Review of Income and Wealth
Series 35, Number 4, December 1989

NEW EVIDENCE ON THE EXPANSION OF SERVICE EMPLOYMENT IN ADVANCED ECONOMIES

BY TOM ELFRING

Rotterdam School of Management
Erasmus University

In this article the expansion of service sector employment is examined in detail in seven OECD countries, i.e. France, Germany, Japan, Netherlands, Sweden, United Kingdom and the United States, using a newly developed set of estimates for service employment. A sufficient degree of disaggregation, consistency and harmonization was attained by merging existing national sources on employment. The twenty two distinguished service activities are aggregated into four subsectors i.e. producer, distributive, personal and social services. The new evidence revealed that the characteristics of the expansion of services claimed by a number of studies needs adjustment, and for some services the figures of recent years indicate serious changes in trends. In the sixties the growing service employment share was largely due to the expansion of social services. In the seventies and eighties growth in social services slowed down and the expansion of producer services became more prominant. Further, employment growth in personal services started to accelerate in the seventies after substantial declines in the sixties. These changing trends were most pronounced in the United States, but other countries seem to be following the same pattern with some lag.

INTRODUCTION

The main purpose of this article is to describe and analyze service sector employment growth in a number of advanced economies during the last 25 years. An attempt will be made to identify the main features of the employment shift to services and the extent to which it was similar in Europe, Japan and the United States. Our European coverage includes France, Germany, the Netherlands, Sweden and the United Kingdom.

Previous investigations have had less disaggregation than we have achieved and less standardization of concepts across countries. To reach a high level of detail and ensure international comparability we had to merge with great care a large number of national sources on employment. Service activities are classified here in four subsectors according to type of service, production characteristics and kind of demand. Each subsector is divided into four or more service activities. These detailed employment estimates can be considered the steel frame of this article. We made a modest attempt to summarize, synthesize and interpret other studies covering part of the service sector and/or one country against the empirical steel frame of our disaggregated employment estimates. The main emphasis will be on what happened to employment in services; which services show accelerating employment growth and which register a slowdown. The importance and growth of self-employment in the various services branches is estimated in order to evaluate their role in the expansion of services across countries. Furthermore, we will assess if and to which extent employment growth in the four service subsectors is sensitive to recession periods.

In order to cover the developments in a sector employing over half of the labour force in seven economies it was necessary to focus on major trends and/or differences between countries. Particular explanations and country situations are referred to only when they seem to have a dominant impact on employment.

THE DATA

Internationally harmonized employment estimates from the OECD, UN or Eurostat are usually too aggregative, with a breakdown for only 3 or 4 subsectors.[1] Furthermore, conceptual differences still impede comparison, because not all countries are able or willing to adjust their estimates according to the international ISIC guidelines (Lengellé, 1980, p. 140).

A detailed assessment of employment growth in services requires a division of that sector into at least 15 to 20 different activities. Many statistics on value added and employment in manufacturing distinguish 10 categories or more, and the share of services in value added and employment is roughly twice as high as the manufacturing share. Thus to offer similar research opportunities for services, we used an equally detailed breakdown. Such a level of disaggregation can only be attained when national sources are exploited to supplement international sources. Therefore, a large number of sources were merged with great scrutiny to ensure international comparability. The employment estimates distinguish 22 service activities for 6 pertinent years between 1960 and 1985 in seven advanced capitalist countries.

Generally, there is a variety of sources for employment figures in each country. Basically three can be discerned: (a) surveys conducted at the household level which include labour force sample surveys and population censuses; (b) establishment surveys and (c) social insurance records. The latter two usually refer to employees only; self-employed and unpaid family workers are not covered, but estimates of their number can usually be obtained from household surveys.

National accounts employment data are normally based on a combination of the previously mentioned sources. Such integrated statistics are usually of good quality because the most reliable parts of other statistics are merged. However, in Germany, Japan and the United Kingdom they are too aggregative for our purpose and the Dutch national accounts concept also cannot be used because its "man-years" concept differs significantly between persons and jobs. In three countries, France, Sweden and the United States, the degree of disaggregation of service employment supplied in the national accounts is adequate for our purpose. Nevertheless, those estimates had to be supplemented with additional information to arrive at our breakdown.

Our estimates of service employment for the Netherlands and the United Kingdom are primarily based on a combination of two kinds of statistics. Employees by kind of activity were derived from establishment surveys, and the

[1]See Lengellé (1980) and OECD (1984b); Lengellé disaggregates the service sector into four branches, while the OECD study recognizes 7 branches for some countries. Both studies stressed in the introduction that the analysis is necessarily brief due to the limited availability of comparable statistics.

self-employed and unpaid family workers from household surveys. German and Japanese service employment estimates were obtained from household surveys.

In the Appendix the basic national sources of our employment estimates are given. The conceptual differences between them, and our adjustments to assure international comparability are spelled out in detail in Elfring (1988, Appendix D). Besides conceptual modifications, it was also necessary to reclassify some detailed service activities. For example, in Japan and the United States, eating and drinking places were reclassified from the retailing category to the "hotel, bar and restaurant" category normal in other countries.

Classification

In this study employment is classified by branch of activity. Basically this is a classification of establishments engaged in production of goods and services. The establishment is internationally accepted as the smallest unit for which relevant statistics, such as employment and output, are available. Employment is classified in a particular branch of activity irrespective of the nature of the jobs involved. Service type jobs such as administration and cleaning are classified as industrial when they are part of an establishment whose main activity is industrial.

In this study employment in the service sector is divided into four subsectors: producer services, distributive services, personal services and social services. Each of these subsectors are broken down into four or more service activities. These four subsectors differ from the four basic ISIC headings for services on two points.[2] First, ISIC 6 and 7 are taken together as distributive services with the exclusion of restaurants and hotels, these are included in our personal services subsector. Secondly, ISIC 9 contains both social and personal services, while we divide them into two separate subsectors.

These basic dividing lines are not novel. The complementary services category of Katouzian (1970) is similar to the aggregate of producer and distributive subsectors, and his category of "new" services coincides with our social one. Moreover, Singelmann (1978) used a similar four subsector division. Although there are some small differences, for example, he classified postal services in the social services subsector, in our division it belongs to the communication category in distributive services. The official employment statistics in the European countries do not give a breakdown of communication services to distinguish postal services.

Producer Services

Our first dividing line separates producer oriented services from consumer services. Activities whose output is purchased mainly by enterprises are classified as "producer services." Although consumers may buy them as well, demand for producer services is largely governed by output and investment decisions of

[2]ISIC Division 6: Wholesale and Retail Trade and Restaurants and Hotels. ISIC Division 7: Transport, Storage and Communication. ISIC Division 8: Financing, Insurance, Real Estate and Business Services. ISIC Division 9: Community, Social and Personal Services.

enterprises. In particular their decisions on internal or external provision of ancillary services affects demand. Producer services are intermediate or auxiliary to the production process in other activities. They give support to these processes and their output largely boils down to a transfer of knowledge and information. We do not treat wholesale trade and transport as "producer" services because they become relevant only after the production of a commodity is completed.

Producer services may be carried out both in independent service enterprises and within industrial corporations. The former are classified as producer services and the latter are classified according to the main activity of the firm. A necessary requirement for classification as an independent unit is the availability of a profit and loss account describing such an unit. We distinguish four categories: business and professional services, financial services, insurance services and real estate services.

Distributive Services

The major common characteristic of distributive services is that they involve the distribution of commodities and information and transportation of persons. They are necessary only after a commodity has been produced and concern all activities which bring a commodity from the locus of production to the place where it will be used as an intermediate, investment or consumption good. Trade and transport are the main activities of this subsector. This subsector contains the following activities: retail trade, wholesale trade, transport services and communications.

Personal Services

Personal service flows are mainly determined by individual consumer demand. In this sector the following personal services are distinguished: hotels, bars and restaurants, recreation and amusements, domestic services, repair services, barber and beauty services, laundry and cleaning services and miscellaneous personal services.

