

JOANNA DOMINIAK, JAN HAUKE  
*Adam Mickiewicz University in Poznań,  
Institute of Socio-Economic Geography and Spatial Management*

## THE CHANGES OF THE SERVICES SECTOR IN POLAND AND OTHER EU COUNTRIES

**Abstract:** The current level of development of the services sector in Poland is primarily a consequence of the political and economic conditions that existed in Poland in recent decades. In the period of real socialism, socio-economic policy was aimed at Polish industrial development. The share of employment in services in Poland before transformation in 1989 was significantly lower compared to that of developed European countries. Political, social and economic changes initiated in Poland in 1989 formed the basis for a more dynamic development of this sector. The first decade after transformation was characterized by a rapid increase in employment in service activities. In the years 1990–2011 the share of the employed in this sector increased from 37% to 55%. Dynamic development of services during this period was accompanied by changes related to the structure of the service sector. The changes were mostly based on the increasing share of individual service industries. In the service sector more and more significant specialized services were introduced, employing staff with high professional qualifications, including knowledge intensive services and the group of production and business services. The growing pertinence of these services is even more important in the context of the knowledge-based economy. The aim of this paper is to present and analyze the changes taking place in the services sector in Poland compared to other European countries. Analysis of structural changes will be made based on the Classification of Activities (NACE), (based on data published by Eurostat and the Central Statistical Office of Poland). The analysis refers to the period 1995–2010 (according to availability of data).

**Key words:** business services, development, knowledge intensive services, Poland, services sector

**JEL codes:** O52, R11.

## 1. Introduction

Post-Industrialisation i.e. the process of reducing the share of industrial production in the global economy to the service sector as one of three postfordish trends of development has been launched already in the '70s XX century (Chojnicki, 1999). Postmodern breakthrough influenced the development of services in two ways: on the one hand by shifting the workforce has engaged directly in production to all kinds of service activities, on the other hand – through rising demand for services previously operating within manufacturing enterprises, services for manufacturers, and business (Werwicki, 1998).

The process of separation outside companies of a number of different service activities (outsourcing) is recognized as one of the most important causes of the growing role of services in the economy. Of great importance is also attributed to the growth and prosperity of societies associated with the growing demand for consumer services (Nowosielska, 1994, Werwicki, 1998). Development of services is also connected to the dynamic development of new activities, especially the ICT (Information and Communications Technology) sector.

The current level of development of the services sector in Poland is primarily a consequence of political and economic conditions that existed in Poland in recent decades. In the period of real socialism, social and economic policy was directed on the development of the industry. The share of employed in services in Poland '80s was significantly lower in comparison to that of developed European countries. Only changes in political, social and economic initiated in Poland in 1989 formed the basis for a more dynamic development of this sector.

The '90s were characterized by a rapid increase in employment in service activities. In the years 1990–2011 the share of employed in this sector increased from 37% to 55%. The share of services was also growing in its contribution to gross value added (GVA). The dynamic development of services which has been taken place in Poland since the early '90s accompanied by changes related to the structure of the services sector. The service sector is subject to continuous internal changes and even in the most developed economies is not yet finally formed. The problem of the role and changes to services in Poland was analyzed by many Polish researchers. Some of them have been included in the list of references (Literature).

The aim of this paper is to present and analyze the changes taking place in the services sector in Poland compared to other European Countries. Analysis of structural changes is based on the Classification of Activities (NACE) (Table 1) with the use of the data published by Eurostat and GUS – the Central Statistical Office of Poland).

The analysis refers to the period 1995–2010 (according to availability of data for EU countries) and it is realized using two statistical methods:

- Standard cluster analysis (Ward method) was used to distinguish clusters of EU countries. Every country taken into consideration is described by a data matrix and the cluster analysis is applied to compare matrices (countries) using the distance between matrices as defined by Frobenius norm (of the difference of matrices).

Table 1. NACE classification of services

NACE classification of services	
S1	Wholesale and retail trade; repair of motor vehicles, motorcycles, and personal and household goods
S2	Hotels and restaurants
S3	Transport, storage and communication
S4	Financial intermediation
S5	Real estate, renting and business activities
S6	Public administration and defence; compulsory social security
S7	Education
S8	Health and social work
S9	Other community, social and personal service activities
S10	Activities of households
*	Extra-territorial organizations and bodies

\* – services not taken into account in the analysis

- Analysis of trends with the use of linear regression for groups of EU countries and shares of 9 of analysed types of services treated separately. Trends are constructed for mean values representing each of three groups (clusters) of countries distinguished by first method.

