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DEVELOPMENT OF SERVICE SECTOR – IMPLICATIONS FOR EMPLOYMENT IN THE EUROPEAN UNION

Abstract

Shifts in the trisectoral structure of economy are directly connected with the development level of a given country, which is in turn accompanied by changes in the labour market: jobs disappear in some sectors and are established in others. The growth of employment in the service sector is accompanied by a systematic drop in the number of persons working in industry and agriculture, which is defined as an economy servication process.

The direction and rate of changes taking place in highly developed countries show that not the whole progress may be explained with a sectoral analysis (agriculture-industry-services), and changes occurring inside the sectors are more and more important. Fundamental shifts towards modern knowledge intensive services take place. Employment in services connected with real estate and business management, financial and insurance services, and in particular IT services, grows systematically.

The purpose of this article is to identify trends in the development of employment structures in the economies of EU member states, including in particular the sector of knowledge intensive services.

Key words: knowledge intensive services, employment, HRST

Introduction

Modern, innovative and competitive economy should be complex, harmonious, coherent, flexible and open. This means, without limitation, that the economy is composed of main fields determining its modern development, its capacity to be transformed through the reallocation of production factors, as well as its ability to face international competition. To implement the modern economic structure, not only have proportions between key sectors of economy to be changed, but qualitative changes inside particular sectors are necessary, as well.

Changes in the economic structure are connected with changes in the structure of employees. They contribute to the reallocation of staff forcing, at the same time, an increased geographical, qualification and professional mobility. The role of physical work which does not require high qualifications decreases, while the share of jobs subject to a lot of more and more specialised knowledge increases. Knowledge becomes a key economic resource. Knowledge capital includes scientific knowledge and the society's knowledge reflected by the level of education. Education in turn constitutes the basis for the establishment and development of Human Resources in Science and Technology (HRST). Such resources are mainly used in the modern economic sectors, including, but not limited to, dynamically developing knowledge intensive services, which hire persons with high education and professional qualifications.

The purpose of this article is to identify trends in the development of employment structures in the economies of EU member states, including in particular the sector of knowledge intensive services.

Servication of EU member state economies

Shifts in the trisectoral structure of economy are directly connected with the development level of a given country, which is in turn accompanied by changes in the labour market: jobs disappear in some sectors and are established in others. According to the "Chenery's hypothesis" (Chenery, Taylor, 1968, p. 391-416), national income grows along with the growth of the share of services, at the expense of agriculture and industry, in the establishment of a gross added value and the absorption of labour force. In the literature, such a structural megatrend is defined as the servication of economy.

In the economies of developed countries, services play a key role, become the biggest source of jobs since the growth of national income per capita contributes to the growth of demand therefor. In addition, services ensure efficient production processes and fulfil a number of social needs. Thus, the growth of their share in total employment and the generation of GDP reflects fundamental structural changes ongoing in many countries (Janowska, 2007, p. 137). Since the beginning of the 90s, private and public services have held almost 2/3 of jobs in most OECD states, and in the USA 80% thereof. In the European Union, services constitute almost 70% of GDP with employment exceeding 68% (Table 1). In Belgium, Denmark, Luxembourg, they exceed 76%, while in the Netherlands and the UK over 80%. In the CEE states, over a half of employees is hired in the service sector as a result of ongoing changes.

The growth of employment in the service sector is accompanied by the systematical drop of persons employed in industry and agriculture. Since 2000, in the EU, over 11 million jobs have been established in the service sector, while jobs in industry and agriculture have been reduced (respectively by 1.6 million and 1.2 million) (Employment..., 2006, p. 62). In the EU states, the share of employees in the agriculture does not exceed 6.5%, and most "old 15" EU member states oscillate around 2-3% (Table 1).

Some of key reasons for the changing structure of economy are the reallocation of production activities to countries of smaller labour costs and the increasing utilisation of outsourcing. A need to get flexibly adjusted to changing market conditions causes that service outsourcing relates not only to auxiliary activities (transport, marketing), but, to a bigger and bigger extent, to the core activity of enterprises. The growing importance of the service sector is also pointed out in the Lisbon Strategy, whose one of the main goals is the growth of the number of jobs through the liquidation of barriers limiting the free flow of goods and services and the growth of international competition.

