

Cuadrado-Roura, Juan R.; Rubalcaba, Luis

Conference Paper

The growth of business services and the economic cycle

38th Congress of the European Regional Science Association: "Europe Quo Vadis? - Regional Questions at the Turn of the Century", 28 August - 1 September 1998, Vienna, Austria

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: Cuadrado-Roura, Juan R.; Rubalcaba, Luis (1998) : The growth of business services and the economic cycle, 38th Congress of the European Regional Science Association: "Europe Quo Vadis? - Regional Questions at the Turn of the Century", 28 August - 1 September 1998, Vienna, Austria, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/113617>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

**38TH CONGRESS OF THE
EUROPEAN REGIONAL SCIENCE ASSOCIATION**

28 AUGUST-1 SEPTEMBER 1998 IN VIENNA

**THE GROWTH OF BUSINESS SERVICES
AND THE ECONOMIC CYCLE**

Juan R. CUADRADO-ROURA

and

Luis RUBALCABA-BERMEJO

Department of Applied Economy, University of Alcalá
Plaza de la Victoria 1, 28802 ALCALÁ DE HENARES, MADRID
E-mail: cuadrado@lander.es / servilab@lander.es. Fax: (34-91) 889 86 46

ABSTRACT :

Business services have become one of the most dynamic activities in modern economies. Their high growth rates in value added and employment support its outstanding position. The paper identifies short-term cyclical and long-term structural components in the business services growth. The relationship between business services and the economic cycle and the wide spectrum of reasons explaining structural growth are also analysed. The conclusions point out the importance of business services for economic progress of current economies. It seems that the structural component is more relevant than the cyclical one. The available data for some main OECD countries show that there is still a potential margin for further structural growth for business services. Some policies implications can be drawn from all this.

Key Words

Business Services, Business Cycle, Service Industries, Economic Growth

1. INTRODUCTION.

The expansion of services in the most advanced economies, especially in terms of employment, is a widely contrasted fact. From a macro-economic perspective, the fore-said growth has some important implications, to which numerous authors have paid attention. The ones which have been considered most relevant are the following two : the possible counter-cyclical or stabilising part which this sector seems to play in the economies, mainly in the most recessive phases; and, on the other hand, the incidence which the growth of the tertiary employment itself has or seems to have on the fact that advances in the most developed economies (which have the most developed tertiary sector), in terms of productivity of the employment factor, have been notably inferior to those in the past.

However, what, in any case, is obvious is that not all service activities have registered the same changes. While some branches have lost weight within the sector as a whole, others have followed a clearly expansive line. This is concretely the case of the activities which are normally gathered under the generic name of “Business Services” (BS), which growth has been and still is far superior to most service branches and, obviously to the average of the big economic sectors. The fore-said expansion seems linked, on the other hand, to some most notable traits of the present economic growth: more flexible production systems, strong technological advances, internationalisation of the economies, growing demands in terms of quality, intense market competitiveness; etc. As a result, it is not surprising that BS are occupying a very notable position in the design of policies related to competitiveness, innovation, the introduction and development of new technologies in the productive system, and even in the creation of employment.

The main objective of this paper is to try and show that the sector’s growth essentially obeys to factors and reasons which operate in the long term, although this is an activity which is also influenced by economic fluctuations (business cycles). To this effect, this paper is organised in the following way. In the first place, and with the aim of showing the basic fact which has already been referred to, we will present some data and ratios demonstrating the strong growth of this branch of activity in the main European countries and in the States. Secondly, following a breaking-down method, described systematically in an annexe, we will analyse the relationship between the evolution of value added and employment in the BS and the economic cycle. The third step will consist in verifying which are, in the long term, the

tendencies of this type of activities, which according to the analysis are clearly more decisive than cyclical variations, and in exploring the different underlying reasons explaining this fact. A latter paragraph will be dedicated to some considerations on the possible BS growth in the future. And, finally, all this will enable us to extract some final remarks of interest, which have implications on the policies designed to support BS development, especially on a regional scale.

The statistic data which we have used for our analysis mainly come from the OECD and Eurostat data bases, in addition to some complementary sources to which we refer in the tables and figures included in the text. However, it would be convenient to take into account the fact that, as it also happens in the case of other service industries, the information available on BS presents important limitations and that, on the other hand, the data on the various countries show some methodological differences which should be taken into account when comparing them. However, all this will be mentioned when quoting the sources and through some specific notes.

2. BUSINESS SERVICES GROWTH IN EUROPE

Business services represent a very important activity in all the developed economies. Many recent studies on the service sector economy include business services as one of its most characteristic and decisive industries in order to understand the recent processes of productive change and the dynamics of the economic, industrial and territorial organisation (see, for instance, books by Gallouj, 1994 ; Bonamy and May, 1994 ; De Bandt, 1995 ; Gadrey 1996 ; Cuadrado and Del Río, 1993 ; González Moreno, 1997 ; Rubalcaba, 1997, et al. 1998 ; Daniels et al. 1993; Aharoni, 1993 ; Marshall and Wood, 1995 ; Illeris, 1996). Business services always appear as the service industry most dynamic and interconnected with the rest of the economic activity; an emblematic sector of the new industrial and service society which integrates goods and services.

The qualitative importance of the sector, to which we will come back in the last section, is underlined by the quantitative data which is exposed in this first paragraph. Table 1 shows the main data on business services in Europe. These are estimations carried-out thanks to the data base given by those countries which have a sufficient breaking-down to separate business

services figures from the rest (there are still countries which include business services in other private services offered to the consumer).

Table 1

It has been estimated that, in 1994, business services represented 8.5% of employment in the EU (11,635,000 workers) and generated 15.3% of the value added in the EU (863,500 million Ecu). These figures indicate that business services represent an activity which size is such that it surpasses various traditional service branches. Branches like banking, insurance, transport and communications represent, altogether, 9% of employment and 12.1% of value added. This means that business services are one of the biggest branches of the economy, although researchers and policy-makers do not pay them the sufficient interest yet. In addition, business services represent activities which yield an important relative productivity, since the proportion $15.3\%/8.3\%=1.85$ is only surpassed by the agricultural sector (2.1), and is superior to transport and communications (1.1), energy and building (1.3) and similar to that of the banking and insurance sector (1.84).

Data on growth is also superior to that corresponding to the other important industrial branches. As can be seen in table 1, business services have annually grown, between 1980 and 1994, by 5.5% in employment and 5.4% in value added. The annual average growth for the manufacturing and service sectors was 0.4% in employment and 1.5% in value added. Growth in the business service trade has also been considerable, even if it only represents a very small proportion of international trade, not even 2%. During the period between 1984 and 1993, business service trade yearly grew by 8.7% in exports and by 10.2% in imports, when in the whole of the manufacturing and service sectors, percentages were 5.1% and 5.2% respectively. The last data which stands out from table 1 is the high number of companies in the sector, which represent 15% of the total European companies. This means that most of the business service economy is carried out by SMEs.

Obviously, all this data represents the heterogeneous whole of the business services. It is therefore important to note that within business services we can find very diverse services. Some are advanced, intensive in qualified labour and generate a high value added (management consulting, computer services, services dedicated to quality control, etc.). Others are operative, intensive in little qualified labour and yield a low productivity (cleaning

services, for instance, which alone generate more than 2 million jobs in the EU). There are also services which, although they directly generate a relatively modest value added, have an enormous indirect repercussion on the economy, implying the movement of thousands of millions of Ecus (advertising or fairs and exhibitions, amongst others). As a result, it is clear that this sector is very heterogeneous. This fact must be taken into account, although amongst its most common traits are the growth of almost all its activities and the fact that they are intermediate inputs which have an influence on any company and its competitiveness.

Table 2 shows the percentages of the sector's growth, by country, within the European Union (from the available data) and the United States. It should be noted that the data on value added is, in a sense, more representative than that on employment, since the latter is very much conditioned by the statistic coverage of a few labour intensive services such as cleaning, security, etc. which can generate some estadistic differences. Value added, on the contrary, is more reliable, since it gathers in a much more significative way the contribution of the whole of the 50 to 60 included activities, amongst them the most advanced services. In any case, the disparity of statistic criteria used in some countries forces the reader to go back to the original source of statistics.

Taking into account these observations, it is worth noting that the data confirms what numerous studies show when considering the relative importance of business services in different countries (European Commission, 1997; Rubalcaba and Cuadrado, 1998). The leading country in business services is always the United States, whereas the United Kingdom, the Netherlands and, up to a point, France and Germany are the countries where the big multinationals of the sector are found, and where the big changing processes of the Western economies are taking place. Although no very reliable data is available, the participation of business services in less developed countries is significantly less.

Table 2

Table 3 gives, for the same countries but using growth ratios, the presentation of business services. In this case, it stands out that, as a common trait, all the countries have enjoyed a very considerable annual growth, far superior to that of other economic sectors. Only during the recession years, at the beginning of the 90's, a significative reduction of the growth took place, falling down to, in some cases, a zero or even a negative rate. However, even during

those years, business services were, on average, above other manufacturing and service industries. Logically, growth rates have tended to slow down from the 70's until the last few years.

Table 3

The expansion of many activities related to business services, in the 70's and the 80's, could not carry on at an unlimited pace. With time, a certain saturation in some business service activities and a better adjusting to the economic cycle seem to take place. Although, the countries with a more important sector of business services (the United States or the United Kingdom) have not necessarily been the ones which have yielded a lower growth rate. The data on this table coincides with that of a previous study (Rubalcaba, 1997) which underlines the fact that the structural growth of business services is still far from slowing down in the countries where they are most developed, although, in these countries, a more cyclical behaviour of the sector takes place. This idea takes us to the pertinence of studying the relationship between economic cycle and business services.

3. BUSINESS SERVICES AND THE ECONOMIC CYCLE

The growing concentration of employment in services has been considered as a stabilising factor against economic fluctuations, at least in the comparisons realised on economic cycles, before and after the Second World War (Zarnowitz and Moore,1986). Traditionally, services have been considered as a sector less sensitive to cyclical fluctuations than agriculture and manufacturing.