## 2. Theoretical basics

The transformation of the country's economy is echoed by changes in the sectoral structure of employment and the creation of national income. The sector system of the economy is derived from the concept of three sectors of the economy. As a precursor of three-sector economy concept is considered to List (see Cyrek, 2008), who in the development process distinguished 5 stages: savagery, pastoralists, agricultural, agro-industrial, agro-industrial and commercial.

The increased interest in issues related to the regularities of development of individual sectors of the economy dates back to the '30s of the twentieth century. At that time, Fisher (1935) formulated the concept of the three sectors of the economy, developed later by Clark (1940) and Fourastié (1969), which has become an important theory explaining the causes of and changes in the economic structure of countries. Despite the differences there was general agreement that with the ongoing economic development was observed the trend of reducing the role of agriculture, accompanied by an increase, then stabilization, and finally the decline of industry on the one hand, and the systematic increase in the importance of the service sector on the other hand.

In consequence, there was a simple division of the economy into three sectors: agricultural, industrial and services, which led to criticism that fully explains the essence of the economic processes which take place today. The criticism was related primarily to the criteria of the division and scope of the various sectors (inter

alia: Kwiatkowski, 1980, Rogoziński, 1993). Particularly the controversy over the heterogeneity of the tertiary sector, resulting in attempts to subdivide the services sector (*e.g.* Menz, 1965, Katouzian, 1970, Kabaj, 1972).

As a result of the development of modern technology, followed by blurring the differences between material products and services, and examples of some countries (Middle East, countries based on the development of tourism) show that a high level of service development was not preceded by a phase of industrial development. After all, this theory has its important place in the theoretical concepts referring to service activities, it also became a starting point in taking forward the concept of the services of Giarini (1986). This concept is based on a functional approach, in which we have to deal with all service activities regardless of their affiliation to specific sectors of the economy, and therefore the sphere of services (Kłosowski, 2006, Nowosielska, 1994). The concept also draws attention to services for enterprises and business, which are increasingly becoming an integral part of the production process and cause the inter-penetration of production and service activities. According to Kłosowski (2006) functional approach represents significant progress compared to the sectoral approach, but due to the limitations of the statistics it is impossible to its use in empirical research. The empirical analysis was used therefore aggregated data for three sectors of the economy and NACE and its counterpart in Poland – Polska Klasyfikacja Działalności (PKD) – the Polish Classification of Activities.

The development of services is accompanied by changes in the structure of the services sector. The concept of post-industrial society of Bell (1974), the three phases of the development of society are also accompanied by changes in the structure of services. In the phase of pre-industrial society, there has been a predominance of simple services, while the industrial phase is characterized by dynamic development of the services for manufacturers and business, and the third phase of postindustrial – modern knowledge-based services.

Flejterski and others (2005) distinguishes four phases of the development of the services sector in the process of socio-economic development: (1) The initial phase is characterized by the dominance of services that do not require high qualifications, (2) The growth phase which is characterized by the development of services requiring certain qualifications, (3) The phase of development of service for industry and increase consumption of services, and (4) The phase of development services based on high technologies. According to the authors of this classification the service sector in Poland is dominated by the characteristics of the third phase. Increasingly important in the services sector gain specialized services, employing highly skilled staff, among them the services highly saturated with knowledge, and a group of services for manufacturers and for business. Specialized services gain an increasingly important role in the services sector, achieved by employing staff with high professional qualifications, including the services of saturated knowledge and group services for producers and for businesses. This fact has also been confirmed in the concept of self-service society of Gershuny (1978). According to Gershuny as a result of technological advances there has been a mass emergence and spread of certain goods (such as washing machines, cars), so that households themselves

have begun to provide services that previously they purchased. This process has led to a decline in the importance of services for the public (such as *e.g.* laundromats, cinemas, public transportation etc) while the increased importance of services for manufacturers and business. The reason for it is that enterprises – in contrast to households are increasingly choosing (for financial reasons) to use outsourcing and their related services. Development of services for manufacturers and businesses, particularly those based on knowledge (Knowledge Intensive Business Services – KIBS) has become an important element of structural transformation of the services sector. The literature devoted to the subject emphasized the role of these services in the development of a modern economy based on knowledge, creation and implementation of innovations (Hertog, 2000, Miles, 2005, 2008, Muller, Doloreux, 2007, Strambach, 2008). KIBS development, intensively using knowledge, skills, qualified staff, and a new technology is seen as an indicator of the transition to a knowledge-based economy (Miles, 2008, Wegrzyn, 2013).

