, trademarks).

**Liberalisation of markets and privatisations.** According to Wilkins, the big dimensions of firms create incentives to deposit and use more trademarks.<sup>21</sup> This is true for both goods and services. However, in most countries much of the share of services used to be provided by central and local administrations. The structure of service markets was thus often monopolistic. A monopolist has few incentives to manage and protect its distinctive signs. The clients of a service provided by a monopolist are in no way confused about the origin of the service, and the good or bad reputation of the monopolist does not unduly affect the demand. Today, the processes of market liberalisation of most advanced countries in the last twenty years mean that several firms offering the same type of service can coexist. Market liberalisation has marked the evolution of many service sectors, such as telecommunications, media markets, education, post and transportation. Liberalisation has also meant the privatisation of the ex-monopolist governmental companies. Both factors require a clear identification of the service provider, the creation of new brands, and their legal protection. This is particularly true in this context, since large firms are usually involved in the liberalisations. The diffusion of such processes is likely to increase the total number of trademarks deposited in the service classes, at least in advanced economies.

**Product quality competition.** The production of mass and standardized goods and services characterised the 19th and, partially, the 20th century. Today, product differentiation is seen as an essential strategy for the success and survival of large and small firms. Product differentiation may take place in two dimensions, horizontal (product variety) and vertical (product quality). Both forms of product differentiation imply, *per se*, an intense protection of names and logos, by means of word and figurative trademarks. In fact, both word and figurative marks represent the first way for consumers to perceive

product differentiation among multiple items. In addition, pre and post-sale services are a means to enhance the perceived quality of goods. Firms offering goods thus need to deposit their trademarks in classes of services as well. BMW and Mercedes are two important examples. These two brands were deposited as Community trademarks in 1996 in all classes of services included in the Nice Classification. Although this “extensive” trademarking may represent a defensive strategy (to avoid the improper use of famous brands, which may lead to “trademark dilution”), the two car companies actually offer many pre- and post-sale services.<sup>26</sup> In conclusion, the rise of trademark applications in service classes may be due to trademarking by firms which have their “base” market in categories of goods and not of services.

To sum up, all these factors indicate that the trademarks deposited in service classes should be growing. The next section will discuss if such a trend is at work and what its characteristics and limitations are.

One final element which may affect the share of trademarks in service classes is the ease of imitation of services. *Ceteris paribus*, if a good or service is easily imitable, the incentive to defend legally the associated intellectual property rights is higher. Are services more easily imitable than goods? Blind et al. sustain that “it is widely assumed that services are particularly prone to imitation”.<sup>24</sup> The explanation is that innovations in services may be rapidly apprehended and copied by the innovator’s competitors, given the intangible nature of services: “Unlike the mysterious operation of a new piece of technology, here are innovations that involve (...) relatively simple recombination of existing elements, addition of new but hardly challenging elements, or adoption of readily explicable procedures”.<sup>24</sup> In addition, claiming the exclusive right of an idea might be more difficult in the case of services. Service firms should thus have a higher incentive to deposit trademarks. However, the argument above presents some limitations.

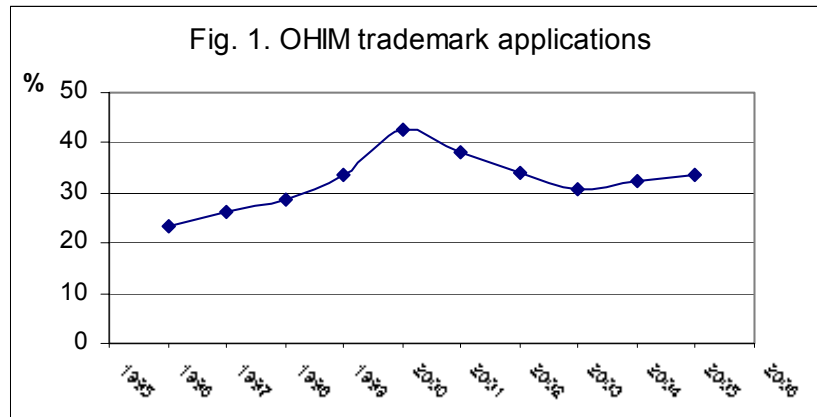
First, while an innovation in services is likely to be easily detectable, it could still be difficult for competitors to replicate. Even when the latter know well the main features of an innovative service, provided for example by a market leader, the replication of that service is not immediate, because it often implies a human action, and this, to be adequately reproduced, requires preparation and training. Second, as suggested by Blind et al., service product innovations may be tangible. In this case, innovators will be firstly concerned with the deposit of a patent, that may then be associated with a trademark. Finally, trademarks may well be interpreted as indicators of innovative activity