Social Services

This last subsector differs from the previous ones by its non-market characteristics. Social services are provided largely by government, but also by non-profit organizations, private businesses and the professions. In the last cases they are usually subsidized by the government. The social services subsector contains four categories: government proper (civil and military), health services, educational services and miscellaneous social services.

The Expansion of Services After 1960

The continuing increase of the service employment share in the last 25 years is a well-known phenomenon. Employment in services experienced an above average growth rate. In the 1960–73 period the annual average for our seven countries was 2.3 percent; after 1973 it was slower at 1.7 percent. In both periods the growth rates for services were substantially higher than in agriculture and industry.

Two periods were chosen to reflect the characteristics of sectoral employment growth in the "Golden Age" and the period following the first OPEC shock, i.e. 1960–73 and 1973–85. For years earlier than 1960 the desired breakdown of services is less reliable. Also, the disturbing influence of the second World War on the sectoral employment distribution had disappeared by 1960. Therefore, that year was chosen as the beginning of our first period.

Declining employment in agriculture and industry after 1973 were compensated by the continuing expansion of services. Some studies characterize the service sector in the United States as a stabilizing factor after 1973 (Urquhart, 1981). The negative effect of the recessions in the 1973–85 period on employment growth was much more serious in industry than in services. (For details see section on Sensitivity of Service Employment to Recessions.)

At the end of the seventies the service sector accounted for more than half of total employment in all seven countries examined here. Germany and Japan were the last to pass this threshold. By 1985 their service shares were roughly 54 and 57 percent respectively. The proportion of employment in services in the United States was considerably higher, approximately 72 percent in 1985.

Producer services more than doubled their employment share between 1960 and 1985. In 1960 this was the smallest subsector which employed on average 4.1 percent of the total: its expansion was rather stable and did not slow down after 1973. In the "Golden Age" and the 1973–85 period its average share expanded by 2.3 and 2.8 percentage points respectively.

In 1960 distributive services were the largest subsector, accounting for about 19 percent of total employment. Their share remained relatively stable for most countries, but there was vigorous growth in Japan where this subsector presently accounts for one out of every four employed persons.

The average share of personal services did not change much from 1960 to 1985 when on average it accounted for 8.9 percent of employment. Between countries there were large differences. It varied from about 6 percent in Sweden to over 12 percent in the United States. The trend showed a slight decline up to the middle of the seventies, but expanded seriously after 1973. By contrast, Japan already exhibited expanding personal service shares during the sixties.

Social services have shown the greatest expansion and became the largest subsector in the seventies. They expanded their employment share on average by 10 percentage points between 1960 and 1985. In 1985 they accounted for one out of every four jobs. The outliers were Japan with 12.7 percent and Sweden with 35.3 percent of employment in this sector.

Assessment of Service Employment Growth by Subsector

Employment Growth in Producer Services

In Table 3 the 1985 breakdown of producer services into four categories is shown. Business and professional services, which employs slightly more than half of all producer services jobs, is the largest group. In the United States all

TABLE 1

EMPLOYMENT GROWTH BY SECTOR, 1960-85

(Average annual compound growth rate)

	1960–73				1973–85			
	Agriculture	Industry	Services	Total	Agriculture	Industry	Services	Total
France	−4.2	0.9	2.1	0.7	−3.1	−1.8	1.5	−0.1
Germany	−5.0	0.0	1.6	0.2	−3.5	−1.2	1.2	−0.1
Japan	−4.4	3.1	3.7	1.6	−3.2	0.1	2.0	0.7
Netherlands	−3.7	0.0	2.4	1.0	−0.8	−1.8	1.9	0.5
Sweden	−5.8	−0.3	2.6	0.7	−2.5	−1.2	1.9	0.6
United Kingdom	−3.5	−0.5	1.3	0.3	−1.0	−2.4	1.1	−0.3
United States	−2.9	1.5	2.6	1.9	−1.0	0.4	2.6	1.9
Average	−4.2	0.7	2.3	0.9	−2.2	−1.1	1.7	0.5

Sources: Derived from Tables in Appendix D in Elfring, 1988.

TABLE 2

SERVICE EMPLOYMENT BY SUBSECTOR AS A PERCENTAGE OF TOTAL EMPLOYMENT

(Percentages)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
				1960				
Producer services	3.5	3.4	3.3	4.2	3.5	4.4	6.4	4.1
Distributive services	16.8	17.5	18.5	20.4	19.4	20.6	22.2	19.3
Personal services	7.9	7.4	7.5	8.5	8.4	8.0	11.3	8.4
Social services	16.0	10.3	8.2	14.7	16.3	15.8	21.2	14.6
Total services	44.1	38.6	37.4	47.8	47.7	48.8	61.1	46.5
				1973				
Producer services	6.0	5.2	6.5	6.8	5.1	6.5	8.7	6.4
Distributive services	18.6	18.1	23.3	20.5	19.8	20.1	21.5	20.3
Personal services	7.5	6.5	8.9	7.6	6.6	7.9	10.9	8.0
Social services	19.2	16.3	10.5	22.8	26.2	20.8	25.3	20.2
Total services	51.3	46.1	49.1	57.7	57.7	55.4	66.4	54.8
				1985				
Producer services	8.5	7.2	9.6	10.5	6.4	9.5	12.6	9.2
Distributive services	20.0	18.0	24.8	21.1	19.1	21.3	21.4	20.8
Personal services	7.7	7.8	9.9	8.3	6.1	9.9	12.4	8.9
Social services	25.7	21.3	12.7	27.6	35.3	24.6	25.8	24.7
Total services	61.7	54.2	57.1	67.5	66.9	65.3	72.3	63.6

Source: Same as in Table 1.

TABLE 3

SHARE OF PRODUCER SERVICES IN TOTAL EMPLOYMENT, 1985

(Percentages)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
Producer services	8.5	7.2	9.6	10.5	6.4	9.5	12.6	9.2
Business/professional services	5.0	3.2	5.8	6.3	3.6	5.2	6.8	5.1
Financial services	2.1	2.4	1.9	2.3	1.4	2.3	2.5	2.1
Insurance services	1.0	1.2	1.1	1.2	0.5	1.4	1.8	1.2
Real estate services	0.3	0.4	0.8	0.7	0.9	0.6	1.6	0.8

Source: Same as in Table 1.

four shares were higher than those in the other countries and as a result the producer share was about 40 percent above average.

Greenfield (1966) was the first economist to investigate the nature of producer services in a systematic manner. He argued that services should be divided, just as goods are, into consumer and producer services. His basic reason for thus dividing the service sector was to produce a better understanding of the factors affecting changes in demand for services.

The functions of producer services can be provided both internally and externally by firms classified in the producer services category. Part of the growth of producer services can be seen as a shift of tasks previously performed by industrial corporations and now executed by producer service firms. The reasons why industrial firms, agricultural corporations and government agencies use producer service companies are summarized by Greenfield in the following way. First, through "contracting out" industrial firms hope to reduce the cost of a function formerly performed internally. Second, such a practice gives the firm access to the use of experts in fields in which it does not have much knowledge. This can be especially advantageous when such expertise is needed for short-term projects or on a part-time basis. Recently, another factor involved has been flexibility. Dreesmann (1986, p. 871) stressed that corporate policies in the seventies and eighties increasingly favored purchase of secondary activities from specialized service firms in order to concentrate on primary tasks and increase flexibility.

The basic background of contracting out is, however, the positive contribution of specialization and economies of scale for all the groups involved. Contracting out permits management of the industrial corporations to specialize and to concentrate its efforts in the primary areas of the firms' activities. Diversification of product lines, larger companies and the increasing incidence of mergers in the U.S.A. (Stanbeck, 1979), and in Europe, has increased the complexity of management tasks. To cover a wide variety of areas such as accountancy, finance, marketing and legislation internally would imply large investments in human capital, while the demand for such services is probably relatively small and highly irregular. Thus, from the perspective of the firm it is more efficient to "contract out."