There are numerous factors which try and explain the stabilising part services play. The reasons for the soothing, or even anti-cyclical behaviour of some of the tertiary activities have been analysed and summarised by numerous authors (Elfring, 1988; Cuadrado and del Río, 1993; Lee, 1996; Filardo, 1997; Petersen and Strongin, 1996). Demand factors, as the composition of the demand itself (i.e. a higher intensity in the formation of capital, the most volatile component of the GDP, will give rise to wider fluctuations), the relationship of the sector with the rest of the activities (a high degree of integration with the industry will lead to a higher volatility), the product characteristics (a high stock capacity normally produces higher variations). The job market characteristics (lower or higher rates of temporality in the sector),

and the qualification of the workers (higher qualifications produce a high degree of labour hoarding and less fluctuations) also have an influence on the fluctuation rate of the sector. Other factors which can be underlined are the lower or higher exposition to international competition, the degree of inflexibility of the sector and the part played by the Public Administration. This last factor has been important in the countries where the Welfare State has widely been developed, and has been used, on many occasions, as the stabilising element for the social, economic and political instability. However, the anti-cyclical part played by the State seems to have been going down over the past few years, that is when it has not become pro-cyclical, as the result of the control over the public deficit before the crisis of the Welfare State and the higher temporality of the contracts made by the different administrations.

As far as business services are concerned, a behaviour different from that of the service sector as a whole should be expected. Generally speaking, business services have more flexible markets than the other services and this, for various reasons. Firstly, because of the temporality of the job market for business services: this is a branch of activity which employs more part-time, temporary and self-employed workers than the average of the main economic sectors (Rubalcaba and Villagómez, 1997). Secondly, because companies offering business services have a high birth and death rate, fact which reinforces the “lame duck” effect or increase of productivities during recessions (Caballero and Hammour, 1991); which has been proved to occur in the productivity behaviour of business services (Rubalcaba, Ortíz and Mancha, 1998). Finally, it is possible to underline the fact that the labour market for business services is, in many cases, more liberalised than that of its products, since some professions and activities are, up to a point, still regulated; for all this, it should be expected that employment should be more volatile than value added.

Summing up, all factors mentioned before lead to the fact that it is quite unprobable that business services should lessen the economic cycle. However it should be added that this general hypothesis should be submitted to a verification in the very heterogeneous activities which make up business services. The behaviour of, for instance, advanced and personalised services, where labour hoarding can be important, can be very different from that of operative and standardised services, which can be more easily substituted. In addition, the weight of one type of services compared with that of another can have an influence on the global tendency which each country shows. Once again, it should be noted that, unfortunately, the lack of data to a broken down level makes it impossible to reach the desired details.

Figure 1 shows the economic cycle and the business service cycle for seven European countries. Two facts stand out: 1) the business service cycle follows, generally speaking, the economic cycle, thus confirming the pro-cyclical character of the sector; 2) the growth rate of employment in the sector is above that of the cycle, which implies that there must be a structural component which maintains a certain growth differential.

Figure 1

The first result shows that there are two components in the business service growth which should be separated: the short term cyclical one and the long term structural one. In order to carry out this breaking down, the econometric method of Hodrick-Prescott is going to be used (see annexe 1): a filter over the cycle variations thanks to which the tendency is defined. The results of the method are shown in figure 2 (relationship between the economic cycle and the business service cycle, included below) and in figure 4 (tendency of the economic cycle and of business services, which appears in the following section). Three series of employment and three series of value added have been broken down for the three most interesting branches of activity: business services, total of the services and total of the economy. The analysis has been carried out for some significative countries of the EU, where there are temporal series sufficiently long and comparable (Germany, France, Denmark, Sweden and Spain) as well as the United States.

The first significative result from figure 2 (a and b) is the extraordinary pro-cyclicity of business services, regarding the economic cycle as well as the behaviour of the service sector as a whole. It can clearly be observed how, in all the countries, the path followed by business services is usually above that of the economic cycle during expansion phases, and also below when the situation is reverted.

The high volatility of business services with respect to the cycle contrasts with that of the whole of the service sector, the latter being very inferior and, generally, presenting smoother traits than the cycle. Only in Germany, a moderate fluctuation of business services can be observed, for reasons which would require going into the behaviour of the different sub-sectors. In the rest of the countries, employment fluctuations in business services are particularly strong. This indicator is marked by the labour flexibility, the different relative

weight of operative services, very intense in employment, and by the growing integration of services in the manufacturing industry. Thus, it is not surprising that the volatility of business services is all the time higher, in particular from the beginning of the 80's. From those years, processes of market flexibilisation and inter-industrial integration, which very strongly affected business services, have taken place.

As far as value added is concerned, it stands out that the volatility of business services is more or less the same as that of the economic cycle. Slightly superior in France and Denmark, very much the same in the United States, slightly inferior in Sweden and very inferior in Germany. Again, apart from Germany, tendencies are towards a higher link between the economic cycle and the value added of business services. These facts redound to the progressive inter-relation of the sector with the rest of the industrial branches, the growing globalisation of the markets or even to the bigger weight which the sector itself has in the GDP. In any case, to go into more details would require, there again, more broken down studies. These should offer analytical techniques as the ones used in this section, together with studies based on activity, country or region as was done by Kirk (1987), who concluded that the question, on whether business services are immune to economic cycle or not, should be answered depending on the type of service and the maturity and localisation of the markets.

Summing up, the empirical results obtained show that the sector has a strong pro-cyclical influence on employment, with a volatility very superior to that presented by value added. The high integration with the industry and labour flexibility can be two explicative and determinant causes, amongst possible others. To go into more details would require more individualised studies, based on the different business services industries, which would then enable to identify the specific causes for each country.

Figure 2 (a) and (b)

4. BUSINESS SERVICES AND THE LONG-TERM (STRUCTURAL) GROWTH

Despite the fact that cyclical differences exist between services, business services and the total economy, the main divergences between these sectors are found in the tendency values, more related to the long term, and to factors presenting more structural characteristics. Two aspects will be analysed in this section: in the first place, it will give the results of the econometric

breaking down related to the series of business services, services and total economy, in the structural aspect of the long term; and second, it will look at the main causes which underlie this structural growth.

4.1 Long-term growth in business services

The breaking down of series, based on the method followed by Hodrick-Prescott, has resulted in the identification of the business service cycle, carried out in the previous section, and the identification of a tendency or structural component, which is analysed below. The series of graphics included in figure 3 very clearly shows some of the most significant results.

As far as value added is concerned, we can observe tendencies very similar in all the countries. The business service growth is, in all the cases, above the economic growth and, except for Sweden, also above the growth of the service sector. Business service growth is slightly superior in France and the United States than in Denmark and Germany. In Sweden, the tendency has been less ascendant than in the other countries. In any case, the increase has been high although, in most of the countries, we can observe an inflexion point which would indicate a certain deceleration in the growth rate.

As for employment, very strong differences stand out in favour of business services with respect to services and, above all, with respect to the whole of the economy. In this case, there is not any exception between the countries making up the sample and all of them show behaviours in this sector which are really spectacular, especially during the last few years, from the beginning of the 80's. The stronger growth rate takes place in the United States, leading country in many business services, and in Spain, country with a strong consolidation of the sector, over the past few years. Sweden is again the country which experienced the lower growth rate, although it yielded the higher growth rate in the use of business services between 1978 and 1988. It should also be noted that the biggest differences in the creation of employment favourable to business services with respect to the whole of the economy have occurred in Spain (around 110 points in 20 years), the United States and France (between 85 and 90 points in 24 years), Germany and Denmark (some 70 points) and Sweden (60 points). With respect to the service economy, business services have grown most in Spain and the United States (70 to 75 points). In the rest of the countries, differences are similar (40 to 45 points). Finally, the curves show, in all the countries, a very high growth rate although, over

the past few years, countries like Sweden, Denmark or even the United States seem to experience a inflexion point, indicating a certain slowing down of the growth rate. It is still very strong in Spain, Germany and France. In any case, these differences are not sufficiently significant to be able to draw different scenarios for the future use of business services in these countries.

Figure 3 (a) and (b)

A last important observation related to figure 3: employment growth rate is higher than that of value added, contrarily to what happens in the total services and in the total economy. This differential fact regarding business services shows the fast creation of employment of which the sector is capable. Along with it, we can expect to find a progressive reduction of the apparent productivity levels of business services, measured in the most simple way and independently from the fact that real productivity levels of business services have increased, taking into account the indirect effects and the qualitative aspects which have not been reflected by the more simplified measures. However, it should be noted that business services, still within the analytical frame of apparent productivity, maintain a relative level, with respect to other sectors, still superior and comparable to that of many manufacturing industries, despite the negative evolutions of productivity growth, due to the strong creation of employment (for more details, see Rubalcaba, Ortíz and Mancha, 1998). In other words, if employment growth rate is above value added growth rate, it means that its apparent productivity has been reduced but not necessarily that its levels of relative, indirect, etc. productivity have diminished. In any case, the evolution of the productivity will be a phenomena to follow and study in the next few years, for the many implications it can have on the economic growth rate, in the long term.

Figure 4

What does not make any doubt is that employment growth rate in the sector has been, and still is, very superior to that of other economic sectors. The graphic which appears in figure 4 shows this fact, giving, for Europe, the absolute employment growth rate in the main economic sectors from 1980 to 1994. Only personal services (38%) and the remaining “other services” (42%) can come close to business service growth (72%) as far as the creation of employment is concerned. The total services have grown by just above 20% in employment,

over the last few years, while banking, insurance and governmental services have experienced growth rates ranging between 15 and 18%. The rest of the sectors yield percentages still lower or even negative, as it is the case of agriculture and the manufacturing industry.

4.2 Long-term growth: some explanatory reasons

This last section lays out the underlying causes of the emergence of business services. These are of a very diverse nature: they range from growing flexibility in production or new product definitions to market integration or the role of the state. The series of reasons which are subsequently set out can be summarised in three groups which will be briefly detailed: causes linked to changes in production factors, causes linked to changes in production systems, causes linked to changes in the markets.