in services, but the deposit of a new trademark primarily reflects the desire to differentiate a service from the competitors', although the distinction between service innovation and differentiation is sometimes quite vague.<sup>15,26</sup> In conclusion, the ease of imitation, *per se*, does not seem to play a major role in explaining a large use of service trademarks. On the contrary, the "economic" factors indicated in this section suggest quite clearly a positive relationship between the evolution of economies and the rise of service trademarks.

#### **4. Some basic empirical observations**

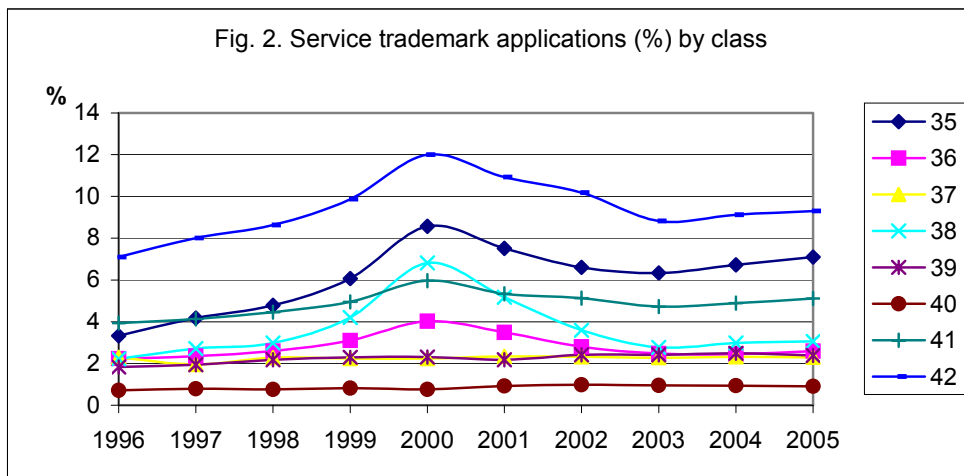
Most empirical observations regarding service trademarks shown in this section are drawn from the OHIM official statistics. The interpretation of the data should be considered as exploratory, since it is not driven by any theoretical model, but only by the general hypotheses formulated in the previous section. In addition, most statistics only relate to a few years, so they simply suggest some indications about the possible evolution of trademarking in service classes. However, the community trademark is an appropriate tool for empirical analyses given the homogeneity of its protection: any natural or legal person in the world may apply for a community trademark which, once registered, is automatically in force in all member states of the European Union. Therefore, the observations are more homogeneous than those regarding the International Trademark (protected by the WIPO), which is a sort of aggregation of national trademarks. On 31 September 2005 there were 284,091 trademarks that had been registered since 1996, and 453,650 trademark applications presented. A trademark may be deposited in one or more classes of goods and services. The division between trademarks of goods and trademarks of services is thus not clear cut, because a trademark may be deposited in classes of goods and in classes of services with a single application. It is also difficult to establish if a trademark is "centred" in a class of goods or in a class of services, because many firms sell both goods and services but deposit a single trademark. Hence, the data reported in this section of the paper should be interpreted with caution.

Graph 1 shows the share of service classes in total applications, in the period 1996-2005. The share of services in trademark registrations has only been available since 2000, and is not reported here because it follows quite closely the data for applications.



Source: OHIM  
 Notes: 2005 data: 31 September.

The following graph shows the share of each class of services in the period 1996-2005.