The general reasons cited above do explain why in a growing economy with increasing specialization and capital accumulation the demand for producer services is expanding. However, the estimates of Singelmann (1978, p. 68) indicate that generally the employment share of producer-type services was only creeping up slowly between 1920 and 1950. The big boost in demand for producer services took place after World War II.

Petit (1986) was the first one who explicitly dated the accelerating growth of producer services to the post-War period and especially the 1960s. Changes in the organization of large firms, from very centralized corporations to decentralized structures with a multidivisional organization, was of crucial importance (Petit, 1986, p. 135, 136). In the centralized organization the firm was divided into departments according to major function. Within such a structure, all requirements, including ancillary services could be met internally. Once such a centralized structure existed it was very difficult to introduce changes due to its rigidity. In the post-War period most of these centralized organizations were transformed into firms with a number of divisions, often according to types of products. Each division had greater freedom to choose between internal and external provision of the production process. This change in organization opened up new markets concentrating on the supply of services to firms.

After the first oil crisis the annual employment growth rates in producer services slowed down in all countries except the United States (see Table 4). Insurance, business and professional services and real estate were responsible for the acceleration of American producer services. It is remarkable that despite the recessions after 1973 and the sensitivity of these services for recessions, they experienced an increasing employment growth rate.

Employment expansion in insurance is even more astonishing when one realizes that information technology has turned insurance companies into one of the most automated branches of the service sector. In the previous decade many clerical jobs were turned over to computers. However, information technology created opportunities to expand markets because diversification of insurance schemes and combinations with other financial arrangements could be worked out very quickly. The net effect of job losses and job creation was positive (Browning, 1986; Rajan and Cook, 1986).

Growth performance of business and professional services in the United States was spectacular, the average annual employment growth rate between 1973 and 1985 was 6.7 percent, which is almost three times as high as the average for all services in the United States and significantly higher than the growth rates of business and professional services in Japan and the five European countries. However, in Europe and Japan business and professional services also belong to the fastest growing category. In fact, its growth rate relative to other services is similar to the one in the United States.

Differences in employment growth between the five European countries were small. This was especially the case for business and professional services, employment growth in those services was in four of the five European countries between 3.3 percent and 4.1 percent per year. The annual growth rate of 5.8 percent in the Netherlands approached the performance in the United States.

The fact that after the middle of the seventies employment in business and professional services continued to grow almost three times as fast as the average for all services contradicts Petit's assessment that the change in organization explanation cannot be extended beyond 1975. He found evidence that in France the growth of services to firms slowed down dramatically (Petit, 1986, p. 140). Employment growth in those services was more than halved according to our data, however, the deceleration in the other countries was much smaller and in the United States an acceleration was recorded. Thus, other motives for the continued expansion of services to firms must be found.

The shift to a predominantly service economy has contributed to the relatively fast expansion of business and professional services. Many service organizations have become large users of information technology. The implementation of information technology creates a large demand for service functions allied to the operation of the computer hardware. These services are (a) software to make the computer work, (b) engineering services to demonstrate how to use the computer

TABLE 4

EMPLOYMENT GROWTH IN PRODUCER SERVICES IN THE 1960-73 AND 1973-85 PERIOD

(Average annual compound growth rate)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
				1960-73				
Producer services	5.8	3.8	7.0	4.7	4.7	3.3	4.3	4.8
Business/professional services	6.0	3.2	8.3	6.9	5.7	3.9	5.8	5.7
Financial services	5.0	4.7	4.3	4.9	4.9	3.7	4.1	4.5
Insurance services	5.8	3.6	6.4	−0.4	1.6	1.2	2.1	2.9
Real estate services	10.5	2.8	10.5	9.2	3.5	3.6	3.6	6.3
Total services	2.1	1.6	3.7	2.4	2.6	1.3	2.6	2.3
				1973-85				
Producer services	2.8	2.7	4.1	4.3	2.5	3.0	5.1	3.5
Business/professional services	3.6	4.1	5.3	5.8	3.4	3.3	6.7	4.6
Financial services	1.9	2.0	1.7	3.1	2.1	2.9	4.0	2.5
Insurance services	1.4	1.5	3.4	0.6	1.2	1.7	2.8	1.7
Real estate services	2.6	0.0	3.4	4.2	1.1	3.4	4.0	2.7
Total services	1.5	1.2	2.0	1.9	1.9	1.1	2.6	1.7

Source: Same as in Table 1.

and integrate it in the existing information structure, (c) systems consultant services to ensure that the software suits the customer needs, (d) training services to explain to users how to operate the system, (e) on-going information services to alert the customer to new developments and (f) maintenance services to ensure the continued operation of the computer. Furthermore, a recent study by Huppes (1988) showed that the success of the introduction of information technology depends very much on accompanying organizational changes. As a result demand for management consultancy is likely to increase because they can help to implement the organizational adjustments.

The number of small independent firms specializing in a particular set of services is increasing rapidly and introducing innovations in the field of the provision of services. These innovations often boil down to some sort of standardization of the services provided. Standardization implies that service units can be easily reproduced at other places. As a result the diffusion of such innovations will be amplified and small- and medium-sized firms will get easier access to them. Specialization and standardization opened up the market for intermediate services to small- and medium-sized firms which were previously unable to obtain these services without great cost (U.S. Department of Commerce, 1985, p. 39). It gives them access to a functional division of labor previously used by large corporations (Ochel and Wegner, 1987).

The growing use of information technology in services and the increasing demand by small- and medium-sized firms were probably responsible for the acceleration of services to firms in the United States.

It is extremely difficult to estimate to which extent the growth of business and professional services is the result of a transfer of activities from industrial firms to independent service establishments. This switch can take different forms, ranging from the gradual process of a department becoming independent to contracting out all cleaning activities from one day to another.

The complexity of measurement and interpretation of the growth of producer service employment was confirmed by a recent OECD investigation on the expansion of the software industry (OECD, 1985a). The number of small software houses increased rapidly in all Western countries and employment in large software enterprises expanded as well. Most of this growth was the result of increased demand, but part of it was caused by a transfer from in-house to external purchases.

Software services are usually produced in three different places. First, large corporations usually have a data processing department. Secondly, computer hardware manufacturers have software divisions. Lastly, we find independent software industries and consultants. The last group is the "software industry" and has experienced vigorous growth, but the rate of expansion depended very much on the particular market at hand. In certain fields software was almost exclusively developed by in-house departments, while in others the specialized software agencies satisfied most of the demand. In addition, across countries the decision to produce internally or to purchase outside varied significantly. In France, the second option was widely preferred while in Germany most enterprises decided in favor of the first (OECD, 1985a, p. 81).

Thus, interpretation of employment growth in producer services requires a detailed assessment of the industrial market organization in both the sector which uses services and the one in which they are produced. Decisions concerning externalization of service activities depend on both the supply of those services in the market and the structure of the firm which has to choose between internal and external provision. The transaction cost approach as put forward by Williamson (1975) provides a framework to analyze the forces which favored the externalization of many services.

The issue of providing services in-house or contracting them out to a specialized service firm is in the transaction cost framework related to the costs associated with the coordination and control of each of the two modes of provision. With the help of the transaction cost approach it can be easily seen that the externalization of services is partly a self-reinforcing process. A small number of independent suppliers of business services encourages opportunistic behavior implying additional transaction costs related to the market provision of those services. However, when the market for business services completes its initial phase, specialization can expand the diversity of supply and scale economies can improve the price quality ratio. Both developments attract additional demand. At the same time, the growing number of suppliers frustrate opportunistic inclinations, because alternative parties, whose behavior is less opportunistic, can be found with whom to transact. Thus, the transaction costs of the provision of services by the market decline, which gives an impetus to externalization of services provided internally.