Figure 5

Figure 4 illustrates the group of explanatory factors and subfactors for the emergence and long-term growth of business services. The figure shows 18 factors grouped around the three types of aspects (production factors, production systems, markets). As is logical, there is a relationship between these three aspects and each of the explanatory elements. With this in mind the crown shaped diagram shown below aims at facilitating the possible relationships between the two rings. The inner ring indicates the three main aspects that develop the respective causes. Nevertheless, the 18 causal factors, are not the only consequence of the respective main principle. The outer ring can “gyrate” in the sense that there is a interrelation between any external element with a determined internal factor. Therefore, figure 4 represents the multiplicity and complexity of factors that can be found in the origin of business services growth (a detailed explanation of these factors can be seen in Rubalcaba, 1997).

From all the factors showed in figure 4, 10 major ones can be identified around the three groups: 1 new information technologies and 2 human capital and qualifications (production factors); 3 flexibility of processes, 4 outsourcing and externalisation of services, 5 integration of goods and services, and 6 innovation in products and processes (productive systems); 7, internationalisation, 8 new role of government, 9 business characteristics, and 10- the predominance of quality (markets). All these are going to be briefly explained in the following

synthetic way. It is obvious that this kind of reasons can not be measured by any statistical data, since they all interact between them and are full of qualitative elements.

4.2.1 Changes in the production factors

1/ Human capital, qualifications and employment conditions

All business services are human capital intensive services. Some are highly qualified like management consulting, some others are low qualified like cleaning services. In any case, the production of business services is mainly made by the labour factor in a more or less interactive process with the client. It has been widely recognised that the business services growth has been linked to the accumulation of expertise and the specialisation processes (for example Stanback, 1979; et. al, 1981; Wood, 1991). This reason can even be more important than transaction costs when externalisation processes take place (see O'Farrel, Moffat and Hitchens, 1993; Beyers and Lindahl, 1994). The central position of human labour is confirmed in the following statement (Martini and Vairetti, 1989, p. 76): "The decisive factor of growth in advanced services companies is not the adoption of new technologies, nor organisational complexity, nor the high level of professionalism; factors which are frequently present, but not exclusive nor determining. Rather, one must look for the decisive factor in the ability of dialogue, in the ability to create an organisation round a culture". Due to this central position of human capital, the centre of the entire organisation, it proves to be essential that the economy of business services should be better understood with this issue, relative to the labour market and employment generated by the sector.

The growth of flexible, qualified and, in a way, many-faceted workers, explains the reason for the birth of certain advanced services built on the accumulation of 'expertise'. However, employment is also a crucial matter in 'low-skills services', although it is so for different reasons from those which are present in the more advanced, and high-qualifications services. In addition to these effects, some business services have grown because of the need of personnel recruitment, training, outplacement, temporary work, etc., in manufacturing and service companies. The need of specialisation in human resources also explains part of the business services growth.

2/ New information and communication technologies

A double relation is produced between business services and technology. On the one hand, many business services emerge as a consequence of technological progress. The clearest example, is perhaps, IT services. Computers have progressively become cheaper, while they offer greater possibilities for a broad set of demands. The acquisition of a computing service is associated with the purchase of a computer, in the same way as an insurance policy is associated with an automobile. Without modern technology, many business services would not have emerged as they have. On the other hand, apart from being a consequence of the integration of technology, at the same time, business services encourage the integration and exploitation of this technology:

- Firstly, business services themselves purchase technology as a way of implementing and improving the rendering of their services. Engineering, design or computing services promote technological development orientating it towards the industrial sector. The use itself of new information and communication technologies require users to have a level of technological integration when dealing with the co-production of the service, when dealing with the implementation of solutions or when an internal future cover of the service is desired.
- Secondly, business services not only relate themselves to technological integration, but also their rational use. These services are necessary before, during and after the use of a new technology. Businesses need technology to innovate in their production processes and to be competitive. This necessity conditions the resource for services that prepare and train the personnel in charge of using this technology, the personnel that sets up and designs the technological systems, the personnel that is in charge of its maintenance and repair, and the personnel that provides future improvements, services and perfection.

In this way, there is a virtuous cycle between business services and the whole industry with respect to new IT. The more business services are used by the industry, the more IT can be profited. And the more IT are created, the more possibilities of relationships are between business services and the whole industrial system. In addition to this reasoning, the use of new technology in business services themselves (Monoyer and Phillippe, 1991; Baumol, 1986; Barras, 1985, 1986), has increased the business services productivity, stimulating additional causes for long-term growth.

4.2.2 Changes in the productive systems

3/ Flexibility of production processes

Flexible production systems constitute one of the most significant elements of the change in production processes. To a certain extent, it is upon this one that the remainder of the elements are formed: the introduction of new information and communication technologies, the integration of good and services, etc. Increasing flexibility represents the main element of what many would call a new production 'paradigm'. In spite of the fact that flexible systems have existed since the industrial revolution, one cannot fail to recognise that the foundations of a completely new work environment are being established (Giarini & Stahel, 1993), even if the flexible productive system has several remarkable limitations (Gertler, 1988).

The appearance of this flexible production environment, linked to new technologies, is going to facilitate the economy of business services by means of the profits which will be reaped from the fruits of specialisation and organisational changes. As a fundamental consequence, flexible production systems reduce fixed costs and costs of in-house co-ordination and management. At the same time, they improve quality by hiring the most qualified experts available on the market. Moreover, the competitiveness of services carried out in-house will nearly always be less than that which exists in specialised external markets. The reason being that the latter compete amongst themselves, one against the other, whilst the former only occasionally compete with external services. Besides, flexible systems not only take advantage of external specialisation, but also transfer knowledge, as much of production as of the aggregate supply and demand of the market, to the company. In this way the competitiveness of in-house resources is reinforced, acquiring a better knowledge of the reality in which they operate.

4/ Externalisation of services

Making production processes more flexible has enabled services which had previously been performed inside the company to be outsourced. With this development, of great importance during the 1980s, companies have managed to reduce costs; improve quality of service and the end-product; and, in addition, release resources to attend to the central obligations of

production activities. Due to outsourcing, certain fixed costs become variable, providing the economic cycle with greater flexibility and adaptation. The standardisation processes of routine services, as well as the concentration of highly qualified personnel in advanced services, has made external hiring lead to services of a higher quality being rendered. This result is due to taking advantage of the '*expertise*' and specialisation offered by external workers. The main externalisation causes are linked to the transaction cost theory, imperfect information, quality requirements, or flexible organisation, among others (see Gershuny, 1987; Ochel and Wegner, 1987; O'Farrell and Hitchens, 1990; Cuadrado, 1990; Goe, 1990, 1991; Coffey and Bailly, 1991, Beyers and Lindahl, 1994).

Externalisation is clearly one of the factors explaining business services factors, although it is not the first one. Some studies (Illeris, 1989; Barcet and Bonamy, 1994; O'Farrell, Moffat and Hitchens, 1993) conclude that externalisation and internalisation are two processes that can take place simultaneously and as a result can be understood in a complementary basis and not only as an alternative. Moreover, externalisation processes, even if they are very important, only seem to represent a small part of the business services growth (Beyers, 1989; Kutscher, 1988; Perry, 1992; Tschetter, 1987; Fontaine, 1988)

5/ Integration between goods and services

If manufacturing and services are not independent from each other it is because of the goods-services *continuum* and the uniqueness of each product which accompanies every combination of goods and services, material or non-material (Bailly & Maillat, 1988; Enderwick, 1989). As Wood (1991, p.165) states: "total production of good and services means increasing complex combinations of material *inputs* and of services. Many modern goods are highly personalised or are service-intensive, while some services depend heavily on material goods". From the new goods-services relationship we derive 'the tertiarisation of manufacturing' and 'the industrialisation of the tertiary', processes which have already been reinforced. Business services justify their existence based on this type of integration at the microeconomic level, as, by definition, they are intermediate services which are incorporated into manufacturing processes and into end-goods and services. Creation, design, production, or sales are phases in which services are making themselves more and more necessary as product life-cycles are shortened (Coffey & Bailly, 1990; De Jong, 1992). Manufacturing companies are tending to

integrate more services linked to production and distribution in order to obtain, in this way, a better adaptation to their clientele (Ochel & Wegner, 1987; Cuadrado & González, 1988).

6/ Innovation in products and processes

Innovation has always ruled technical and economic progress, and laid the foundations of the productive capability of countries. There are three aspects to speaking about on innovation : invention itself, imitation and commercial exploitation, and the work force capable of generating a multiplying effect on innovation. The concept of innovation itself is changing with the passing of time. For example, invention in itself is not a guarantee of success when imitation may be more profitable or when the work force does not have an adequate level of education. As a matter of fact, it seems to be proven that “the strategy of imitation is as or more important than pure innovation and can be more fruitful” (Ruiz, 1988, p. 77). For this reason, as imitation and education levels are not controllable by companies, the effectiveness of invention tends to settle on the interrelation with the user. This interrelation brings about even unforeseeable areas of invention, but, above all, guarantees the usefulness of innovation and of the investment it usually brings with it. This fact is particularly valid within business services where it has been asserted that those who render services are those who take responsibility for R&D of those “package” products which integrate goods and services (European Commission, 1987). Innovation processes in services clearly show that the playing field for innovation no longer has the linear character of the old manufacturing scheme directed at the consumer and which was born of the innovative producer/centre. Since the industrial revolution, it has been transforming itself until it has reached a new system which is noteworthy due to its intense interaction among agents.

The interactive process of innovation leads business services to play an important role for several types of innovations (Rubalcaba, 1997): technological, (e.g., IT services or quality control), organisational (e.g., management consulting; personnel services), commercial (e.g., fairs and exhibitions or advertising) and operative (e.g., security or environmental services). The innovative character of business services is one of the main reasons of the business services growth.