Source: OHIM

Notes: **Class 35** Advertising, business management; business administration; office functions. **Class 36** Insurance; financial affairs; monetary affairs; real estate affairs. **Class 37** Building construction; repair; installation services. **Class 38** Telecommunications. **Class 39** Transportation; packaging and storage of goods; travel arrangement. **Class 40** Treatment of materials. **Class 41** Education; providing of training, entertainment; sporting and cultural activities. **Class 42** Providing of food and drink; temporary accommodation; medical, hygienic and beauty care; veterinary and agricultural services; legal services; scientific and industrial research; computer programming; services that cannot be placed in other classes.

Figure 1 shows that the share of services is growing, apart from the period 2000-2003, and is currently about 35%. The ascending trend of the share of services in applications is at work also at a national level, as is reported by other authors for Portugal, Germany and Australia.<sup>15,27,28</sup> The particularly high value for applications in 2000 (and the subsequent temporary decline until 2003) is probably due to the boom in ICT and “dotcom” companies which characterised the business environment at the end of the last century. This phenomenon has been observed by several authors in relation to various countries and its interpretation is confirmed by Graph 2, where the peak in trademark applications in 2000 is most prominent in class 38 (Telecommunications).<sup>28</sup>

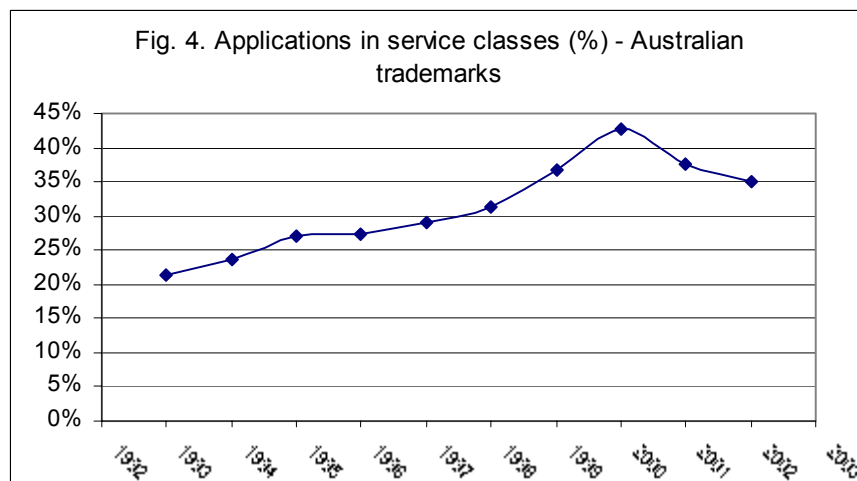
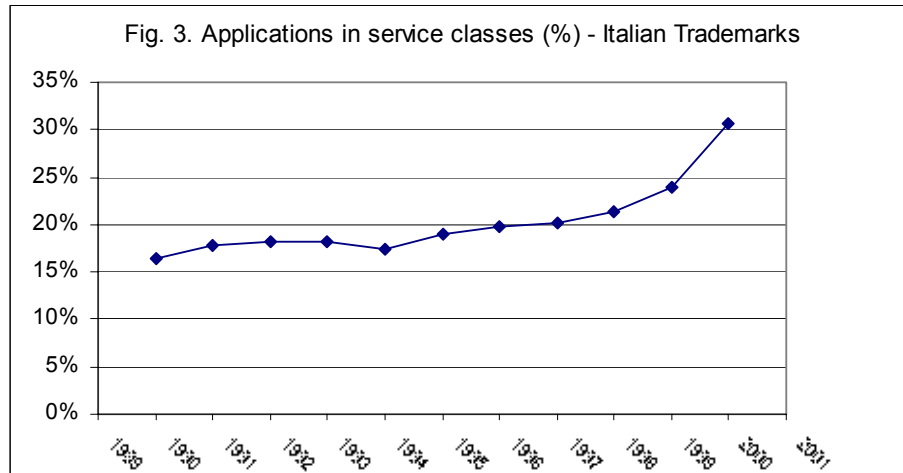
Although growing, the share of services in total applications seems quite low, if we consider that the share of services in the GDP in 2001 was 47% in low-income countries, 55% in middle-income countries, and 71% in high income countries (World Bank data).