We conclude that producer services have shown an impressive capacity to expand employment. Growth rates were two to three times as high as the overall average for services. Reasons for the fast growth of producer services can be divided into the growing demand for service functions and the externalization of services previously provided in-house. Most of the evidence indicates a continuation of the above average growth rate in the near future and it is likely that the European countries and Japan will follow the trend of accelerating growth set by the United States.

Employment Growth in Distributive Services

Distributive services have been a rather stable subsector over time, judging by their employment shares. In the previous two decades on average of one out of five employed persons was in distributive services. As shown in Table 5, retail trade was the most important distributive service category. It accounted for approximately 10 percent of total employment, while the shares of other categories varied between roughly 1 and 7 percent.

Germany and Japan are two outliers; the former has a relatively small proportion of employment in distributive services and in Japan these services are overmanned compared to the other countries. The disaggregation of distributive services helps to explain the substantial difference between the two outliers and the average share.

The share of wholesale trade and transportation is likely to be influenced by the geographical location of a country. Germany is surrounded by other countries and as a result many goods for the main industrial area in Germany

TABLE 5

SHARE OF DISTRIBUTIVE SERVICES IN TOTAL EMPLOYMENT, 1985

(Percentages)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
Distributive services	20.0	18.0	24.8	21.1	19.1	21.3	21.4	20.8
Retail trade	8.8	8.8	11.4	8.8	7.3	11.3	11.5	9.7
Wholesale trade	4.7	3.5	7.3	6.0	4.6	4.2	5.3	5.1
Transportation	4.2	3.7	5.0	4.4	5.0	4.1	3.1	4.2
Communications	2.3	2.0	1.1	1.8	2.2	1.7	1.6	1.8

Source: Same as in Table 1.

are shipped to Rotterdam and transported through the Netherlands. The employment share of wholesale trade and transportation in the Netherlands was 10.4 percent which was above the average, while in Germany these activities accounted for a below average share, e.g. 7.2 percent.

The relatively large number of persons employed in Japanese trade reflects the importance of it for Japanese society. In Japanese trade much attention is devoted to the quality of services and the number of retail stores is high compared to the other economies. In the middle of the seventies the average Japanese retail store served 70 households, in the United States this ratio was twice as high and in Germany it was 179 households (Woronoff, 1983, p. 173). The prevalence of small family enterprises helps to explain the large number of stores per household in Japan. Labor input in these shops is very flexible and cheap because it draws upon the family.

The relatively fast expansion of Japanese retail trade and the resulting large employment share is largely the result of government policies. These protect existing small-scale retail establishments by making it difficult to start new large-scale trade activities. The expansion of department stores had been restricted. To open any retail establishment of more than 1,500 square meters requires government approval (Saxonhouse, 1985, pp. 60, 61), and the authorities must consult the local commercial activities coordination council, in which the small shopkeepers have a substantial voice. In many cases they have blocked the opening of stores which could benefit from substantial economies of scale (Woronoff, 1983, p. 170).

Labor input in Japanese retailing is relatively high. Hardly any self-service is involved, and a high level of basic services is offered such as accessibility and long opening hours. The European system "saved" a great deal of labor input by restricting opening hours. The American system is characterized by a high component of self-service in large-scale establishments. Accessibility is low, because the small shop on the corner has vanished, but has been compensated for by the long opening hours.[3]

Employment growth in distributive services was on average 0.6 percentage points lower in the period after 1973 than between 1960 and 1973 (see Table 6). This fall in the growth rate was about equal to the decline for all services. In the Netherlands the slowdown in employment growth in distributive services was minimal and in the United Kingdom and the United States it was slightly higher after the first oil crisis than before. In particular, employment growth in British retailing was accelerating. This trend was contrary to the experience in the other countries and may be explained in part by the imposition of the selective employment tax on services (SET) in 1966 and its subsequent abolition.

SET was a tax on employment in certain services, and labor-intensive activities such as retail trade were affected most. The object of SET was to halt the employment shift to services and to induce the service sector to look for labor-saving methods to boost productivity. It has been generally suggested that

[3]Time spent on shopping and related travel in the United States is roughly 25 percent (or 20 minutes a day) higher than in the European countries, according to the preliminary results of a study by Gershuny (1987). He explained this difference largely by the longer travel time in the United States, due to the removal of larger shops from the housing centers.

TABLE 6

EMPLOYMENT GROWTH IN DISTRIBUTIVE SERVICES IN THE 1960–73 AND 1973–85 PERIOD

(Average annual compound growth rate)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
				1960–73				
Distributive services	1.7	0.4	3.4	1.0	0.9	0.1	1.7	1.3
Retail trade	1.6	1.2	3.0	2.1	0.9	−0.2	1.8	1.5
Wholesale trade	2.2	−1.1	4.0	1.0	0.9	2.1	2.2	1.6
Transportation	0.9	−0.2	3.7	−0.8	0.5	−1.2	0.6	0.5
Communications	2.6	1.7	2.4	2.1	1.6	2.0	2.0	2.1
Total services	2.1	1.6	3.7	2.4	2.6	1.3	2.6	2.3
				1973–85				
Distributive services	0.5	−0.2	1.2	0.8	0.3	0.2	1.8	0.7
Retail trade	0.2	0.2	1.3	0.8	−0.6	0.7	2.0	0.7
Wholesale trade	0.4	−0.9	1.9	0.5	1.1	0.8	2.3	0.9
Transportation	0.4	−0.6	0.4	0.5	0.9	−1.3	1.3	0.2
Communications	2.0	0.3	0.4	2.3	1.3	−0.4	0.4	0.9
Total services	1.5	1.2	2.0	1.9	1.9	1.1	2.6	1.7

Source: Same as in Table 1.

in retailing this policy favored the expansion of the higher productivity multiples at the expense of small independent stores. The negative effect of registered employment growth may be partly attributable to the reaction of the shopkeepers who avoided tax by understating the size of their labor force (Smith and Hitchens, 1985, 75, 142, 143).

Empirical evidence indicated that SET had a negative impact on employment growth in retail trade at the end of the sixties and beginning seventies (Reddaway, 1973). In the second half of the seventies and eighties the effects of SET vanished because if its abolition. The beneficial effect on registered employment probably caused the recovery of retail employment to a more "normal" level.

The number of job opportunities offered by distributive services in the European countries is much smaller compared to Japan and the United States. The major reason is the smaller employment growth rates. If distributive services in the European countries had achieved a similar employment growth rate to that in the United States, the expansion would have resulted in roughly 2 million more jobs than actually observed between 1973 and 1985.

Employment Growth in Personal Services

The relative size of personal services in 1985 expressed as a percentage of total employment varied between 6.1 percent in Sweden and 12.4 percent in the United States (see Table 7). It is surprising that two advanced countries with a high level of development represent those two extremes. Thus, the level of development does not have a decisive impact on the employment share of personal services. The small Swedish share of personal services can partly be attributed to the large number of services provided by the government (see section on social services) which are in some cases a substitute for personal services.

Services rendered at hotels and restaurants in 1985 were responsible for 2 to 5 percent of all jobs in the European countries, and in Japan and the United States for 5.5 and 6.8 percent respectively. The differences in the relative size of the personal service subsector were mainly the result of variations in the proportion of employment in hotels, bars and restaurants.

Employment growth in personal services is accelerating from an average annual growth rate of 0.4 percent between 1960 and 1973 to 1.3 percent during the 1973-85 period (see Table 8). Services rendered by hotels and restaurants are the most important activity in this subsector and average employment growth rate went up from 1.3 percent annually to 2.5 percent in the 1973-85 period. In the United States, for example, employment rose by 4.5 percent annually which added more than 3 million jobs to existing employment.