### 3. Development of services in Poland compared to other European countries

In the structure of the economies of industrial countries dominate services, generating about 2/3 of added value and acting more or less the same share in total employment. High share of services in the economic structure characterized by, *inter alia*, the United States, Japan and European countries like France, Belgium, Denmark, Greece and the United Kingdom.

In Poland, the share of services in employment has increased since the '60s from 23% to over 55% in 2012. At the beginning of transformation in the '80s and '90s, Poland was characterized by an economic structure with a relatively high share of industry in GDP. The current economic structure is the result of political and economic conditions of recent decades. Poland still belongs to countries with relatively low share of services in the structure of employment and in the structure of gross value added (GVA). Lower share was recorded only in Bulgaria and Romania (Table 2).

The low share of employment in the service sector is accompanied by a relatively high growth in the number of employees in this sector. Growth rate of the employed

Table 2. The level of development of the service sector in selected European countries

The percentage of employed in the services sector in 2013	Countries
Above 80%	United Kingdom, The Netherlands, Belgium, Denmark
70–80%	Luxembourg, Ireland, Germany, France, Norway, Sweden, Greece, Spain, Austria, Finland
60–69%	Italy, Latvia, Estonia, Portugal, Lithuania, Slovakia, Hungary, Slovenia, Czech Republic
50–59%	Poland, Bulgaria
Below 50%	Romania

Source: own calculations based on the Eurostat data.

Table 3. Dynamics of the development of the services sector in selected EU countries in the period 1995–2011

The dynamics	Employment Growth Rate	Countries
Largest	above 150%	Ireland, Luxembourg, Spain
High	130–150%	The Netherlands, Slovenia, Poland
Average	120–130%	Austria, Belgium, Portugal, Italy, Slovakia, Germany
Low	110–120%	Lithuania, Latvia, Denmark, Sweden, the Czech Republic, Hungary, Bulgaria

Source: own calculations based on the Eurostat data

in the service sector in the years 1995–2011 exceeded 130% and was higher than the average value of this indicator in European Union countries (Table 3). Note, however, that the development of the services sector did not vary in this period in a manner uniform. The beginning of the '90s was characterized by a much stronger increase in employment in services as well as their participation in the creation of GVA, than the period after 2003, when the note rather a stabilization of the development of the services sector.

#### 4. Changes in the structure of the EU services sector

The first stage of the analysis of changes in the structure of the EU services sector was performed with the use of the data set consisted of 23 matrices representing 23 objects (EU countries) considered during 16 years with shares of 10 types of services in the services taken together. For these matrices distances between the objects were calculated with the use of Frobenius norm for difference of matrices. Then for such understood distances the standard cluster analysis (Ward method) was used to distinguish clusters of objects. The above classification procedure and substantive analysis led to the separation of the three groups of countries, which significantly refers to the historical division of Europe.

The first class includes Benelux (Belgium, Netherlands and Luxembourg) and the Scandinavian countries (Finland, Sweden, Norway and Denmark) as well as Germany and France. In this group of countries, the structure of the services sector recorded a relatively low share of trade and transport services and the high share of modern services, especially information technology and other business services based on knowledge, as well as medical services. These are also countries with similar, the highest in the EU level of socio-economic development. In the analyzed period, these countries were characterized by stable or declining share of employment in services trade and transport and a very dynamic growth in importance of services for business. Among public services by far the highest growth dynamics were characterized by medical services, much less developed, employment in educational services, and in the case of administrative services declined the role of administrative services. The growing importance of medical services is undoubtedly related to the aging of the population and therefore the increase in demand for such services. On charts these countries are labeled **WSc Europe** countries.

The second group of countries includes the countries of Southern Europe: Greece, Spain, Italy and Portugal. This group has a slightly higher share of services related to the hotel and catering, which is connected with the tourism economic profile of the highlighted countries. In the analyzed period, the importance of these services in total employment grew. Compared with the first class, Southern European countries have a lower share business and medical services. On charts these countries are labeled **S Europe** countries.

The last, third class includes the countries of Central and Eastern Europe: Lithuania, Latvia, Estonia, Czech Republic, Slovakia, Slovenia, Bulgaria, Romania and Poland. Those countries are characterized by the lowest level of socio-economic development in the EU, which is reflected in their structure of the services sector. In that case, we are still dealing with the rapid development of commercial services, while in the rest of Europe is rather the decreasing importance of these services. On charts these countries are labeled **EC Europe** countries.