The structure of employment by sector in Poland, comparing to other EU member states, is unfavourable, although the trend of ongoing changes is similar. Poland demonstrates a too high share of employment in agriculture (over 15% in 2007) and the rate of changes is too slow. The growth of employment in the third sector in recent years has resulted from the ongoing servication of the Polish economy, although the share of persons employed with the service sector is one of the smallest in the European Union.

Table 1. Structure of employees by economic sector in the EU member states in the years 1996-2006

States	Sector	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	Agriculture	8.3	8.1	7.8	7.5	7.3	7.1	6.9	6.9	6.6	6.5	6.4
	Industry	28.0	27.7	27.5	27.1	26.7	26.5	26.1	25.7	25.4	25.1	24.9
	Services	63.8	64.2	64.6	65.4	66.0	66.4	67.0	67.4	68.0	68.4	68.7
Belgium	Agriculture	2.7	2.6	2.5	2.5	2.3	2.2	2.2	2.1	2.0	2.0	2.0
	Industry	24.0	23.6	23.3	22.8	22.7	22.5	21.9	21.4	20.9	20.5	20.3
	Services	73.2	73.7	74.2	74.7	75.0	75.2	76.0	76.6	77.1	77.5	77.7
Denmark	Agriculture	4.1	4.0	3.8	3.6	3.4	3.3	3.3	3.2	3.1	3.1	3.1
	Industry	24.2	23.9	23.6	23.1	23.0	22.7	22.1	21.7	21.0	20.9	20.9
	Services	71.6	72.1	72.6	73.3	73.6	74.0	74.5	75.1	75.8	76.0	76.0
Germany	Agriculture	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2
	Industry	31.7	31.0	30.4	29.5	28.9	28.3	27.6	27.0	26.4	25.9	25.5
	Services	65.7	66.5	67.1	68.0	68.7	69.3	70.1	70.7	71.3	71.9	72.3
Ireland	Agriculture	9.9	9.2	9.0	8.6	7.7	7.2	7.0	6.6	6.2	5.9	5.7
	Industry	28.3	28.8	28.6	28.4	28.8	28.8	27.9	27.5	27.6	27.6	27.6
	Services	61.8	62.0	62.4	63.0	63.5	64.0	65.1	65.8	66.2	66.5	66.7
Spain	Agriculture	7.8	7.4	7.1	6.6	6.3	6.1	5.9	5.7	5.4	5.2	4.7
	Industry	28.3	28.9	29.2	29.6	29.9	30.1	29.9	29.7	29.5	29.4	29.0
	Services	63.9	63.6	63.7	63.8	63.8	63.8	64.2	64.7	65.1	65.4	66.3
France	Agriculture	4.5	4.4	4.3	4.1	3.9	3.8	3.7	3.7	3.6	3.6	3.4
	Industry	23.4	22.9	22.5	22.1	21.9	21.8	21.5	21.1	20.8	20.5	20.4
	Services	72.1	72.7	73.2	73.8	74.1	74.4	74.8	75.2	75.6	75.9	76.2
Italy	Agriculture	5.7	5.6	5.3	4.9	4.8	4.7	4.5	4.2	4.2	4.1	4.1
	Industry	30.4	30.3	30.3	29.9	29.4	29.2	29.1	29.0	28.8	28.6	28.4
	Services	63.9	64.2	64.5	65.1	65.8	66.1	66.4	66.8	67.0	67.3	67.5
Latvia	Agriculture	17.2	21.0	18.7	16.5	14.3	14.8	14.9	13.3	12.5	11.2	11.4
	Industry	26.7	25.3	25.5	25.5	25.9	26.0	24.8	25.9	26.5	26.5	26.8
	Services	56.2	53.6	55.9	58.0	59.8	59.2	60.4	60.8	60.9	62.3	61.8
Lithuania	Agriculture	20.1	17.6	19.1	19.3	18.7	17.2	17.8	17.8	15.8	14.0	12.4
	Industry	28.3	28.1	28.6	27.2	26.7	26.9	27.3	28.0	28.9	28.9	29.5
	Services	51.7	54.3	52.2	53.5	54.7	55.8	54.9	54.2	56.2	57.1	58.1
Luxembourg	Agriculture	2.0	2.0	1.7	1.6	1.5	1.4	1.4	1.5	1.4	1.4	1.5
	Industry	26.6	25.9	25.3	24.1	23.1	22.5	22.4	22.0	21.7	21.5	21.7
	Services	71.4	72.1	73.0	74.3	75.4	76.1	76.2	76.5	76.9	77.1	76.9
Netherlands	Agriculture	3.9	3.9	3.6	3.5	3.4	3.4	3.4	3.4	3.3	3.3	3.2
	Industry	20.4	20.2	19.9	19.6	19.4	19.0	18.7	18.1	17.8	17.5	17.3
	Services	75.7	75.9	76.5	76.9	77.1	77.5	77.9	78.5	78.9	79.2	79.6
Austria	Agriculture	14.5	14.3	14.0	13.8	13.4	13.1	13.1	12.8	12.6	12.3	11.9
	Industry	25.6	25.2	24.8	24.3	23.9	23.5	22.9	22.7	22.4	22.2	22.2
	Services	59.9	60.5	61.2	61.9	62.8	63.3	64.0	64.5	65.1	65.6	66.0
Poland	Agriculture	22.1	20.5	19.2	18.1	18.8	19.1	19.3	18.4	19.2	17.4	15.2
	Industry	31.7	31.9	32.1	31.3	30.9	30.5	28.6	28.6	26.9	29.2	30.1
	Services	46.2	47.5	48.8	50.6	50.4	50.4	52.0	53.0	53.9	53.4	54.5
Slovakia	Agriculture	8.0	7.6	7.0	6.3	5.7	5.4	5.0	4.5	4.5	4.4	3.9
	Industry	37.5	37.9	36.7	35.8	35.0	34.5	34.3	34.7	34.6	34.1	33.7
	Services	54.5	54.5	56.2	57.9	59.3	60.1	60.7	60.8	60.8	61.5	62.3
Finland	Agriculture	7.3	7.0	6.3	6.2	6.0	5.6	5.4	5.3	5.2	5.1	5.0
	Industry	27.2	27.5	27.8	27.9	27.8	27.4	26.8	26.3	25.8	25.8	25.8
	Services	65.5	65.5	65.9	66.0	66.3	67.0	67.9	68.5	69.0	69.1	69.2
Sweden	Agriculture	3.4	3.2	3.1	3.0	3.0	2.7	2.6	2.5	2.4	2.3	2.2
	Industry	25.0	25.0	25.1	24.7	24.3	24.4	24.0	23.6	23.0	22.9	22.8
	Services	71.5	71.8	71.8	72.3	72.7	72.9	73.4	74.0	74.6	74.8	75.1
UK	Agriculture	1.9	2.0	1.9	1.7	1.6	1.5	1.4	1.4	1.4	1.4	1.4
	Industry	23.0	22.7	22.7	21.8	21.2	20.6	19.8	19.2	18.6	18.1	17.8