4.2.3 Changes in the markets

7/ Internationalisation and globalisation

The growing competition in markets, as well as in the processes of integration and internationalisation, requires companies to get ahead competitively using technological as well as organisational innovations. This factor is of special importance for small and medium-sized businesses which, by themselves, do not have the ability to develop innovative processes and, for that reason must do so by means of outsourcing. Business services perform the role of stimulating, watching over and facilitating innovation in a world where innovation is characterised by the great speed and proliferation of its effects (Martini and Vairetti, 1989). The competitive pressures of international markets have changed the relationship between companies, proving the necessity of modernisation and emphasising the interaction between them. In this sense, internationalisation explains part of the increase in demand for services (Cuadrado and González, 1988; Illeris, 1989; Coffey and Bailly, 1990; Howells, 1988). Along these lines, there are authors who point out how the growth of business services has been linked to the liberalisation of international commerce. François (1990) explains the great expansion in the sector after the Second World War with this factor. To do this, he analyses how the process of internationalisation increases the size of companies; facilitates the division of labour, obtaining economies of scale and specialisation; and finally, creates the need for incorporating businesses services into production.

Some business services are very linked to internationalisation processes. The most typical example is fairs and exhibitions, which have become a powerful instrument to compete both enterprises and cities (Cuadrado and Rubalcaba, 1998). Management consulting or market research are also important activities useful to analyse the best international strategies and to evaluate potential markets. In addition, some other business services are explained by the existence of international barriers like linguistic services, some legal services or public relations.

Besides that, the internationalisation of business services activities themselves, has led to further increases in business services growth rates. The international expansion of professional activities and multinational companies has influenced the businesses, generalising the use of some services which could not be provided before in the context of narrow markets.

8/ State intervention

The role of the State in the business services growth is double: direct or indirect legal regulatory intervention, and business services promotion through regional and SME policies mainly. Starting with legal measures, some regulations justify the use of advanced compulsory services like auditing. Others create business for business services companies, such as privatisation processes (management consulting), public engineering works (technical services) or the need to produce according to some international standards (quality control services). There are also political regulations affecting specific sectors, like the very regulated temporary work, controls in advertising services, strong requirements to security services firms, etc. Most of these intervention are national, while few action are given at EU level.

It is necessary to observe, also, that there are re-regulatory or de-regulatory processes affecting business services, for instance, recent steps taken by the National Competition Courts, or by the EU regulation, for example, eliminate certain corporate regulations and professional protectionism, with the idea of introducing greater competition in supply. This indubitably could make the business services markets more dynamic. Anyway, the direct legal regulation of the State affecting business services has little importance comparing to the promotion one. In fact, business services markets are quite free fair markets so professionals do not consider themselves considerably affected by legal restrictions nor by legal stimulating measures. Business services promotion actions use to be at regional level mainly. Actions addressed to promote technological or scientific parks, business services centres, incubators, etc., benefit the business services used in those regions although there is not enough supply to cover the business services needs of all enterprises. Some national business services related actions are also important, normally included in SME or R&D policies.

9/ The predominance of quality

Another important reason that can explain the appearance and consolidation of business services is the predominance of quality over quantity. Or in other words, the necessity of the former in order to obtain the latter in a stable and lasting way. Quality is the ultimate aim of the integration of many intermediary services into the productive process. This involves not only the competition of services which aim is to maximise quality, such as quality control, but also other services aimed at creating quality for the services used for the image associated

with the company. A computing service, or management consultants, contribute towards raising the quality level of the products of the company that uses them. The quality aspect is obviously linked to the former ones, specially the human capital, technological processes and market competition.

10/ Enterprise characteristics

The size and attributes of companies also influence their use of services to these. Large companies, product of an accumulation of capital, have been able to create a social division of work, as well as specialisation and multiple-product and multiple-location strategies. These have been linked to the use of business services (Martinelli, 1991a). “The growth, diversification and multinational tendencies of companies increase their need for functional services to run, supervise and advise the aggregate of divisions of operations” (Cuadrado and González, 1988, p. 34). For their part, small companies have made less use of advanced services, essentially taking advantage of those which need to be fulfilled for the day-to-day maintenance of activities. On the other hand, SMEs have tended to subcontract out those services which large companies provide in-house. In this way, they have reached levels of efficiency which would not have been possible to obtain in any other way (Martini, 1989). Certain empirical works have responded to the study of the varied attributes (size, sector, innovative nature, etc.) of companies as contrasted with their use of intermediary services. Certain interesting references can be found in the studies carried out in Spain (Mañas, 1992), the United Kingdom (O’Farrell, Moffat and Hitchens, 1993), Italy (Martinelli, 1991b; Senn, 1991; Bramanti, 1989) as well as that made by Illeris (1989) beginning from a summary of studies in Europe. All of them point out the importance of size in business services use, suggesting further business services potential growth faced to size of companies increases or to collaboration agreement between enterprise be produced (another way of covering a larger market).

5 THE FUTURE OF BUSINESS SERVICE GROWTH

The continuity of business services growth of the sector will depend on the fact that these processes analysed in the last section continue to take place. For example, the processes of production flexibilization unfold at an intense rhythm in all advanced economies. But this process could stop at some time. However, on one hand, flexible systems allow successive

quality gains with the recourse to specialised services. On the other hand, outsourcing and the conversion of fixed to variable costs continues to be the aim in the policy of many firms (e.g., outsourcing is a prominent business for management consulting firms nowadays). In this sense, moves towards labour flexibility represent the most striking expression of the whole process of change.

Flexibility in productive processes are gradually being integrated with the unceasing incorporation of new technologies. As a first result, economic progress generates a change in production processes, by way of the improvements in capital. With regard to this generating process, that has been expansive over the last years, there is no reason to believe that there will be a possible stagnation. In the same way, nothing leads us to suppose a reduction in the use of business services in relation to the incorporation, generalisation and taking advantage of technological resources. On the contrary, for example, the recent boom of internet can help with the rendering of specialised services at a distance, or teleworking, which suits the world of professional services. The new technologies are, without any doubt, promoting exchanges, reducing transport and communication costs and multiplying the opportunities for new service businesses.

In the same way that flexibility and technology indicate tendencies that portend at least a use of business services which will be non decreasing, the processes of innovation and integration of goods and services are going in the same direction. Nothing seems to indicate that the innovation processes will be less necessary to firms. On the contrary, the growing globalization of economies and greater competition impel technological, organisational, strategic and commercial innovation. This innovation finds business services as its first catalysts. For this to occur, the processes of integration of services in the production and distribution of goods can only continue along all the stages of the Value chain.

No significant negative evolution is expected from the other causal factors of business services either. The internationalisation of economies, the role of quality, or the central nature of human capital in economic activity, are all elements that are likely to maintain their positive influence on business services. Only two factors could reduce the expectations for growth: productivity decreases and state intervention.

- With respect to productivity, it must be noted that the incorporation of technological capital in many business services is increasing so further gains of productivity are possible both in advanced and standardised services. However, it is true that the increase of business services employment is so quick that decreases in apparent productivity will probably continue. But even in this case, there are some positive elements for increasing productivity in business services: the increasing tradability of services, the role of quality in services, the expansion of the markets forcing enterprises to be reorganised for competing, the increasing productivity gains on clients, etc. Nevertheless the evolution of productivity in business services market should be followed by policy makers in order to determinate possible related public actions.

- Government intervention could have negative effects, in the case of protectionism increasing in a sector at a given time, or because the positive effects of deregulation should diminish in the case of there being no material left to regulate. However, a correct political action in business services, would contribute, without any doubt, to the improvement of its possibilities as a propelling sector of the economy. This can happen with policy promoting business services, when this policy is rightly planned, executed and followed and when complementation with private markets is guaranteed.

Besides these long-term elements, short term trends show a more stable business services growth rate in the majority of countries in the EU. Although data confirming this is not yet available, 1995 and 1996 were two years of expansion of the activities of business services as well as ones of recovery and reorganisation in the sector. The recovery of the last 1991-93 crisis which is currently improving the well-being of all activities is more relevant to those services which were most affected by the recession: engineering, advertising, fairs and exhibitions, management consulting, temporary work. In every case, emergence from the crisis is not simply a return to the previous turnover, but implies an internal reorganisation of the company and the market. As a matter of fact, it is the rapid response of demand which has prevented, in part, the recession from having a serious effect on business services. This reorganisation has the following parameters (for more details on these ideas see the Panorama of the EU Industry; European Commission 1994, 1995, 1997):

1. *Greater competition, greater quality.* All activities are facing growing competition which is producing multiple effects: more purchases and mergers (e.g. market research, industrial cleaning services); collaboration agreements of networks (e.g. legal services); price reductions (e.g. courier services); adjustments to staffing levels (e.g. engineering). In addition to these effects, all activities are, generally speaking, moving towards a higher quality of service in order to meet the competition.
2. *Recovery of confidence.* In some cases, such as management consulting, the crisis affected consumer confidence: a "high cost of learning the business itself"; lack of a scientific basis for instruments, lack of suitable full-time professionals; and distrust in general. The recovery of confidence is becoming the central element in trying to maintain and increase the number of customers. Greater competition is expediting the turnover of supply companies, as happens with American companies. They can reach the point of changing consultants five or ten times in a year. Even in advertising, where loyalty has always been a traditional factor, clients are beginning to try new suppliers. In this context, image and confidence are more important than ever.
3. *International character.* All activities are entering into a world which is becoming more and more globalised and in which at least one segment of the market moves in the world of international competition. This internationalisation of the economy affects companies' production methods and the area in which they operate. This is happening, for example, with information service companies and law firms. In this case, although they remain within their local niches, lawyers have to operate within a supra judicial framework which on many occasions forces them to collaborate with firms in other places.
4. *Statutory environment.* Within the current short-term context, business services, with traditionally little regulation, are experiencing two trends: towards deregulation and towards self-regulation. Despite this, some activities are still the object of regulations. These are not always uniform throughout the EU and do not always save-guard quality. Some activities currently in the process of being regulated are security, industrial cleaning, publicity & marketing, and temporary work services.

To sum up, the short-term current situation in business services activities is one of facing a recovery of high annual growth-rates while at the same time dealing with difficult reorganisation processes within the sector. All forecasts expect considerable increases in turnover in the near future as there exists significant potential growth in many of the markets. The appearance of new markets, new products and new technologies ensures that the future of the sector is guaranteed for the coming years as long as it continually pushes back the limits of maturity. The most mature products or activities are offset by the integration of new products or activities. All these short term factors can only encourage the long-term explanatory reasons for business services growth.