Dynamic classification countries carried out due to changes in the structure of services clearly refers to the level of socio-economic development. The structure of employment in the services sector of highly developed countries of Western and North Europe differs from the structure of the service sectors of Central and Eastern Europe countries. In the case of the first group of countries, which are characterized by a higher level of socio-economic development it is noticeable higher share of knowledge-based services (services with highly saturated knowledge) to accompany high-tech industry developed there, while countries with lower levels of development are characterized by a larger share of business, transport, and catering services – both in terms of employment and GVA creation. The type and the direction of changes taking place in the countries belonging to the distinguished first class seems to be reproduced – with some delay – in the other two classes. The changes in the structure of the services sector both in Poland and in other analyzed countries of Central and Eastern Europe are characterized by dynamic development of services for business (due to 2004 Polish Classification of Activities including section Real estate, business, and science services, and due to 2007 Polish Classification of Activities—including section Professional, Science and Technical Services). The high rate of growth of business services in this region of Europe testifies to try to catch up with the more developed countries of Northern and Western Europe. In these countries, with first class distinction, an increase in the share of employed in these services is followed mainly at the expense of commercial services, transport, hotels and restaurants. In France (like e. g. in Germany) the share of employed in business services in the reporting period increased from 13% to 17% while the share of this type of services decreased from 32% to 30%, and if we look at changes in the structure of the sector for years '70s, it was a drop from 38% to 30%. For the countries of Central and Eastern Europe is still observed a high share of commercial services in the structure of employment, which in the case of Hungary, the Czech Republic, Polish are still a little less than 40% of total employment in services.

In order to show the detailed characteristics of changes in the structure of the services sector has been traced changes in the share of individual sections of services for selected countries representing all emphasized earlier classes: France, Bel-

gium and Sweden (I class), Greece and Spain (second class) and Slovakia and Latvia (class III).

Trade services (including Section G of PKD //NACE) record the highest share and the highest growth rate in the countries of Central and Eastern Europe. A high percentage of those services is also noted in countries representing Southern Europe. Definitely smaller share of services in employment are characterized by the countries of Western and Northern Europe. In the analyzed period, in their case, this share remained stable or declined.

The high and still increasing share of hotel and catering, clearly visible is the case focused on the development of tourism in Southern Europe countries. In Greece, the participation of employees in these sectors was more than 6%, and in Spain was even higher and stood in at just over 7%. In other countries, the share of employment in this service sector was much lower and amounted to less than 4% of total employment.

Business services are characterized by the highest growth rate the share of employed. This applies, in principle, all distinguished classes of countries. Visible are the differences between countries in Western Europe (where the share of services in employment was above 14%) and other countries (between the second and third class there are no longer so clear differences).

**Second stage** of the analysis of changes in the structure of the EU services sector consisted of the analysis of trends in the development of services in separate classes of countries. Analysis of trends were performed with the use of linear regression for three distinguished classes of EU countries and shares of 9 of analysed types (S1-S9, see Tab. 1) of services treated separately. Then the significance of coefficients of regression and coefficients of determination were taken into account in order to characterize trends in the development of services (Table 4).

Precise changes in trends are presented by Figures 1, 2, 3 and 4 for chosen types of services (S1, S2, S5, and S8). Notably, in the case of S1, S2, and S5 the starting point share of EC Europe countries was lower comparing to other two classes show-

Table 4. Values of coefficients of regression and coefficients of determination

	Class 1		Class 2		Class 3	
	Coeff. of reg	R <sup>2</sup>	Coeff. of reg	R <sup>2</sup>	Coeff. of reg	R <sup>2</sup>
<b>S1</b> – Wholesale and retail trade	-0.029	0.840	0.033	0.563	0.227	0.990
<b>S2</b> – Hotels and restaurants	0.010	0.912	0.074	0.988	0.060	0.973
<b>S3</b> – Transport	-0.025	0.832	-0.042	0.906	-0.015	0.323
<b>S4</b> – Financial intermediation	-0.008	0.565	-0.020	0.603	0.027	0.826
<b>S5</b> – Real estate and business activities	0.352	0.953	0.292	0.981	0.285	0.978
<b>S6</b> – Public administration	-0.067	0.925	-0.052	0.889	0.070	0.752
<b>S7</b> – Education	0.011	0.278	0.009	0.331	-0.001	0.001
<b>S8</b> – Health and social work	0.128	0.939	0.091	0.873	-0.004	0.031
<b>S9</b> – Other community	0.026	0.884	0.061	0.978	0.052	0.931

Source: own calculations based on the Eurostat data, in italics labelled statistical nonsignificance at  $p > 0,05$ .