	Services	75.0	75.3	75.4	76.5	77.2	77.9	78.8	79.5	80.0	80.5	80.8
Hungary	Agriculture	8.4	8.0	7.6	6.9	6.4	6.2	6.1	5.4	5.1	4.9	4.8
	Industry	33.0	33.5	34.4	34.3	33.9	34.3	34.2	33.4	32.9	32.4	32.3
	Services	58.6	58.5	58.0	58.8	59.8	59.5	59.8	61.3	62.0	62.7	63.0

Source: own calculations based on: Employment in Europe 2006, 2007, Statistical Annex, European Commission, Office for Official Publications of the European Communities, Luxembourg 2007, 2008 .

The diversity of the service sector is visible not only with regard to the level of employment, but an added value produced by that sector, as well. The first group comprises countries where the share of the added value of the service sector has been high since the 70s (Denmark, USA) or which have experienced the strong growth of the added value at originally small ratios (France, Netherlands, UK). The second group comprises Austria, Germany, Italy, Spain, where the share of the added value has grown systematically, exceeding 65-70% at the beginning of the 21st century. In the third group, that share has been relatively small, around 60%, or increased only slightly (Ireland, Norway)¹.

For several years, there has been a discussion whether the decreasing share of industry in the employment structure and GDP will contribute, in a long run, to the impairment of the service sector. It is assumed that the industry is still a key economic sector and transformations therein determine the state's competitive position and the service sector's development perspectives. Since many services are connected with and directly dependant on the industry. The sudden reduction of the industry's role in the economy may lead to the drop of demand for services. Thus, the share of the industry in GDP is much bigger than simple calculations show (Manufacturing..., 2002). The ongoing discussion also underlines mutual relations and interactions between the service sector and the industry.