6. FINAL REMARKS AND POLICY IMPLICATIONS

Business services have been presented as an industry of considerable quantitative and qualitative importance, far superior, at least as far as the former is concerned, to that of many manufacturing activities, which have been much more deeply studied. Its high growth rate, since the 70's, and its inter-relations with the economic system make it an ideal observatory from which to understand the recent changes in the productive processes and the conjunction of cyclical effects in the short term with structural effects in the long term.

The breaking down carried out, following an econometric method enables to isolate the cyclical effects from the structural effects. With respect to the relationship between the business service cycle and the economic cycle, it can be concluded that both follow the same direction (business services are clearly pro-cyclical) and that the former is, generally speaking, superior to the latter, above all in employment. The volatility of employment in business services can partly be explained by the high flexibility in the organisation of the markets and of the work factor, although, in order to consolidate the possible explanations, studies based on each country and business service activity would be required.

From the analysis on long term tendencies we can deduce the main differences between the behaviour of business services and that of the rest of the economy or even the total services. Growth rates in employment as well as in value added are extraordinarily high, above all as far as employment is concerned. This result, confirmed by all the countries, and without any

possible comparison with many other manufacturing and service sectors, confirms the thesis according to which the sector's growth is a basically structural phenomena.

The reasons which explain such a strong structural growth are numerous and can be divided into three groups of causes: the productive factors, the production systems, and the market changes. In all the explanatory causes, regarding business services, we can not observe symptoms indicating a significative slowing down of the growth rate of the sector in the long term. On the contrary, the sector potential is still very important in all the countries, probably superior in the countries and regions where the business service economy is least developed.

Any regional or national policy which tries to promote business services, as a source of economic development and industrial competitiveness, should take into account the structural conditions which the sector requires for its long term expansion. Since business services grow along with a structural component, linked with a multitude of factors regarding economic changes, the actions, taken so that business services can make the economy more dynamic, should take into account elements like the dotation of human capital, the dotation of technological capital, the mobility of factors or the industrial assets of the region. Regional policies for the promotion of business services have been positive when they have worked jointly with the public and private agents of the region and using efficiency and subsidiarity criteria (Del Río, 1998; Mas, 1998). The Central Government and the regional administrations should do their best to facilitate the necessary conditions for the development of the private demand and supply, using to this end, and in a co-ordinated way, the heterogeneous mechanisms which exist in the most advanced countries: agencies for regional development, technological parks, innovation centres, R&D policies, SMEs policies, etc.

Table 1. Basic statistics on Business Services Europe-15 (*)

	<i>Business Services</i>	<i>% Business Services in Total Economy</i>	<i>Business Services Growth Rates</i>	<i>Manufacturing and Services Industries Growth Rates</i>
<i>Employment (1994)</i>	11,635,000	8,5%	5,5% ⁽¹⁾	0,4% ⁽¹⁾
<i>Value Added (1994) (MECU)</i>	863,500	15,3%	5,4% ⁽¹⁾	1,5% ⁽¹⁾
<i>Exports (1993) (MECU)</i>	31,785	2,0%	8,7% ⁽²⁾	5,1% ⁽²⁾
<i>Imports (1993) (MECU)</i>	34,107	2,0%	10,2% ⁽²⁾	5,2% ⁽²⁾
<i>Firms (1995)</i>	2,690,130	15,0%	....	....

(*) Estimates for EUR 15 based on available data from EUROSTAT and OECD. Trade data are for EUR12.

(1) 1980-94 Annual Growth Rate; (2) 1984-1993 Annual Growth Rate

Source: OECD (1996) Services: Statistics on Value Added and Employment, and EUROSTAT (1996) International Trade in Services; (1997) Statistics in Focus 1997/4, Market Services in Europe.

Table 2 Main data on business services in some EU countries and United States

	Number of Firms, 1995	Employment 1994 <i>(thousands)</i>	Business Services in Total Employment	Gross Value Added (*) 1994 <i>(billions Ecu)</i>	Business Services in Total Value added
AUSTRIA	35.484	151	4,5%	20	11,8%
DENMARK	90.742	156	6,3%	18	16,6%
FINLAND	31.255	125	6,5%	11	15,6%
FRANCE	427.074	1.811	8,2%	202	18,0%
GERMANY ⁽¹⁾	642.339	2.805	9,8%	220	14,2% ⁽²⁾
NETHERLANDS	88.326	496	9,3%	41 ⁽³⁾	16,4%
SWEDEN	107.205	266	6,6%	29	17,5%
U. KINGDOM	359.686	2.013 ⁽⁴⁾	9,3% ⁽⁴⁾	146	19,5%
AVERAGE EUR8	-	-	7,6%	-	16,2%
UNITED STATES	...	12055 ⁽⁵⁾	10,4% ⁽⁵⁾	1038 ⁽⁵⁾	19,2%

(*) Gross Value Added 1994, ECU in current market prices except for Denmark, United Kingdom (factor cost) and Finland and Sweden (basic values)

(1) West Germany. Data on business services (employment and value added) are in the item "other business services" including auxiliary financial services and some personal services. (2) Germany, 1993 (3) Netherlands, 1992 (4) Employment data for UK are estimates from OECD and Eurostat national accounts based on number of employees. (5) United States 1993

Sources: OECD (1996) Services statistics on value added and employment (Value Added and Employment data) and Eurostat (1997) Market Services, Statistics in Focus 1997/4 (Number of Firms data)

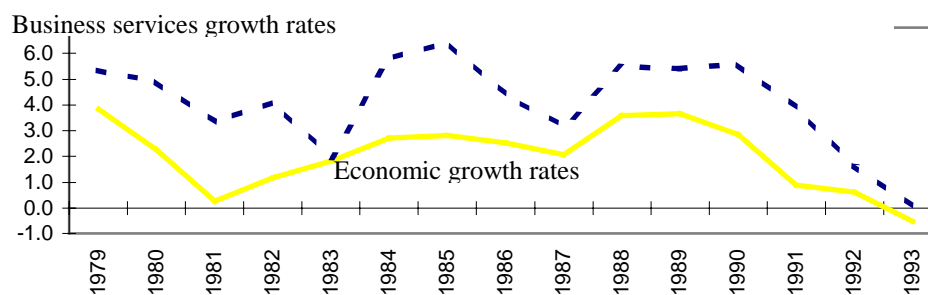
Table 3 Business services growth in some EU countries and United States

	Employment				GVA 1990 US ppp \$			
	1970-1980	1980-1994	1980-90	1990-94	1970-1980	1980-1994	1980-90	1990-94
Austria	...	...	...	...	...	...	...	...
Denmark	4,2	2,6	3,4	0,2	4,5	1,6	2,4	0,5
Finland	5,7	4,2	6,5	-0,9	5,6	3,7	4,7	1,2
France	3,9	3,4	4,6	1,6	5,2	3,4	4,2	1,7
W. Germany	3,2	3,9	3,7	5,2	4,3	3,1	3,1	3,1
Netherlands	3,5	4,8	5,0	5,0	...	...	...	...
Sweden	2,2	3,1	4,9	0,0	2,5	2,0	2,4	1,4
UK	...	...	...	...	3,3	2,9	3,5	1,4
Eur AVG 6	3,8	3,7	4,7	1,9	4,2	2,8	3,4	1,5
USA	5,8	4,8	5,6	2,5	4,6	3,1	3,5	1,8

Sources: OECD (1998) International Sectoral Data Base. OECD.

Figure 1

General economic growth and growth of the employment of business services (Europe 7).



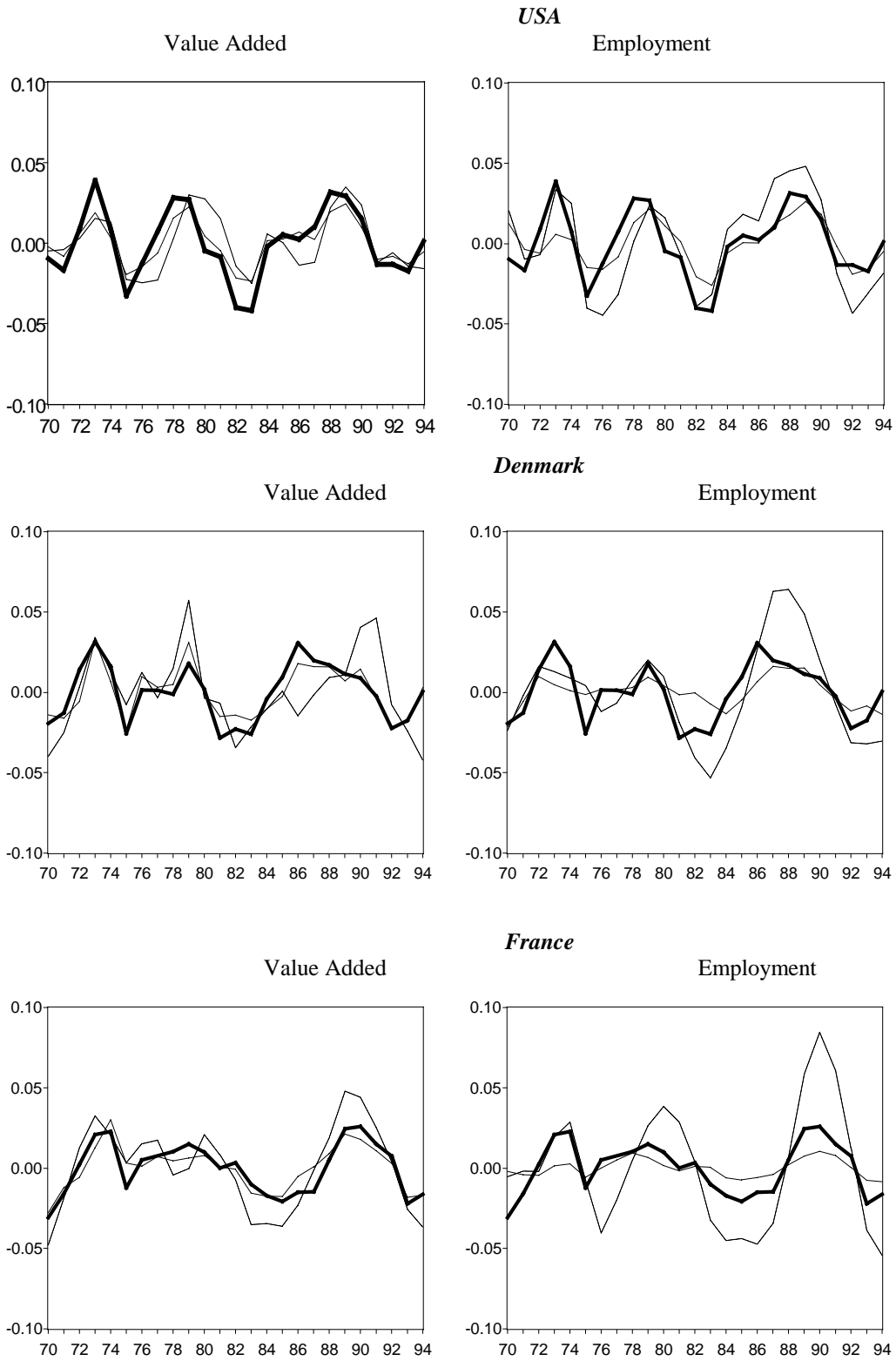
35

European 7: Germany, France, Italy, The Netherlands, Denmark, Austria and Finland

SOURCE: Author's elaboration based on Service Statistics data, OECD (1996).