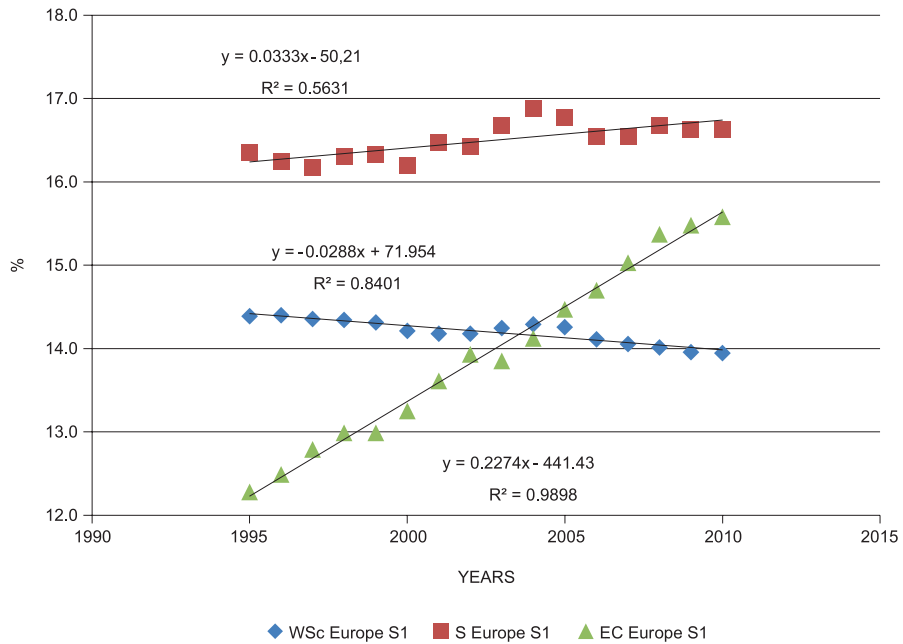


Fig. 1. Trends of type S1 (Wholesale and retail trade; repair of motor vehicles, motorcycles, and personal and household goods) of services