While adversaries claim that the service sector is the basic drive of economic growth. The development of modern technologies, in particular IT and communication ones, the growth of innovativeness have revolutionised the manner of traditional service production and delivery and contributed to the establishment of completely new types of services. Therefore, the service sector should be no longer perceived as complementary to manufacturing activities. More and more frequently, a well-developed service infrastructure and high human capital quality determine the location of industrial activities and an increasing demand for specific services contributes to the growth of industrial output. Without demand for transportation services, the production of buses, planes or trucks is unnecessary. Without demand for information or entertainment, there would be no need to print newspapers, produce TV sets or radios. The convergence of both sectors causes that it is more and more difficult to clearly classify particular enterprises since their activities overlap.

Development of the service sector in the modern economy

Controversies and discussions on reasons and premises for the development of the service sector result, without limitation, from its significant diversification. Since services cover both high technology and knowledge intensive sectors, as well as labour-intensive services hiring employees of low qualifications and professional skills.

Simply speaking, services are activities targeted at a beneficiary (personally or to a social and subjective space used thereby) and performed with a consent of a contracting authority (which may be a beneficiary) by a service provider to fulfil the needs of the

¹ In Poland, in 2005, the share of services in the gross added value was 64.5%. Rocznik Statystyczny Polski 2006, GUS, Warsaw 2006, p. 677.

beneficiary (which may be a private individual, legal entity, institution or organisation) (Kłosiński 2006, Flejterski, Panasiuk, Perenc, Rosy, 2005, Kłosiński 1997). Services are intangible, untouchable and invisible. In most cases, they must be consumed at the place of production and may not be warehoused or distributed opposite to products.

The technological revolution contributed, however, to changes in the perception of services. Modern information and communication technologies (ICT) allow for the utilisation of services without a need to be at the service-provision place. Internet banking, property administration, financial services, Internet sale are examples of such services where the direct contact of a customer with a service provider is less important. It is more and more often possible to store and warehouse products connected with service activities and addressed to mass recipients, which allows for the achievement of large-scale benefits.

Structural changes and transition to the knowledge-based economy determine the strong growth of demand for employees with high qualifications in modern IT and communication technologies. In the years 2000-2006, in the European Union, 3.5 million jobs were established in the property and business management companies. In Poland, that sector develops dynamically, as well. For example, the employment in the very IT services exceeded 160% in the years 1996-2006 (Pracujący ..., 1996, Pracujący ..., 2006). A much smaller rate of changes is observed in the case of financial agency services although this sector is considered as one of the leaders of modern structural transformations in the highly developed states.

Changes occurring in modern services are largely determined by innovativeness, i.e. susceptibility to technological innovations. Admittedly, as the producer of high technology, the service sector plays a small role, however some of its areas, like banking, insurance or financial services, are more and more important users thereof. Additionally, certain types of services are more science-consuming and innovative than the industry, which is very important in the knowledge-based economy. The following branches were classified as the most innovative fields of the Polish service sector (Polska..., 2006, p. 191):

- R&D,
- insurance and pension funds,
- computer services,
- post office and telecommunications services,
- financial agency services.

Bigger and bigger income of the society and increasing resources of free time contribute to the growth of demand for tourism, catering, hotel and broadly understood entertainment services. It is also forecasted that the aging of societies will result in the further growth of demand for health care services in the nearest years. In the European Union, almost 2.3 million jobs were established in that sector until 2006.

The development of services also contributed to changes in work organisation, the implementation and wide utilisation of flexible employment forms, including part-time jobs, temporary employment and self-employment.

The specific nature of services and flexible work organisation forms which allow for combining a career with a family better contribute to the systematic growth of the employment of women in this sector. According to the studies of Labour Force Survey, in 2006, the share of women in the total number of employees of the service sector exceeded 44%, but women constituted 75% of part-time staff. The share of women in personal or social services exceeds the share of men² (Alääjaskö, 2008). The biggest growth of the employment

² In 2006, 44% of women were hired in the service sector, including: 62% in commerce, and 55% in hotel and catering services. 20% of service employees are part-time staff. The biggest share of part-time staff is recorded by commerce (29%). The share of self-employed is slightly smaller (19%).

of women is visible in healthcare, education, property management.