Figure 2 (a)

Cyclical fluctuations in the Economy, Service sector and Business Services Sector.
(Economy: Bold line, Services: Straight line, Business Services: Dashed line).
(Real Value Added at 1999 US-PPP \$, Total employment)



Source: International Sectorial Database (OECD) and National Accounts

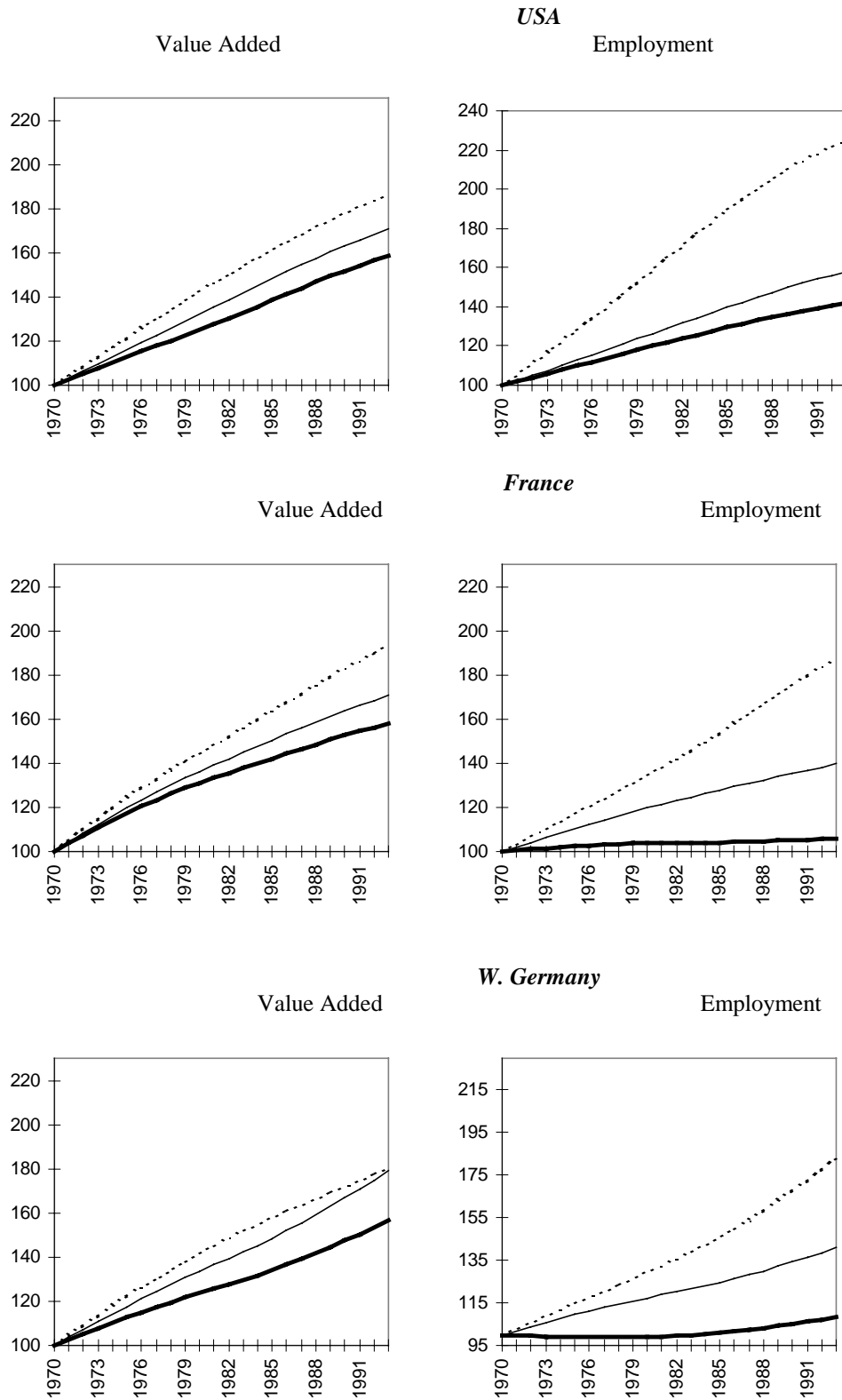
Figure 2 (b)
Cyclical fluctuations in the Economy, Service sector and Business Services Sector.
 (Economy: Bold line, Services: Straight line, Business Services: Dashed line).
 (Real Value Added at 1999 US-PPP \$, Total employment)



Source: International Sectorial Database (OECD) and National Accounts and Labour Force Survey (Spain)

Figure 3 (a)

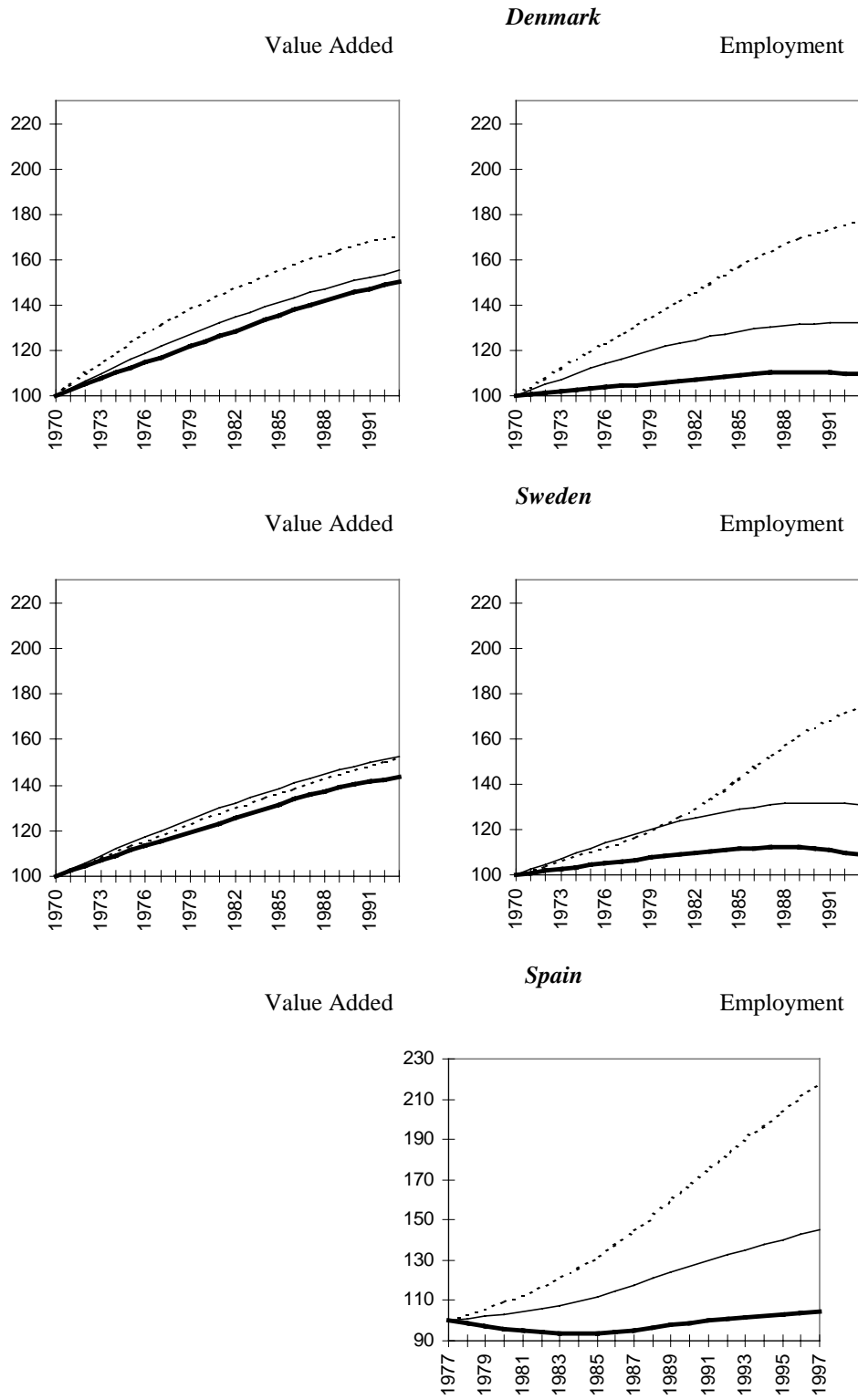
Trend Evolution in the Economy, Service sector and Business Services Sector.
(Economy: Bold line, Services: Straight line, Business Services: Dashed line).
(Real Value Added at 1999 US-PPP \$, Total employment)