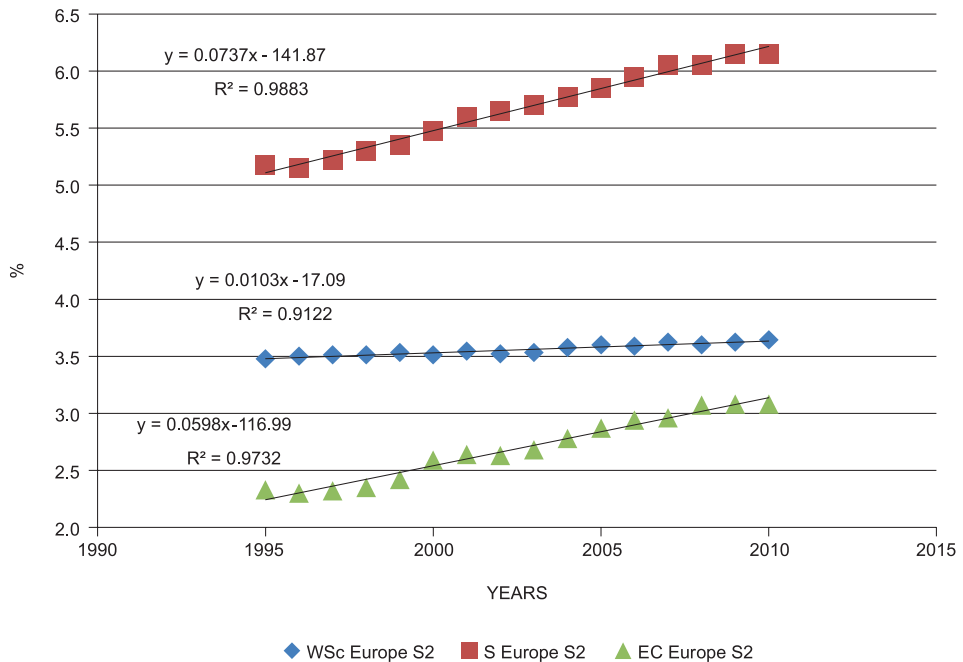


Fig. 2. Trends of type S2 (Hotels and restaurants) of services

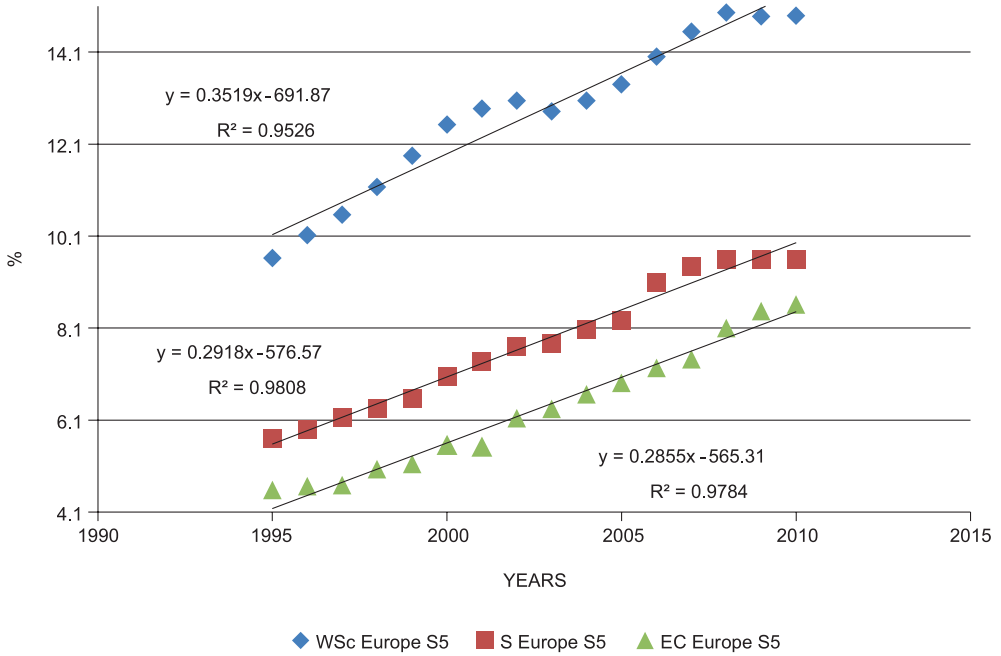


Fig. 3. Trends of type S5 (Real estate, renting and business activities) of services

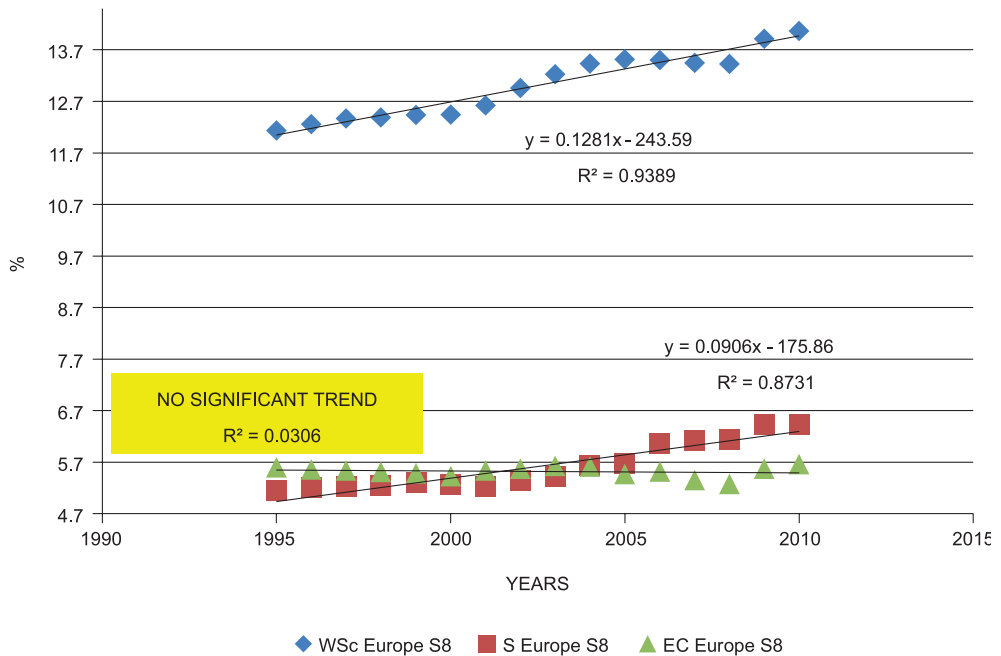


Fig. 4. Trends of type S8 (Health and social work) of services

ing a growing tendency, but only in the case of S1 the rate of growth was bigger than in other classes. The trend for EC Europe countries in the case of S8 having an initial value much lower than in WSc Europe countries and slightly higher than in S Europe countries shows specifically stagnation in the studied years.