The trend of increasing employment growth of personal services is of interest because it contradicts Gershuny (1978), OECD (1984b) and Singelmann (1978). They concluded that the growth of personal services has been low or negative with a likelihood of future stabilization or decline. According to Gershuny the growth of self-service activities is the major reason for the stagnating development of personal services (see also Skolka, 1976). There has of course been some substitution of self-service activities for purchased personal services stimulated by the availability of household appliances such as washing machines, kitchen

TABLE 7

SHARE OF PERSONAL SERVICES IN TOTAL EMPLOYMENT, 1985

(Percentages)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
Personal services	7.7	7.8	9.9	8.3	6.1	9.9	12.4	8.9
Hotels, bars and restaurants	3.0	3.6	5.5	2.4	2.0	5.1	6.8	4.1
Recreation and amusements	1.0	0.9	1.1	1.7	1.7	1.8	1.3	1.4
Domestic services	1.4	0.3	0.1	0.2	0.4	0.3	1.4	0.5
Other personal services	2.3	3.0	3.2	4.0	2.0	2.7	2.9	2.8

Source: Same as in Table 1.

TABLE 8

EMPLOYMENT GROWTH IN PERSONAL SERVICES IN THE 1960-73 AND 1973-85 PERIOD

(Average annual compound growth rate)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
				1960-73				
Personal services	0.3	−0.9	2.9	0.2	−1.8	0.2	1.6	0.4
Hotels, bars and restaurants	0.8	−0.1	4.4	1.1	−1.9	1.1	3.7	1.3
Recreation and amusements	2.0	0.5	2.3	3.5	5.1	1.4	3.1	2.6
Domestic services	−2.1	−7.9	−6.9	−9.0	−6.1	−5.1	−1.5	−5.5
Other personal services	1.6	0.2	2.8	3.0	−1.5	0.2	1.0	1.0
Total services	2.1	1.6	3.7	2.4	2.6	1.3	2.6	2.3
				1973-85				
Personal services	0.2	1.3	1.7	1.3	0.0	1.5	3.0	1.3
Hotels, bars and restaurants	1.1	2.5	3.0	1.9	2.2	2.1	4.5	2.5
Recreation and amusements	1.6	2.7	2.6	5.7	3.9	2.1	3.2	3.1
Domestic services	−2.8	−4.0	−4.6	−9.0	−8.1	−3.7	−1.9	−4.9
Other personal services	0.6	0.5	−0.1	−0.3	−1.6	1.1	3.1	0.5
Total services	1.5	1.2	2.0	1.9	1.9	1.1	2.6	1.7

Sources: Same as in Table 1.

equipment, television and Hi Fi. Another major factor involved is that personal services are becoming relatively expensive due to lagging labor productivity growth (Baumol and Oates, 1972).

The change in the trend of personal services occurred in the middle of the seventies. Factors which have interfered with the commonly accepted view are rising female labor force participation and increasing opportunities to control the rising costs of services. Rising unemployment after the 1973 recession resulted in a downward pressure on wages, which had a favorable effect on costs in labor-intensive services.

Next to the moderation in costs, there are a number of examples which reject the notion of low productivity gains in services. Fast-food restaurants exploit the possibilities to increase productivity and as a result they provide meals at relatively low cost. They are an excellent example of increasing efficiency through standardization and the use of machines in the provision of services, or in terms of Levitt (1976) "industrialization" of services. Through standardization service jobs are broken down in simple assembly-line type of jobs, which can be done on part-time basis. These jobs can be easily occupied by unemployed and women with little schooling.

Rising female labor force participation has a positive effect on the growth of personal services for two reasons. First, a growing number of women in employment are diverted from the household activity. Secondly, increased female labor supply has lowered wages in fields where women search jobs. This was mainly in services (Paukert, 1985) and as a result of reduced wage costs, relative prices in services are kept in check. The potential growth of self-service as observed by some researchers is seriously jeopardized by that development. Many household activities have a substitute within the category of personal services. Domestic servants, restaurants, laundromats and day-care are the counterpart of cleaning, cooking, washing and babysitting.

Recent studies by Fuchs (1980) and Grubel (1987) indicate that the rising female labor force participation has resulted in a growing demand for personal services. Households with employed women tend to spend a higher proportion of their income on services. These expenditures satisfy demands which are otherwise provided by the household. The growth of hotels and restaurants is associated with this substitution.

Silver (1987) argued that the amount of time available in households for self-services is reduced as a result of two trends. First, demographic changes, such as ageing population, have reduced the size of households and thereby restricted the number of persons who can provide in-home services. Further, an increasing number of hours are devoted to paid and unpaid work and consequently the time to supply in-home services is reduced. Both forces tend to favor the purchase of personal services instead of reliance on self-service provision.

Employment Growth in Social Services

In all countries, except Japan, social services are now the largest service subsector. On average one out of every four persons employed is working in

TABLE 9

SHARES OF SOCIAL SERVICES IN TOTAL EMPLOYMENT, 1985

(Percentages)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
Social services	25.7	21.3	12.7	27.6	35.3	24.6	25.8	24.7
Government proper	9.2	9.2	3.5	8.4	7.1	7.7	7.9	7.6
Health services	7.0	5.3	3.4	7.2	10.4	6.4	7.3	6.7
Educational services	6.6	4.1	3.4	6.8	7.7	7.7	7.6	6.3
Miscellaneous social services	2.8	2.7	2.5	5.3	10.0	2.8	3.0	4.2

Source: Same as in Table 1.

social services. In 1985, Japan and Sweden were the outliers with shares of 12.7 and 35.3 percent.

In most countries general government was the largest category and represented on average 7.6 percent of total employment. The proportion of total employment in health services and education were, in general, slightly smaller than the shares of general government. The miscellaneous category was clearly the least important.

The proportion of total employment in social services in Japan and Sweden is remarkable with regard to the shares in the other countries. The breakdown into the four categories enabled us to locate the kind of social services which were responsible for the disparate shares of Japan and Sweden.

In Japan all four social services employed a substantially smaller share than the overall average for the seven countries. The relatively small government proper share is partly the result of minor military employment in Japan. In the other countries the military accounted for roughly 1 to 2 percent of total employment. The small Japanese share might be partly attributed to data shortcomings. The Japanese firm penetrates further in the social life of employees than in most Western countries. Consequently, some demand for social services is assumed by the firm. This is not reflected in the official employment statistics because establishments are classified by major activity and no separate figures are available on these services within firms. Thus, employment in Japanese social services is slightly biased downward.

Most available empirical studies on international comparison of social service categories related to expenditures instead of employment. Therefore, we will first check the relation between our employment picture and the expenditure pattern as put forward by other investigations.

The relatively small employment share of health services in Japan fits well with the data on health expenditure as a proportion of GDP. In the middle of the seventies the latter proportion was 4.0 percent in Japan and the average for the seven Western countries was 6.4 percent (OECD, 1977a, p. 10). In fact, the differences in employment shares of health services between all seven Western countries can be explained to a large extent by the variations in the expenditure shares, and these variations among countries were largely a result of differences in per capita income. An OECD study regarding health services supported this relationship. The correlation between the shares of total health expenditures in output and GDP per capita was statistically significant, in contrast to other public expenditure categories for which similar calculations were made (OECD, 1977a, p. 15).

In Germany and Japan the proportion of employment in education was clearly below average. Part of this relative undermanning of education can be accounted for by the relatively small share of educational expenditures of GDP (OECD, 1976, pp. 12–14). For Germany this small share was mainly the result of demographic reasons, but the situation in Japan is more complex. In terms of the demographic structure and enrollment ratios Japan was not very different from other countries (OECD, 1984a), but it was the only country of our sample which showed a negative elasticity of educational expenditures with respect to income per capita during the 1960s and beginning 1970s (OECD, 1976, p. 12).

As contrasted with distribution, Japan seems to be highly efficient in education, similar or better educational standards than those in the other countries were reached with smaller labor input. However, government policy goals in Japan seem to be more modest with regard to equity and equality of opportunity. The aggregate expenditure figures on education include expenditures on education proper, but also student aid and associated expenditures such as boarding, transport aid and support for health and welfare costs. The latter were minimal in Japan compared to France and the United Kingdom (OECD, 1977b). Thus, in Japan most effort was directed to education proper, while in the other countries part of the expenditures and labor input was directed to goals closely related to equality of opportunity.