So why is the share of services in trademark applications not higher? Several explanations are possible.

First of all, the data reported in Figure 1 concern *all* countries which presented trademark applications in the years under review, hence both advanced and less developed countries. For the latter, the share of services in the GDP is not high. Secondly, the community trademark is an “international” trademark, and we can conjecture that is used by those firms which are active in international markets, mainly through exports. Currently, services account for only about 25% of total world trade (World Bank). Finally, if we consider European data on foreign trade flows, exports and imports of services in 2004 accounted, respectively, for 8% and 8.5% of the GDP of the 25 member states (Eurostat). Similar percentages are observed if we consider only the “old” 15 member states. Taking into account these figures, the 35% represented by services in total trademark applications does not seem that small.

However, some counter-explanations are possible. In relation to the first explanation, the most active countries in trademarking are the most advanced ones (at the end of 2002, the top three countries in trademark applications were the USA, Germany and the United Kingdom which accounted for 54.46% of total applications; the top ten, all high-income countries, were responsible for 87.24% of total applications). In these economies, the share of services on GDP is quite high; this should influence the share of services upward. Secondly, although the number of community trademarks is certainly related to foreign trade flows, services hold a minority position in national trademark

applications too, as highlighted by the following figures, which show the share of services in total trademark applications presented at the Italian and Australian national offices.



Sources: IP Australia, Italian Patent and Trademark Office.

The current share of services in total national trademark applications in Italy and Australia is about 35%, as it was in Figure 1. Therefore, trying to explain the low share of services through the international character of the trademarks under review is not satisfactory. Finally, although exports and imports of services represent a small share of European GDP, many European firms are likely to consider the community trademark as somewhere in the middle between a national and an “international” trademark.

These counter explanations show that there are reasons that induce firms to use trademarks more intensively in classes of goods, irrespectively of the type of trademark used (national or international).

There is another reason for the prevalence of classes of goods in the official statistics (I thank a referee for insightful comments on this point). Many firms produce multiple goods or services. If each product was matched with a trademark, the statistics on applications would adequately reflect the firms' propensity to trademark and therefore the relative share of goods and services. However, companies in the service sector are likely to differentiate their "products" by customising their offers to the needs of a specific client, rather than formally distinguishing them through the creation of different trademarks. On the other hand, companies offering goods often tend to differentiate their products by using several brand names. Hence, the share of services in trademark applications and registrations may be underestimated.

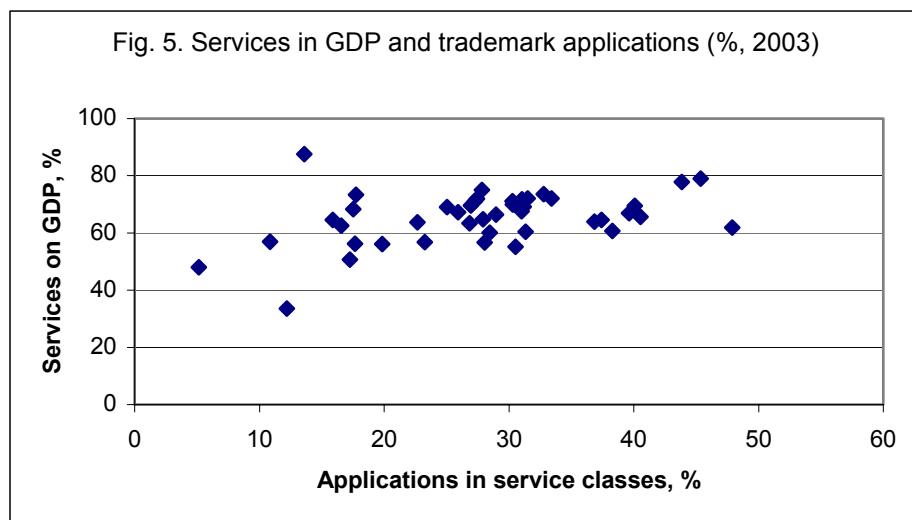
Section 3 outlined some characteristics of modern economies which may determine an increase in service trademark applications. Probably, the impact of these factors is not sufficiently strong to determine, today, a dominant share of services in trademark applications. For example, human intermediation still plays an important role in many services, such as legal services, temporary accommodation and building construction. However, the share of services in trademark deposits is growing, and services are expected to outgo goods in the near future. This induces to replicate shortly the empirical observations, in order to verify the general trend.