The service labour market is strongly influenced by differences in the mobility of employees. The opening European labour market, the applicable EU right of employees to move freely contribute to the growth of their mobility. Countries receiving immigrants are afraid that they will take up jobs and accept smaller remuneration, which will result in the growth of unemployment among native population and the growth of social costs, including, without limitation, the costs of social security and healthcare. An important problem is also the migration of highly qualified employees (brain-drain), including, but not limited to, physicians, IT specialists, engineers.

Transformations within the service sector are forecasted to continue, and the rate of changes, in particular in the less developed countries, will grow systematically. In those countries, similarly to highly developed states, the share and importance of knowledge intensive service-oriented activities will increase. This reflects the growing demand of individual and business customers for specific types of services, service activity outsourcing from production enterprises, and the leading role of the IT sector. The service sector also plays an essential role because of the fact that without well-organised financial, transport, distribution services, effective business or administration activity management is not possible. In international trade, the very services are not subject to such a wide exchange like goods, but they support any export and import transaction. Without such services, international trade would not develop that dynamically.

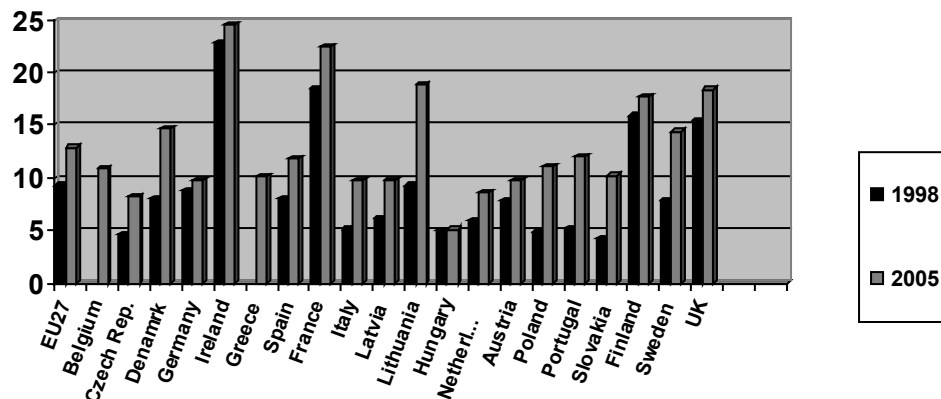
HRST and structural changes in the EU member states

In the contemporary world, human capital is indicated as one of factors required to achieve success, both as an individual entity, as well as an enterprise or an economy. Knowledge becomes a resource that determines the development of a given country and its knowledge-based economy to a bigger and bigger extent. The high level of human capital results mainly from the level and quality of education of a given unit and, consequently, the whole society. Therefore, "investments in human being" are that important, as pointed out already in the 60s by authors of the human capital concept: T.W. Schultz and G.S. Becker (Sobiech, 1996, p. 6). According to such an assumption, expenditure for the improvement of human resource quality should be treated as investments and not costs, but it is not only the level of employee skills, but their adjustment to actual economic needs, that matters.

The development of modern sectors of the economy, including knowledge intensive services, contributes to the growth of demand for highly qualified employees. All EU member states note the systematic growth of their society's education. In the EU, almost 1 person per five of 25-64 has university education, i.e. around 51 million out of 245 million of EU inhabitants.

In 2005, in the EU, 16.5 million persons studied, including mostly women (54.9%) (Eurostat..., 2008, p. 173-174). However, they usually still take up studies at arts and artistic faculties, social and business science, while men choose technical and engineering, as well as agricultural and veterinarian schools more frequently. Actions taken under the education policy are to promote defined faculties where the share of women is relatively small, including mainly sciences: mathematics, IT, engineering, industrial processing and construction, and which, from the point of view of modern economy development and HRST development, play a vital role. Being aware of opportunities arising from graduation from an attractive, from the point of view of the labour market, faculty, more and more young people study at science and technology. The biggest share of graduates from such faculties is reported in Ireland, France, Finland and the UK, while the smallest in Hungary and the Czech Republic (Chart 1).