Comparison of the two periods in Table 10 shows that the employment growth rate for social services is slowing down. In the United States it even dropped below the average growth rate for all services. The slowdown of employment growth in education was, in the majority of countries, the most severe. Most countries have experienced the profound effects of the demographic "baby boom" bulge resulting from the birthrate peaks of the end of the fifties and beginning sixties as it progressed from the lower to the higher levels of the educational system, and are now endeavouring to cope with the subsequent rapid decline in births.

The employment growth rate of total social services was only slightly higher in the European countries than in the United States during the 1973-1985 period. Nevertheless, the European countries were much more dependent for employment growth on these jobs than in the United States. Thus, there was some catching up of employment shares in the European countries with the United States. However, the variations among countries in relative size of social services did not change drastically over the last 25 years. Empirical evidence in a detailed OECD (1985c) study indicated that social, cultural and political factors are responsible for the major differences in expenditure shares of total government. The rise of this share was mainly induced by growth of GDP per capita and the high income elasticity of demand for most of the social service categories.

The Netherlands and Sweden experienced relatively large employment growth of miscellaneous social services and consequently employment shares in both countries were substantially above average in 1985. This group of services, affected directly by economic policy and policy measures which favor social services, can be grouped together as "the third sector" approach (Ingelstam, 1983; OECD, 1985b, pp. 172-186). This approach advocates subsidies for a range of welfare services.

During the sixties and beginning seventies the political climate in the Netherlands favored the expansion of welfare services (WRR, 1979). However, growth slowed down significantly during the eighties because reduction of the government deficit had priority. In Sweden policies to promote welfare and educational services are embedded in the active labor market policy to combat unemployment. Economic difficulties in the post OPEC-1 period and the high priority given in Sweden to active labor market policies gave rise to employment growth rates in social services which exceeded the average of the other countries by almost 50 percent during the 1973-85 period (see Table 10).

TABLE 10

EMPLOYMENT GROWTH IN SOCIAL SERVICES IN THE 1960-73 AND 1973-85 PERIOD

(Average annual compound growth rate)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
				1960-73				
Social services	2.4	4.1	3.5	4.4	5.6	2.4	3.3	3.7
Government proper	−0.6	4.6	2.8	2.6	2.3	0.7	1.1	1.9
Health services	6.1	3.6	4.4	6.9	6.5	2.8	5.2	5.1
Educational services	4.9	3.9	3.2	4.4	5.3	4.5	5.5	4.5
Miscellaneous social services	3.8	2.8	4.6	5.8	9.0	3.5	3.6	4.7
Total services	2.1	1.6	3.7	2.4	2.6	1.3	2.6	2.3
				1973-85				
Social services	2.4	2.1	2.3	2.2	3.2	1.1	2.0	2.2
Government proper	1.5	0.5	0.4	0.9	1.9	−0.3	0.6	0.8
Health services	4.5	3.6	4.3	2.8	3.7	2.3	3.9	3.6
Educational services	2.0	3.0	1.9	2.7	2.6	0.9	1.7	2.1
Miscellaneous social services	1.8	4.5	3.5	2.9	4.1	4.1	2.8	3.4
Total services	1.5	1.2	2.0	1.9	1.9	1.1	2.6	1.7

Source: Same as in Table 1.

Labor market policies in Sweden have a history dating back to the mid-fifties. During the seventies they became the cornerstone of Swedish economic policy and in the beginning of the eighties about 3 percent of GDP was devoted to these policies in which 160,000 persons participated (G. Rehn, 1985, p. 67, 68). This was substantially higher than in the other countries, where labor market policies accounted for roughly 1 percent of GDP.

Swedish labor market policy has shifted since the end of the seventies to job creation in labor intensive branches such as social services. This reorientation towards public employment instead of capital-intensive projects in industry or construction was induced by studies in which it was concluded that the latter had a tendency to enhance inflation and actually had to be counterbalanced by general fiscal and monetary restrictiveness (G. Rehn, 1985, p. 78).

The Role of Self-employment

The previous tables relate to total employment. It is worth looking at the self-employed separately, because employees and self-employed may show divergent tendencies. Therefore, total employment by sector is divided into employees on the one hand and self-employed and unpaid family workers on the other.

The average share of self-employment in the total for services dropped between 1960 and 1985 because the growth rate of self-employment was generally lower than for employees. On average, self-employment in services experienced in the 1960–73 period a decline, while in the 1973–85 period it was growing annually at 0.5 percent. However, there is a wide variety in growth rates for the subsectors, ranging from 4.4 percent for producer services to −0.5 percent in distributive services.

Growth of self-employment in services after 1973 had a considerable overall effect. This was most pronounced in the United States where the net increase of 1.6 million self-employed between 1973 and 1985 was equal to the 1.6 million gain in services, increasing and decreasing self-employment in industry and agriculture leveled out.

In most countries employment growth in producer services was partly the result of expanding self-employment. The 4.4 percent annual growth rate of self-employment exceeded the rate of expansion of the number of employees. Part of the fast expansion of producer services and their capacity to create new markets can be attributed to the dynamics and flexibility of persons who start their own business.

Those who start their independent business in this field often respond to favorable opportunities to exploit their specific knowledge. They are "pulled" into self-employment. Another explanation of growing self-employment refers to the contrary and can be characterized by its "push" elements. This explanation relates to workers without a serious chance to get a job or unemployment benefit. They are pushed into self-employment because it is their only option. Small-scale retail or peddling activities, repair services, shoe-cleaning and in some cases restaurants are examples.

The latter explanation refers especially to the United Kingdom where the share of self-employment in both distributive and personal services expanded

TABLE 11

GROWTH OF SELF-EMPLOYMENT BY KIND OF SERVICE ACTIVITY, 1960–85

(Average annual compound growth)

	France	Germany	Japan	Netherlands	Sweden	United Kingdom	United States	Average
				1960–73				
Agriculture	−4.4	−5.1	−4.5	−2.9	−5.6	−2.6	−3.5	−4.1
Industry	0.6	−1.7	4.7	−3.9	−1.4	6.2	0.3	0.7
Services	−2.5	−1.2	2.0	−0.9	−1.2	0.0	−0.3	−0.6
Producer services	6.6	2.7	7.9	0.8	−2.8	2.6	2.1	2.8
Distributive services	−2.4	−2.5	0.8	−1.9	−1.3	−0.9	−2.1	−1.5
Personal services	−3.5	−0.2	3.0	1.4	−1.0	0.8	0.5	0.1
Social services	−7.1	0.1	3.1	−1.0	1.2	−1.0	0.4	−0.6
Total economy	−3.1	−3.1	−1.3	−2.1	−3.5	0.8	−1.3	−1.9
				1973–85				
Agriculture	−2.9	−4.4	−3.3	−1.4	−2.4	0.3	−2.3	−2.3
Industry	−0.5	−1.2	−1.9	−3.5	−1.1	1.6	3.3	−0.5
Services	−0.2	−0.4	0.4	0.3	0.8	3.4	2.4	0.5
Producer services	2.2	3.3	5.0	3.7	4.3	6.3	5.8	4.4
Distributive services	−0.7	−2.0	−0.8	−1.9	−0.4	2.3	0.0	−0.5
Personal services	−1.2	−1.0	0.3	1.1	2.0	3.2	2.5	1.0
Social services	5.8	2.4	0.9	5.9	1.7	5.1	1.7	3.4
Total economy	−1.4	−2.0	−1.6	−0.8	−0.9	2.5	1.5	−0.4

Source: Same as in Table 1.

substantially. The gain of self-employment in distributive services between 1973 and 1985 amounted to 161,000 while the number of employees declined by 146,000, resulting in a net employment gain of 15,000.