## **5. Trademark statistics as an indicator of structural change**

Section 3 highlighted that the structural change in economies may be directly linked to the growth of service trademarks. However, there are several reasons to believe that there is not a clear relationship between the two phenomena. This is confirmed if we look at the available data. Using 2003 OECD, World Bank and OHIM data, I ran some simple cross-country analyses over a sample of 110 countries. For the sake of brevity, the main results are summarised as follows (data on cross sections are available upon request).

The correlation between the share of services in GDP and the share of services in trademark applications, though positive, is low and not significant ( $r=0.23$ ). However, the correlation is probably affected by the distance of each country from Europe, by the

intensity of trade relation with Europe, and by the total number of trademarks deposited. In relation to the first point, I recalculated the index of correlation by considering sub-samples of countries (European countries, non-European countries, Asian countries, etc.), but the index of correlation is still low and not significant. On the other hand, the following graph shows the share of services in GDP and total trademark applications of those countries which deposited at least 20 trademarks in 2003 (50 countries; most of these countries are well integrated in the world market, so the bias regarding the distance from Europe is reduced).



Source: OHIM and World Bank.

Although it seems that there is a positive correlation between the share of services in GDP and the share of services in applications, this is low ( $r=0.40$ ). To explore more in detail the relationship between the distance from Europe and the propensity to use the community trademark, I considered the share of services in total exports as well. Again, even taking into account this variable, there is no clear and positive correlation between exports of services and service trademarks ( $r=0.27$ ). Finally, the correlation between the GDP per head and the share of services in trademark applications is not significant either ( $r=0.19$ ).

Looking at these simple correlations, we can conclude that current trademark statistics are not sufficiently informative about the structural change of economies, unlike what has been suggested by some authors.<sup>15</sup> The share of services in total trademark applications is increasing for most countries, but the link between this phenomenon and

the partition of GDP into its main sectors is probably mediated by several factors, for example market structure and the propensity to trademark in distinct sub-sectors and countries. In addition, the impact of institutions, R&D activities and foreign direct investments on the characteristics of intellectual property protection should be carefully explored. Thus, simple correlations may hide some important factors that affect the share of services in trademark applications, while a formal empirical model would provide important insight on the theme. Unfortunately, the economic literature has not developed robust theories on the determinants of trademark applications.

Broadly speaking, it is not easy to draw some general conclusions with a high level of aggregation. Data aggregation at a country level may hide some particular features of different types of services. For example, the intensity of trademarking in a given class of services may provide some information about the degree of service differentiation in an individual country, apart from the relationship between trademark deposits and the structure of the economy. Trademarks "create" product differentiation in a given market. In fact, the brand name of products and/or its logo is the first means of consumers to "perceive" the degree of differentiation within a market. In other words, the higher the number of trademarks, the greater the extent of product differentiation within the market where those trademarks are used. But, what kind of product differentiation? Normally economists distinguish between horizontal product differentiation (based on variety) and vertical product differentiation (based on quality). It is evident that many trademarks increase the former, but a positive relationship between trademarks and product quality is questionable. Fink et al. claim that there are several reasons to expect high quality producers to seek out more trademarks.<sup>14</sup> For example, trademark applications do have a cost, and a producer will only file an application if the expected benefits from protection exceed its costs. There are some reasons why a high quality producer expect larger benefits from trademark protection: a reduced likelihood of brand imitation, a link between a registered trademark and a huge advertising campaign, and the signal of quality directly transmitted to consumers by the trademark. On the lines of this interpretation, the number of trademarks granted in a market may generally be associated with the degree of both horizontal and vertical product differentiation. This approach may be useful for the study of quality differentials between services in different countries.