## 5. Changes of the services sector in Poland

In Poland, in terms of Polish Classification of Activities the share of commercial services in the structure of the third sector (S3) in 2012 were about 39 (15% of total employment in the national economy). The largest share in the creation of GVA invariably has a section group consisting of commercial services, including transport and along with hotel and catering services. The persisting high share of commercial services in the employment structure is distinctive not only for Poland but also for the other countries in Central and Eastern Europe, such as Hungary and Czech Republic with the level of it a little less than 40% of total employment in services.

Sections characterized by the highest growth rate of employment growth were: section covering public administration as well as sections covering the aforementioned business services. This high rate of growth of administrative services in the analyzed period resulted from the reform of administrative and appointed local government districts in 1999. (Table 5). The high rate of growth of business services occurring in Poland and other countries in the region is consistent with the idea of the third phase of the development of services by Flejterski and others (2005), which is characterized by the significantly increasing role of services related to manufacturing processes. The business services are the most dynamically developing sphere of services. In Poland, however, also notes some signs of the development of more advanced services (Knowledge Intensive Services Business, and for example Information Services), which is characteristic for the fourth phase of development services. The exception to Pan-European trends is relatively low growth in services related to health care. However, this situation is changing and according to the latest data published in a PKD 2007 (NACE Rev. 2), the share of services in employment increases slightly (2009–2011).

Table 5. Services sector growth in 1995–2008 (PKD 2004) in Poland due to employment

Section	1995=100%
National economy	107,7
Service sector	146,2
Public administration	272,3
Business services	205,0
Hotels and restaurants	181,0
Others	171,7
Finance	143,4
Education	143,2
Trade	129,9
Transport	118,9
Healthcare	96,8

Source: GUS Local Data Bank.

## 6. Conclusions

- 1) The level of development of the services sector is strongly positively correlated with the level of socio-economic development. Countries with the highest share of employment in services is the Netherlands, Belgium and Denmark (above 80%), the countries with the lowest share – Romania, Bulgaria, and Poland.
- 2) High growth in employment in the services sector is observed not only in countries that in the period “catching” the distance to developed countries (Ireland, Poland, Slovenia) but also in countries that are already highly developed (The Netherlands, Luxembourg). Similarly, the lowest employment dynamics is observed in such countries as Bulgaria, the Czech Republic and Denmark and Sweden.
- 3) Similar trends were recorded in relation to the share of service sector in gross value added.
- 4) In developed countries (France, Germany) has been a decline in employment in services trade, transport, hotels and restaurants for services with highly saturated knowledge (business services, information services and telecommunications). In the countries of Central and Eastern Europe, the share of employment in trade services still remains at a high level or even increased. It is also increasing participation of business services, while employment is decreasing in non-market services.
- 5) In countries with a high level of development, the largest share in the creation of GVA are business services, while in less developed countries – trade and transport services.
- 6) The share of services sector in the employment structure of Polish ‘60s increased from 23% to over 55% in 2012., there was an increase the participation of all the distinguished types of services; the greatest dynamics in the employment structure was observed in business services.

## References

- Bell D., 1974, *The Coming of Post-Industrial Society*. New York: Harper Colophon Books.
- Chojnicki Z., 1999, *Region w ujęciu geograficzno-systemowym (Region in terms of geography and system)*, [in:] Chojnicki Z. (ed.), *Podstawy metodologiczne i teoretyczne geografii (Fundamentals of methodological and theoretical of geography)*. Poznań: Bogucki Wydawnictwo Naukowe, pp. 327–353.
- Clark C., 1940, *The Conditions of Economic Progress*. London: Macmillan.
- Cyrek M., 2008, *Poziom rozwoju sektora usług w Polsce w układzie międzywojewódzkim (The level of development of the services sector in Poland in the inter-regional system)*, [in:] Panasiuk A., Rogoziński K. (eds.), *Usługi w Polsce – nauka, dydaktyka i praktyka wobec wyzwań przyszłości (Services in Poland – research, teaching and practice of facing the challenges of the future)*. Tom I, *Zeszyty Naukowe Uniwersytetu Szczecińskiego*, 497, *Ekonomiczne Problemy Usług*, 20. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, pp. 239–245.
- Giarini O., 1986, *Coming of age of the service economy*. “Science and Public Policy” 13(4), pp. 209–215.
- Fisher A.G.B., 1935, *The Clash of Progress and Security*. London: Macmillan.