The importance of the development of self-employment can be illustrated by its effect on the difference in employment advances between the United States and the five European countries in the 1973-85 period. In 1973, 8.2 million were self-employed in the United States and the total for the five European countries was 10.8 million. Self-employment in the latter decreased to 9.8 million in 1985 and in the United States it expanded to 9.8 million. Thus, the differential between the five European countries and the United States amounted to 2.5 million persons self-employed.

Sensitivity of Service Employment to Recessions

A number of studies showed that services were less vulnerable than industry to recessions. However, the service sector is very heterogeneous and each subsector showed a distinct reaction to the recessions. The average deterioration of the rate of employment growth varied from of 0.6 percentage points in social services to 1.8 percentage points in producer services both during the 1973-75 recession.

TABLE 12
Employment Growth (Seven Country Average) by Subsector, 1960-85
(Average annual compound growth rate)

	1960-73	1973-75	1975-79	1979-83	1983-85
Industry	0.7	−2.1	−0.1	−2.1	−0.3
Total services	2.3	1.6	2.3	1.3	1.7
Producer services	4.8	3.0	3.8	2.7	4.9
Distributive services	1.3	0.4	1.1	0.2	0.5
Personal services	0.4	−0.7	1.8	1.1	2.7
Social services	3.7	3.1	2.8	1.7	1.0

Source: Same as in Table 1.

Market services showed a significant deceleration of employment growth during the 1973-75 and the 1979-83 recessions. The average deterioration in producer services was the largest and in distributive services it amounted to 0.9 percentage point in the both recessions. For personal services the average deceleration was twice as large in the OPEC-1 recession as in the second oil crisis. It is not surprising that these services were seriously affected by the recessions. The volatility of producer services for the cyclical pattern is the result of the close linkage to industrial production. Service activities as retail trade and personal services are highly dependent on consumer demand. Their growth rates will be hampered by faltering consumer demand.

Nevertheless, the sensitivity of market services for recessions was less than in industry. Basically two factors can explain the relatively limited cyclical responsiveness of market services. First, there is more disguised unemployment in services, especially among the self-employed. Secondly, the flexibility of compensation systems is higher in services, because (a) commission payments in many sales activities, (b) flexibility of the incomes of the self-employed and (c) limited presence and influence of labor unions.

Social services were insensitive to the cyclical behavior of the economy, irrespective of the recovery or recession, they experienced a declining employment growth rate.

Besides conjunctural effects on employment growth there are also structural tendencies. As noted above the latter seem to dominate the development of social services. The gradually declining growth rates partly reflect the weakening of the welfare state. In producer services employment growth was lower during the expansionary phase in the second half of the seventies than during the Golden Age period. However, in the most recent period of expansion a clear acceleration of employment growth can be observed compared to the 1975-79 period. Employment growth in distributive services tended to slow down during the last two decades, and was lower in each of the last two phases of expansion and recession than in the previous one. Personal services was an exception and showed an acceleration of employment growth. On average the annual growth rate increased from 0.4 percent in 1960-73 to 1.8 percent during the 1975-79 expansionary phase and 2.9 percent in the 1983-85 period, and during the second oil crisis it was 1.7 percentage point higher than during the 1973-75 recession.

Employment growth rates of producer services declined during the recessions on average by 1.8 and 1.1 percentage point. Despite this slowdown employment growth remained positive during the two recessions periods. It amounted to an annual growth rate of 3.0 and 2.7 percent respectively. These relatively high growth rates are partly caused by increased cost-awareness in recessions which can result in shedding internally produced services and purchasing similar services externally at lower costs.

Conclusion

The service sector has experienced above average employment growth rates and presently on average in the seven countries surveyed, 63.6 percent of all persons work there. A sector employing such a large proportion of all workers must be heterogeneous, as stressed by a number of studies.

This article investigated the expansion of the service sector for a number of countries and time periods, and pointed out which services were responsible for increasing employment. The statistics and developments presented here have necessarily been restricted to employment only. They do, however, encapsulate the more salient features of the shift to services, and thus provide a background against which future studies can elaborate more specific issues. All countries experienced some similar developments. These were distinguished from specific country situations. The common developments in the growth of services were the following:

—In all countries employment growth in producer services was about twice as high as the average for the entire service sector. Despite the slowdown of employment growth in business and professional services, it was after 1973 still among the service activities with the highest growth rates.

—Employment growth in social services decelerated significantly in all countries during the second half of the seventies and beginning eighties. The slowdown of education was most serious and mainly the result of the drop in the birthrate in the seventies. Growth of health services remained one of the fastest growing activities.

—The acceleration of employment growth in personal services was one of the commonly shared trends in the five European countries and the United States. This was mainly the result of the increasing employment growth of the hotels and restaurants category, i.e. a drift from home cooking to outside purchases.

—Another element shared by most countries was a renewed wave of self-employment in services. This was most pronounced in producer services.

—During recessions the increase of the service employment share outstripped the expansion during expansionary periods. This was caused by the fact that in all countries services were less sensitive to recessions than the industrial sector. Although the slowdown of employment growth in producer, distributive and personal services was far from negligible, only social services were not directly affected by the recessions.

With regard to the role of services to expand employment opportunities, we can draw some conclusions. The available evidence indicated that in two countries an above average expansion of specific labor-intensive services can be attributed to government policy measures. The set of protective regulations in Japanese trade inhibited the introduction of new and more efficient modes of production and thereby contributed to an absorption of roughly 4 percent of the labor force. In Sweden specific labor market policies promoted the creation of jobs in social services, and approximately 4 percent of the labor force benefited. The large labor absorbing potential of services has been noted by many others, in this article we have showed that, in fact, in two countries that potential was used and probably contributed to a reduction in unemployment.

The European countries have been more dependent on rising social services than Japan and the United States. In the latter two countries producer, distributive and personal services contributed substantially to employment growth. Further, our estimates for the United States show that expansion of employment was dependent not solely on activities dominated by low wage earners such as retailing and restaurants. Business and professional services and health care were responsible for a large number of new jobs, and these contain a relatively high proportion of highly educated and well paid workers. In fact, the United States was the only country which experienced accelerating employment growth in business and professional services. The growth of social and technological innovations in services, in particular the implementation of information technology, require knowledge and service functions provided by business and professional service companies. Another factor was the standardization and specialization of these producer services which opened up the market to small- and medium-sized firms which previously were unable to obtain these services without great cost. The European countries and Japan are likely to follow the trend of accelerating employment growth in business and professional services in the near future.

Appendix

In this Appendix we give the major national sources of our employment estimates.

France:

The detailed service employment figures of Braibant (1982, pp. 3–18) were used. Extrapolations to cover the years not published by Braibant were made on basis of the *Rapport sur les Comptes de la Nation* (various issues).

Germany:

The labor force surveys were the main source. In the nineteen seventies the mikrozensus (Statistisches Bundesamt, *Bevolkerung und Erwerbstatigkeit, Fachserie 1, Reihe 4.1, Stand und Entwicklung der Erwerbstatigkeit,* Wiesbaden, table referring to "Erwerbstatige nach wirtschaftsabteilungen" was enlarged and the German Statistical Office kindly provided disaggregated employment data for the years after 1968. For 1961 the *Volks- und Berufzahlung* (Volume 12, Table 4) was used.

Japan:

The main source for Japan was the population censuses (Bureau of Statistics, *Population Census,* Tokyo, various issues). These are conducted every five years. The results for 1960, 1970, 1975, 1980 and 1985 were used. To estimate the number of persons employed in 1968, 1973, 1979 and 1983 the labor force surveys (Bureau of Statistics, *Annual Report on the Labour Force Survey,* Tokyo, various years) were used.