## 6. Conclusions

This paper suggests that there are several factors that justify the growing interest in service trademarks. The theoretical and empirical studies by economists about trademarks have rarely emphasised the distinction between goods and services. The structural change of economies, the higher tradability of services, technological evolution, the greater attention to product differentiation and the processes of market liberalisation and privatisation stimulate the interest of lawyers and economists in the analysis of service trademarks. In addition, the reduction of human intermediation in the provision of many services is an important factor to explain why services are increasingly involved in trademark application procedures. A direct and frequent contact between the buyer and seller has characterised the service sector for a long time. The seller could use this contact to ensure personally the provenience and the characteristics of his “products”, without relying on a formal protection of brand and product names. In the last forty years the technological progress has been reducing the frequency of direct contacts between buyer and seller, therefore trademarks, today, are a fundamental element to signal and ascertain the origin and quality of a service.

The share of services in trademark applications is growing at both a national and international level. It is reasonable to expect that this share will continue to grow in the next decades. However, the share of services on total applications is still lower than the share of goods. This is a little strange given that services account for about 70% of GDP in advanced economies, which are particularly active in trademarking. Several explanations are possible. For example, human intermediation is still present in many services. In addition, the classification system may affect the share of services in total applications, because there are many more classes for goods than for services. Finally, the structural change is not the only determinant of the propensity to deposit service trademarks. The evolution of economies also regards the characteristics of competitive processes: many factors may affect the share of services in trademark applications, such as the degree of “product” differentiation (variety and quality) in the service sector, and the way each company “reveals” and protects the differentiation of the services provided. However, the magnitude of these effects is still unclear. For these reasons, trademark statistics are still not sufficiently mature to provide useful indications about the structural evolution of economies, although the share of services in trademark applications will probably become “predominant” in a few years.

An extension of the present study regards the relationship between the structural evolution of economies and the use of service trademarks. In fact, when income per capita rises, different countries exhibit a non-homogeneous growth in the service sector, because differences in factor endowments and in technology make countries specialise in different typologies of services. This may explain why, apparently, there is not a significant correlation between the share of services on GDP and the share of services on trademark applications. Moreover, future analysis could address trademark specialisation in services. In fact, the stability of the current specialisation patterns can only be evaluated over several years.

Finally, we should take into account that the use of trademarks does not depend only on the nature (for example, intangible or tangible) of the product traded. Several factors may explain the differences in trademark intensity across economic sectors. Among these factors, market structure is particularly important. For example, we should expect that, all else remaining equal, “fragmented” markets present more registered trademarks and more trademark applications. What is not clear is the functional form of the relationship which links the number of firms (or the level of concentration) of a market and the number of trademarks used within it. An exploration in this direction may be helpful to enrich the empirical literature regarding the diffusion of intellectual property rights in modern economies.

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- 21 Wilkins M., The neglected intangible asset: The influence of trade mark on the rise of the modern corporation, *Business History*, 34(1) (1992), 66-95.
- 22 In reality, there may be "structural" factors which explain an intense amount of trademarking in a given market, irrespectively of the nature of products traded: for

example, if a market is "fragmented", we would expect it to present many registered trademarks, because many firms are operating in it; in a similar vein, the degree of diversification is likely to be positively correlated to the number of trademarks.

- 23 Of course, the scarce attention devoted to the intellectual property rights of services also derives from the tacit assumption that theoretical models developed for goods may be applied, automatically, to services. This approach has characterised economic analysis from its very beginning, and it is still at work.
- 24 Blind, K., Edler, J., Schmoch, U., Andersen, B., Howells, J., Miles, I., Roberts, J., Green, L., Evangelista, R., Hipp, C., Herstatt, C., *Patents in the service industries*, final report prepared for the European Commission, (ISI, Fraunhofer, Karlsruhe), 2003.
- 25 The eighth edition of the classification of goods, wares and services for the registration and the renewal of trademarks has been in force since 1 January 2002. In the new edition, class 42 has been amended and three new classes 43, 44 and 45 have been added, with the result that some of the services formerly in class 42 are now distributed in the three new classes. In our analysis the product classes 42, 43, 44, and 45 for the year 2002 will be aggregated in the "old" class 42.
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