- Flejterski S., Panasiuk A., Perenc J., Rosa G., 2005, *Współczesna ekonomika usług (Modern economics of services)*. Warszawa: Wydawnictwo Naukowe PWN.
- Fourastié J., 1969, *Die grosse Hoffnung des zwanzigsten Jahrhunderts*. Köln: Bund Verlag.
- Gershuny J., 1978, *After Industrial Society?: Emerging Self-Service Economy*. London: Macmillan.
- Hertog den P., 2000, Knowledge-intensive business services as co-producers of innovation. "International Journal of Innovation Management" 4(4), pp. 491–528.
- Kabaj M., 1972, *Elementy pełnego racjonalnego zatrudnienia w gospodarce socjalistycznej (Elements of rational full employment in a socialist economy)*. Warszawa: KIW.
- Katouzian M.A., 1970, *The Development of the Service Sector: A New Approach*. "Oxford Economic Papers" 22, pp. 362–382.
- Kłosowski F., 2006, *Sektor usług w gospodarce regionu tradycyjnego w warunkach transformacji i restrukturyzacji – przykład konurbacji katowickiej (The services sector in the traditional regional economy in terms of transformation and restructuring – the example of the Katowice conurbation)*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.
- Kwiatkowski E., 1980, *Teoria trzech sektorów gospodarki. Prezentacja i próba oceny (The theory of the three sectors of the economy. Presentation and attempt to evaluate)*. Warszawa PWN.
- Menz L., 1965, *Der tertiäre Sektor. Der Dienstleistungsbereich in den modernen Volks-wirtschaften*. Zurich: Polygraphischer.
- Miles I., 2005, *Knowledge-intensive business services: prospects and policies*. "Foresight" 7(6), pp. 39–63.
- Miles I., 2008, Knowledge services, [in:] Hearn G., Rooney D. (eds.), *Knowledge policy. Challenges for the 21st Century*. Cheltenham: Edward Elgar Publishing Limited.
- Muller E., Doloreux D., 2007, *The key dimensions of knowledge intensive business services (KIBS) analysis: a decade of evolution*. Working Papers Firms and Region 1/2007.
- Nowosielska E., 1994, *Sfera usług w badaniach geograficznych: główne tendencje rozwojowe ostatniego dwudziestolecia i aktualne problemy badawcze (The sphere of services in geographical research: the main trends of the last two decades and current research problems)*. Zeszyty IGiPZ PAN 22, Warszawa.
- Rogoziński K., 1993, *Usługi rynkowe (Market services)*. Poznań: Wydawnictwo Akademii Ekonomicznej.
- Strambach S., 2008, *Knowledge-Intensive Business Services (KIBS) as drivers of multilevel knowledge dynamics*. "International Journal of Services Technology and Management" 10, pp. 152–174.
- Węgrzyn G., 2013, *Sektor usług w gospodarce opartej na wiedzy – studium komparatystyczne (The service sector of a knowledge-based economy – a comparative study)*. "Oeconomia Copernicana" 1, pp. 53–64.
- Werwicki A., 1998, *Zmiany paradygmatu geografii usług (Paradigm shifts in the geography of services)*. "Przegląd Geograficzny" No. 70, pp. 3–4.

Affiliation:

**Joanna Dominiak**

Adam Mickiewicz University in Poznań

Institute of Socio-Economic Geography and Spatial Management

Dziegiełowa 27, 61-680 Poznań (Poland)

e-mail: dominiak@amu.edu.pl

**Jan Hauke**

Adam Mickiewicz University in Poznań

Institute of Socio-Economic Geography and Spatial Management

Dziegiełowa 27, 61-680 Poznań (Poland)

e-mail: jhauke@amu.edu.pl

**For citation:**

Dominiak J., Hauke J., 2015, *The changes of the services sector in Poland and other EU countries*.  
“Studia Regionalia” Vol. 41–42, pp. 37–50.