Netherlands:

For employees the following sources were used. First, the population census of 1960 (Central Bureau of Statistics, *De 13 Algemene Volkstelling, 31 Mei 1960,* Part 10, "Beroepsbevolking," Den Haag) for the estimate of 1960 and the *Statistiek van Werkzame Personen* (table referring to "Werknemers (banen) naar economische activiteit") for years after 1973. Both sources exclude employees working less than 15 hours per week. We made a separate estimate for this category based on the labor force surveys, Central Bureau of Statistics, *Arbeidskrachtentellingen,* Den Haag, various years.

Our estimate for the self-employed (including unpaid family workers) was based on the 1960 population census and the labor force surveys.

Sweden:

For Sweden the employment data were taken from the national accounts (National Central Bureau of Statistics, *Statistiska Medelanden, Nationalrakenskaper,* Appendix 5. Tables 3 and 49, Stockholm, various issues).

United Kingdom:

Figures on employees up to 1975 were obtained from the Department of Employment, *British Labour Statistics Yearbook 1975,* Appendix H and Table 55, HMSO, London, 1976. For years after 1975 the *Annual Abstract of Statistics* (Table 6.2) was used.

The December 1976 issue of the *Department of Employment Gazette* presented new estimates on the number of self-employed by kind of activity for the period 1961–74. An article by Richardson (1985, pp. 90–98) contained estimates on the self-employed by major industry group for recent years. The disaggregation of these major industry groups into our service categories were derived from the 1981 population census (Office of Population Censuses and Surveys, *Census 1981*, Economic Activity Tables, Table 4, HMSO, London, 1984).

United States:

The primary source for the United States was the employment estimates of the U.S. Bureau of Economic Analysis, *The National Income and Product Account of the United States*, various issues, Supplements to the Survey of Current Business, Tables 6.7b, 6.10b and 6.11b.

It is necessary to add unpaid family workers. Data were obtained from the Current Population Surveys. The annual averages are published in the January issue of *Employment and Earnings* by the U.S. Bureau of Labor Statistics (Tables 24 and 26).

References

Baumol, W. J. and Oates, W. E., The Cost Disease of the Personal Services and the Quality of Life, *Skandinaviska Enskilda Banken Quarterly Review*, 44–54, 1972.

Braibant, M., Le Tertiaire Insaisissable?, *Economie et Statistique*, 3–18, 1982.

Browning, J., Information Technology, *The Economist*, July 12, 1986.

Clark, C., *The Conditions of Economic Progress*, Macmillan, London, 1940.

Dreesmann, A. C. R., Tijdelijk Werk: Een Blijvende Zaak, *Economische Statistische Berichten*, 871, September 10, 1986.

Elfring, T., *Service Sector Employment in Advanced Economies; A Comparative Analysis of Its Implications for Economic Growth*, Gower, Aldershot, 1988.

Fisher, A. G. B., Production, Primary, Secondary and Tertiary, *The Economic Record*, 24–38, June 1939.

Fuchs, V. R., *Economic Growth and the Rise of Service Employment*, National Bureau of Economic Research, Working Paper 486, New York, 1980.

Gershuny, J. I., *After Industrial Society; The Emerging Self-service Economy*, Macmillan, London, 1978.

Gershuny, J. I., *Time Use and the Dynamics of the Service Sector*, Paper presented at conference on "The Dynamics of the Service Sector," January 30, 1987, Lille.

Greenfield, H. I., *Manpower and the Growth of Producer Services*, Columbia University Press, New York, 1966.

Grubel, H., The Service Sector and Canadian Economic Growth: Myths and Realities, The Second Annual Dr. Harold Walter Siebens Lecture in Special Issue of the *Fraser Forum*, 1987.

Huppes, T., Automatisering, Organisatievernieuwing en Produktiviteitsverbetering in de Dienstensector, in Van der Aa. W. and Elfring, T. (eds.), *Dynamiek in de Dienstensector*, Kluwer, Deventer, 1988.

Ingelstam, L., A Third Sector Approach to Sweden's Future, *Futures*, 137–151, April, 1983.

Katouzian, M. A., The Development of the Service Sector; A New Approach, *Oxford Economic Papers*, 362–382, 1970.

Lengellé, M., The Development of the Service Sector in OECD Countries and Its Implications for the Western World, in Leveson and Wheeler (eds.), *Western Economics in Transition: Structural Change and Adjustment Policies in Industrial Countries*, Westview Press, Boulder, CO, 139–157, 1980.

Levitt, T., The Industrialization of Services, *Harvard Business Review*, 63–74, May 1976.

Neubourg, C. de, Part-time Work: An International Quantitative Comparison, *International Labour Review*, 124, 559–576, September-October, 1985.

Ochel, W. and Wegner, M., *Service Economies in Europe*; *Opportunities for Growth*, Pinter Publishers, London, 1987.

OECD, *Public Expenditure on Education*, Studies in Resource Allocation, No. 2, Paris, 1976.
———, (1977a), *Public Expenditure on Health*, Studies in Resource Allocation, No. 4, Paris, 1977.
———, (1977b), *Policies for Innovation in the Service Sector*, Paris, 1977.
———, (1984a), *Educational Trends in the 1970s; A Quantitative Analysis*, Paris, 1984.
———, (1984b), *Employment Outlook*, September, Paris, 1984.
———, (1985a), *Software: An Emerging Industry*, Information Computer Communication Policy Series, No. 9, Paris, 1985.
———, (1985b), *Employment Growth and Structural Change*, Paris, 1985.
———, (1985c), *The Role of the Public Sector; Causes and Consequences of the Growth of Government*, Economic Studies No. 4, Spring, Paris, 1985.
Paukert, L., *The Employment and Unemployment of Women in OECD Countries*, OECD, Paris, 1984.
Petit, P., *Slow Growth and the Service Economy*, Frances Pinter, London, 1986.
Rajan, A. and Cooke, G., "The Impact of Information Technology on Employment in the Financial Services Industry," *The National Westminster Bank Quarterly Review*, 21-35, August, 1986.
Reddaway, W. B. and Associates, *Effects of the Selective Employment Tax: Final Report*, Cambridge University Press, Cambridge, 1973.
Rehn, G., Swedish Active Labor Market Policy; Retrospect and Prospect, *Industrial Relations*, 62-81, Winter, 1985.
Richardson, G., Employment in the Public and Private Sectors, 1979-1985, *Economic Trends*, 90-98, December 1985.
Saxonhouse, G. R., Services in the Japanese Economy, in Inman, R. P. (ed.), *Managing the Service Economy: Prospects and Problems*, Cambridge University Press, Cambridge, 53-83, 1985.
Silver, H., Only So Many Hours in a Day: Time Constraints, Labour Pools and Demand for Consumer Services, *The Services Industries Journal*, 26-45, October, 1987.
Singelmann, J., *From Agriculture to Services; The Transformation of Industrial Employment*, Sage Publications, Beverly Hills, CA, 1978.
Skolka, J. V., The Substitution of Marketed Services for Self-service Activities, *The Review of Income and Wealth*, 22, 297-304, 1976.
Smith, A. D. and Hitchens, D. M. W. N., *Productivity in the Distributive Trades; A Comparison of Britain, America and Germany*, Cambridge University Press, Cambridge, 1985.
Stanbeck, T. M., *Understanding the Service Economy*, John Hopkins University Press, Baltimore, 1979.
Urquhart, M., "The Services Industry: Is it Recession-proof," *Monthly Labor Review*, 12-18, October, 1988.
U.S. Department of Commerce, *1985 U.S. Industrial Outlook: Prospects for over 300 Industries*, U.S. Government Printing Office, Washington D.C., 1985.
Wetenschappelijke Raad voor het Regeringsbeleid, *De Quartaire Sector; Maatschappelijke Behoeften en Werkgelegenheid*, Den Haag, 1979.
Williamson, O. E., *Markets and Hierarchies*, Free Press, New York, 1975.
Woronoff, J., *Japan's Wasted Workers*, Allenheld and Osmun, Totowa, NJ, 1983.