Source: International Sectorial Database (OECD) and National Accounts

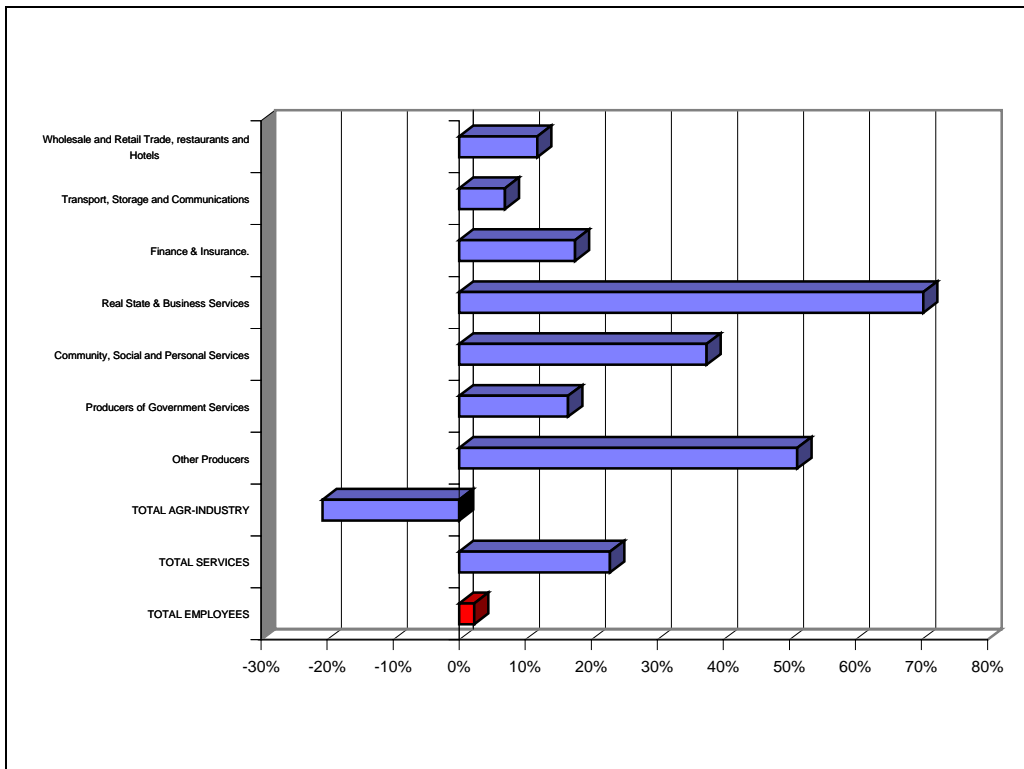
Figure 3 (b)

Trend Evolution in the Economy, Service sector and Business Services Sector.
 (Economy: Bold line, Services: Straight line, Business Services: Dashed line).
 (Real Value Added at 1999 US-PPP \$, Total employment)



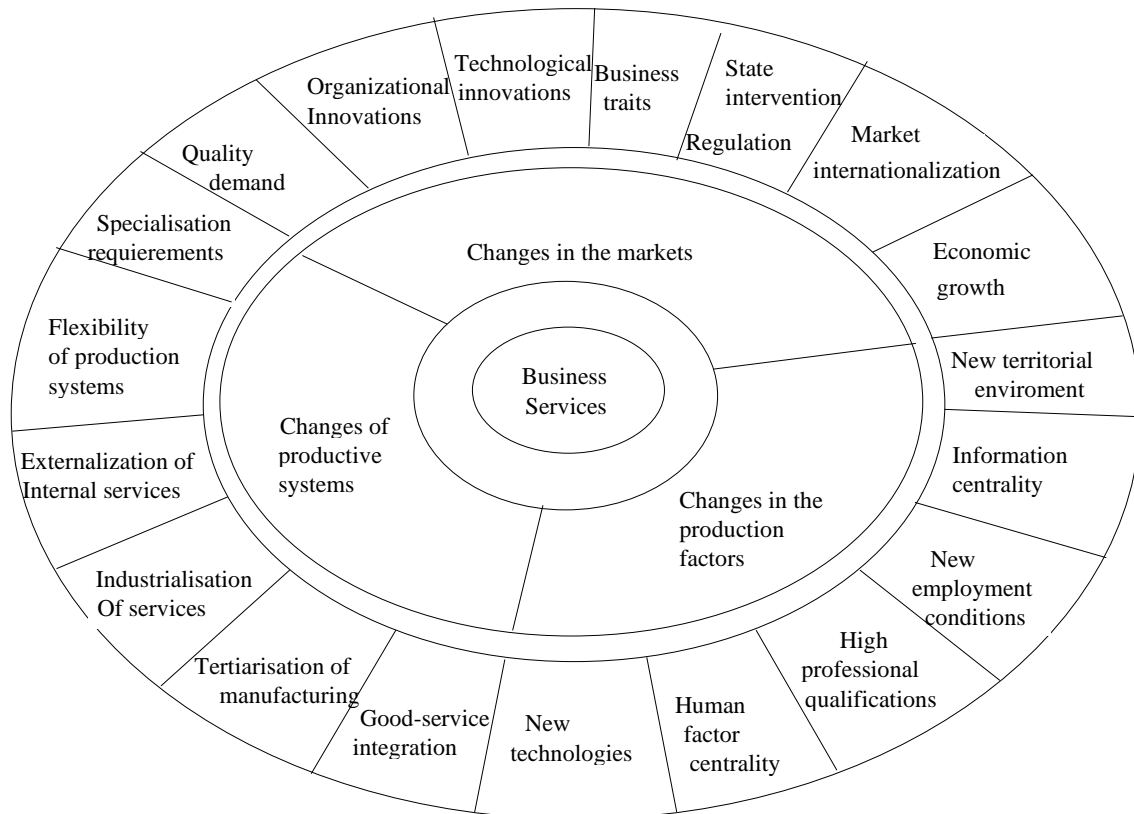
Source: International Sectorial Database (OECD) and National Accounts and Labour Force Survey (Spain)

Figure 4
Absolute Growth of Employment in Main Sectors (1980-1994)



Aggregate data for Europe 7: West Germany, France, Denmark, Netherlands, Italy, Finland and Sweden.
 Source: OECD Statistics on Value Added and Employment (1996).

Figure 5
The causes that explain the emergence of business services



References

- Aharoni, Y. (Ed.) (1993) *Coalitions and competition: the globalization of professional business services*. Routledge, Londres y Nueva York.
- Argandoña, A, Gamez, C, Mochón, F. (1997). *Macroeconomía avanzada II*. McGraw-Hill.
- Bailly, A.; Maillat, D. (1988) *Le secteur tertiaire en question, 2^a edición*. Economica, Paris.
- Barcet, A.; Bonamy, J. (1994) “Internalisation vs externalisation, valeur et dynamique de l'offre”. *Symposium: Externalization or internalization of business services, 29-30 Mayo 1994*. Universidad de Roskilde, Roskilde.
- Barras, R. (1985) “Information technology and the service revolution”. *Policy Studies* 5, 14.
- Barras, R. (1986) “Towards a theory of innovation in service”. *Research Policy*, 15.
- Baumol, W.J. (1986) “Information technology and the service sector: a feedback process?” in Faulhaber, G et al. (Eds.), *Services in transition*. Ballinger, Cambridge.
- Beyers, W.B. ; (1989) The producer services and economic development in the United States : the last decade. US Department of Commerce. Economic Development Administration. Technical Assistance and Research Division. US Department of Commerce, Wahington.
- Beyers, W.B.; Lindahl, D.P. (1994) “On the dynamics of producer service markets: externalization, internalization, and innovation processes”. *Symposium: Externalization or internalization of business services, 29-30 Mayo 1994*. Universidad de Roskilde, Roskilde.
- Bonamy, J.; May, N. (1994) *Services et mutations urbaines. Questionnements et perspectives*. Antohopos, Economica, Paris.
- Bramanti, A. (1989) “Servizi alla produzione e politiche locali: La domanda delle PMI innovative”. *Quaderni del Consorzio Milano Ricerche, n° 2*.
- Caballero, R; Hammour, M. (1991) *The cleaning effects of recessions*. NBER Working Paper.
- Coffey, W.J.; Bailly, A.S. (1990) “Services activities and evolution of production system: an international comparison”. *Environment and Planning A*, 22.
- Coffey, W.J.; Bailly, A.S. (1991) “Producer services and flexible production: an exploratory analysis”. *Growth and Change, vol 22, no. 4: 95-117*.
- Cuadrado Roura, J.R. y del Rio Gomez, C (1993): *Los servicios en Espana*; Ed. Piramide, Madrid.
- Cuadrado Roura, J.R.; González Moreno, M. (1988) “Incidencia de las nuevas tecnologías en la organización y localización de los servicios a empresas”. *Estudios regionales*, 22.
- Cuadrado Roura, J.R; Rubalcaba Bermejo, L.R. (1998) “Specialization and competition amongst European cities: a new approach through Fair and Exhibition activities”. *Regional Studies, vol. 32.2: 133-147*.
- Cuadrado Roura, JR. (1990) "Services and new information technologies - producer services"; chapt. 8 in: R. Cappellin and P. Nijkamp: *The Spatial Context of Technological Development*, Avebury, Aldershot. Brookfield, USA.
- Cuadrado, JR. and Del Rio, C. (1993). “Growth and contracyclic behaviour of services in Spain”. *The sixth Annual Seminar on the Service Economy. Geneva (mimeo)*
- Daniels, P.W.; Illeris, S.; Bonamy, J, Phillipe, J. (1993) *Service the Geography of Services*. Frank Cass. Great Britain.
- De Bandt, J. (1995) *Services aux entreprises: informations, produits, richesses*. Economica, Paris.
- De Jong, M.W. (1992) “Networks of service provision: a customer-oriented approach”. *2° Forum del RESER: Networks in services, spatial development and the Single European Market. 2-4 Septiembre*, Portsmouth.
- Del Río Gómez (1998) “Los servicios a empresas y la política regional”. *Economía Industrial* 313: 157-172.
- Dolado J., Sebastián, M y Vallés, J. (1993). “Cyclical patterns of Spanish Economy”. *Investigaciones Económicas. Volumen XVII* (3). Septiembre 1993.
- Elfring, T. (1988). Service sector employment in advanced economies. Gower Publishing Company eds
- Enderwick, P. (Ed.) (1989) *Multinational service firms*. Roudledge, London.
- European Commision (1997) *Panorama of the EU Industry 1997*. European Commision, Brussels.
- European Commission (1987) *L'Europe des services: un virage à réussir*. Programme FAST II. Résultats et recommandations, vol 3. European Commission, Brussels.

- European Commission (1994) *Panorama de l'industrie communautaire 1994*. European Commission, Luxembourg.
- European Commission (1995): *Panorama de l'industrie communautaire 1995*. European Commission, Luxembourg.
- European Commission (1997): *Panorama of the EU Industry 1997*. European Commission, Brussels.
- Filardo, A. (1997). “Cyclical implications of the declining manufacturing employment share.” Federal Reserve of Kansas city. *Economic Review* 2Q 1997
- Fontaine, C. (1988) “ Le développement des activités de service aux entreprises et dans les entreprises”. *Revue d'Economie Industrielle*, 1 trimestre.
- Francois, J.F. (1990) “Producer services, scale and the division of labour”. *Oxford Economic Papers*, vol 42., iss 4, oct 90. p; 715- 729.
- Gadrey, J. (1996) *Services: la productivité en question*. Desclée de Brouwer, Paris.
- Gallouj, F. (1994) *Économie de l'innovation dans les services*. L'Harmattan, Paris.
- Gershuny, J. (1987) “The future of service employment” in Giarini, O. (Ed.), *The emerging service economy*. Pergamon Press, Oxford.
- Gertler, M.S. (1988) “The limits of flexibility: comments on the post-fordist vision of production and its geography”. *Transactions Institute of British Geographers*, N.S. 13, 419-432.
- Giarini, O; Stahel, W.R. (1993) *The limits to certainty facing risks in the new service economy, 2nd revised edition*. Kluwer Academic Publishers, Dordrecht, Boston and London.
- Goe, W.R. (1990) “Producer services, trade, and the social division of labour”. *Regional Studies* 24: 327-42.
- Goe, W.R. (1990) “Producer services, trade, and the social division of labour”. *Regional Studies* 24: 327-42.
- Goe, W.R. (1991) “The growth of producer service industries: sorting through the externalization debate”. *Growth and Change*, Fall: 118-41.
- González Moreno, M. (1997) *Los servicios de la economía española. Viejos problemas, nuevos retos*. Instituto de estudios Económicos, Madrid.
- Howells, J. (1988) *Economic technological and locational trend in European services*. Avebury-CE, Aldershot.
- Illeris, S. (1989) *Services and regions in Europe*. Avebury-CE, Aldershot.
- Illeris, S. (1996) *The service economy. A geographical approach*. John Wiley & Sons, Chincheter.
- Kirk, R. (1987) “Are business services immune to the business cycle?”. *Growth & Change*, vol 18, iss 2. Spring 1987. P.: 15-23
- Kutscher, R.E. (1988) “Growth of services employment in the United States” in Guile B.R. y Quinn, J.B. (Eds), *Technology in services : policies for growth, trade and employment*. National Academy Press, Washington, DC.
- Kydland , F. and prescott, E. (1990). “Business Cycles : Real facts and a monetary myth”. *Federal reserve Bank of Minneapolis Quarterly Review*, Spring, pp. 3-18
- Lee, J. (1996). *Do service temper business cycle?: Implications of the rising service sector*. University of California Irvine. Department of economics.
- Mañas, E. (1992) “La demanda de servicios a empresas según tamaño, actividad y localización.”. *Papeles de Economía Española*, 50:307-311.
- Marshall, N.; Wood, P. (1995) *Services & Space. Key aspects of urban and regional development*. Logman Sientific & Technical, Singapore.
- Martinelli, F. (1991a) “A demand -orientated approach to understanding producer services” in Daniels, P., Moulart, F. (Eds.), *The changing geography of advanced producer services*. Belhaven Press, London.
- Martinelli, F. (1991b) “Branch plants and services underdevelopment in peripheral regions: the case of southern Italy” in Daniels, P.W., Moulart, F. (Eds), *The Chancing Geography of Advanced Producer Services*. Belhaven Press, London.
- Martini, M. (1989) “Laboro e professioni nell'impresa che cambia”. *Note e riflessioni Quadrimestrale. Umanesimo et Società. Anno II. N°6*.
- Martini, M.; Vairetti, U. (1989) *Terziario Avanzato. Prospettive e modelli dell'impresa futura*. Il Sole 24 Ore, Milán.
- Mas, F; Cubel, L.E. (1998) “Servicios a empresas y centros tecnológicos: un análisis comparado de modelos europeos”. *Economía Industrial* 313: 141-156.

- Monnoyer, M.E.; Philippe, J. (1991) "Localisation factors and development strategies of producer services" in Daniels, P., Moulaert, F. (Eds.), *The changing geography of advanced producer services*. Belhaven Press, London.
- Ochel, W.; Wegner, M. (1987) *Service Economies in Europe: Opportunities for Growth*. Printer Pub. & Wesriew Press, London.
- OECD (1995) *Liberalisation of trade in professional services*, OECD. Documents, Paris.
- OECD (1996a) *Services Statistics on Value Added and Employment*, OECD.
- OECD (1996b) *Input-Output Tables*, OECD.
- O'Farrell, P.N.; Hitchens, D.M.W.N. (1990) "Producer services and regional development: a review of some major conceptual policy and research issues". *Environment and Planning A*, 22: 1141-1154.
- O'Farrell, P.N.; Moffat, L.A.R. ; Hitchens, D.M.W.N. (1993) "Manufacturing demand for business services in a core and peripheral region: does flexible production imply vertical disintegration of business services?". *Regional Studies*, 27: 385-400.
- Perry, M. (1992) "Flexible production, externalisation and the interpretation of business service growth". *Service Industries Journal* 12(1): 1-16.
- Petersen, B. and Strongin, S. (1996). "Why are some industries more cyclical than others ?. *Journal of Business & Economic Statistics*. April 1996, Vol 14, N.2
- Rubalcaba, L. (1997) *Los servicios a empresas en Europa: crecimiento y asimetrías*. Universidad de Alcalá, Madrid.
- Rubalcaba, L. (1998). "Servicios a empresas: marco analítico, volumen y evolución reciente". *Economía Industrial* 313:21-45.
- Rubalcaba, L.; Cuadrado, J.R (1998). "La concentración de los servicios a empresas en Europa". *Economía Industrial* 313: 115-129.
- Rubalcaba, L.; Gago, D; Ortiz, A. Cuadrado, J.R (1998). *Crecimiento y geografía de los servicios a empresas en el contexto de la nueva sociedad servindustrial: el caso de la Comunidad de Madrid*. Consejería de Hacienda, Comunidad de Madrid.
- Rubalcaba, L; Villagómez, E. (1997) "Employment in European Business Services and the Spanish Case". *VIIIth Annual Conference of RESER*. Roskilde University, Denmark.
- Ruiz González, M. (1988) "La innovación tecnológica como resultado de interacciones complejas: sus consideraciones estratégicas". *Alta Dirección*, 138:121-128.
- Senn, L. (1991) "Il fabbisogno dei servizi reali da parte delle imprese manifatturiere lombarde" in Unioncamere (Ed.) *Offerta e domanda di servizi in Lombardia*. Unioncamere Lombardia, Milán.
- Stanback, M. (1979) *Understanding the service economy*. John Hopkins, University Press, Baltimore.
- Stanback, T.M; Bearse, P.; Noyelle, T.; Karasek, R. (1981) *Services: the new economy*. Allenheld & Osmar, Totawa, NJ.
- Tschetter, J. (1987) "Producer services industries : why are they growing so rapidly ?". *Monthly Labour Review*, 110 December : 31-40
- Wood, P.A. (1991) "Flexible accumulation and the rise of business services". *Transactions Institute of British Geographers*, N.S. 16, 160-172.
- Zarnowitz, V. and Moore G. (1986). "Major changes in cyclical behaviour". In the *American Business Cycle*, University of Chicago Press, Chicago.

BOX : TENDENCY AND CYCLE

Traditionally, tendency used to be considered as determinist, and was measured through constant (or relatively constant) change rate, that is to say, through the adjustment of lines or smooth curves, as for instance :

$$y_t = a + bt + e_t \quad (1)$$

expression in which e_t , resulting from subtracting to each observed value of y_t its trend (tendential) value, was a stationary variable overlapped, which showed the cyclical variations (together with the stationary and aleatory ones). This problem which rises from such a way of measuring is that it is not certain that the tendency will respond to the two additions on the right in (1), and as a result its suppression could falsify the estimated component of the cycle (o residue). Thus, an important part of the cycle of the observed product in (1) can be derived from the stochastic variation of the tendency, which has not be eliminated. Therefore, the vision of the cycle would not be correct if it were taken as the answer to perturbations in variables without which, they would otherwise follow a determinist tendency.

Therefore, the most obvious conclusion is that it is not correct to formulate simplifying suppositions as to the stochastic o determinant (variable or constant) character of the tendency. Kydland and Prescott (1990) point out that the breaking down of a series of its cyclical components and tendency must be a guided process for the following criteria: 1) The trend component of time series should approximately be curves summarising the whole of points; 2) the lengthening of the sample period should not significantly affects the data deviation values, except in final extremes; 3) the scheme should be well and objectively defined and easily reproduced.

Several procedures have been used according to the former statements in modern economies. The most used one if the Hodrick-Prescott filter because is a simple way for the implementation purposes. This filter defines a tendency (obtained form the original time series to obtain the cyclical component) as the value of τ which minimises the expression:

$$\sum_{t=1}^T (y_t - \tau_t)^{2+\lambda} \sum_{t=2}^T \left[(\tau_{t+1} - \tau_t) - (\tau_t - \tau_{t-1}) \right]^2 \quad (2)$$

where y is the time series and λ is an arbitrary parameter (normally the value of 100 for annual series). If λ is relatively small, the adjustment is assimilated to the original series, while a λ towards infinity make time series closer to a straight line. The main problems of this method are in the arbitrary character of the λ parameter and adjustment problems.