Chart 1. Graduates of Science and Technology in 1998 and 2005 in the EU – per 1000 persons of 20-29, %



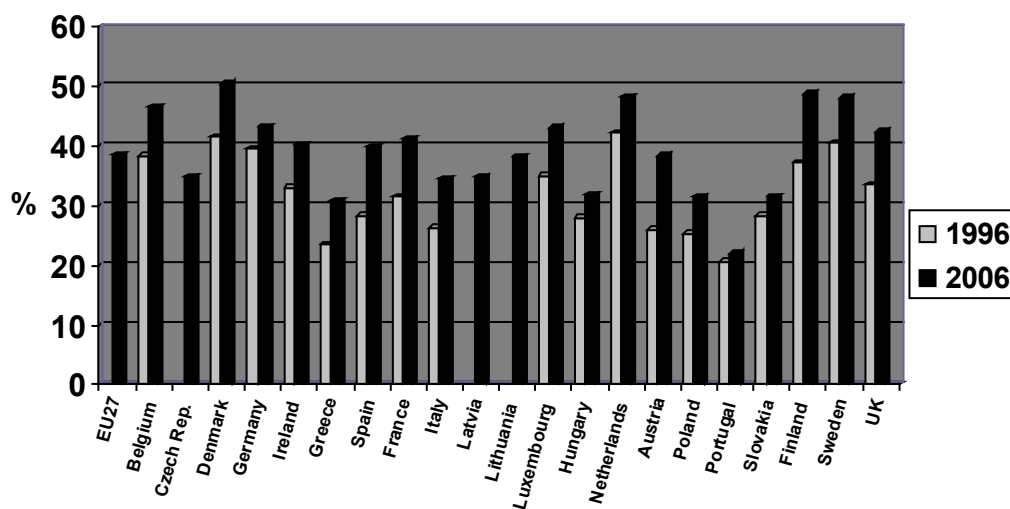
Source: own analysis based on: <http://epp.eurostat.ec.ueropa.eu> (as at 10.09.2008)

A relevant education level allows for the establishment and development of HRST constituting one of key indicators for the development of knowledge-based economy. HRST means all persons that currently deal with or potentially may deal with work related to the establishment, development, promotion and utilisation of scientific and technical knowledge. This term refers to persons meeting at least one of the following two criteria:

- have university education in science and technology (HRSTE)
- perform occupations related to science and technology (HRSTO).

In spite of a large diversification within the EU, all member states note the systematic growth of HRST. The biggest ratios and rate of changes in the years 1996-2006 were recorded by Finland, the Netherlands, Sweden and Denmark. The smallest share of HRST among labour force is recorded by Portugal (22%). Slightly smaller ratios, but still relatively small rate of changes, are noticeable in Greece, Poland, Slovakia and Hungary (Chart 2).

Chart 2 Human resources in science and technology as a share of EU labour force in 1996 and 2006 (%)



Source: own analysis based on: <http://epp.eurostat.ec.europa.eu/> (as at 12.09.2008)

From the point of view of the labour market, a group of persons performing occupations related to science and technology and forming a highly qualified group of employees has to be separated from HRST as HRSTO³. The term of HRSTO refers to persons who perform occupations defined in the ISCO classification as "professionals" and "technicians and associate professional". They have an important impact on the rate of economic growth since they determine the innovativeness of knowledge intensive economies. In 2006, persons employed as HRSTO constituted 31% of the total number of employees in the EU, which corresponds to almost 59 million. Most of them (over 48 million) worked in the service sector, including the majority (35 million) in KIS⁴ (Science..., 2008, p. 41). Some of characteristics of populations hired as HRSTO that are worth paying attention to are the high share of women⁵ and the structure of employment in particular economic sectors.

Knowledge intensive services as an area creating jobs in the EU

The increasing importance of knowledge and innovations in the modern economies has contributed to the growth of scientists' interest in the cognition and analysis of Knowledge Intensive Services (KIS). KIS represent one of the fastest developing area of the European economy and constitute one of the basic pillars of knowledge-based economy.

KIS have been examined in the developed countries since the middle of the 90s, however there are still significant definition problems. The main issue is to define the term "knowledge intensive" and its measurement methods. Therefore, a multi-level approach and various methods to measure analysed figures are necessary. Knowledge intensive means that services are determined by the level of specialised knowledge related to the development of a scientific thought and analysed with regard to the qualification of labour force (necessary skills to apply and interpret them), as well as factors used for service provision. However, such typical indicators like the education of employees, the share of white-collar in employment, R&D expenses, the number of innovative organisations comparing to the number of all enterprises, do not fully reflect the complexity of the analysed area. Knowledge intensiveness is perceived as the share of specialised and technical personnel in total employment and the size of investments in modern information and communication technologies does not determine the development of the knowledge-based economy. A relation between knowledge intensiveness and knowledge application in defined sectors of the economy is very important (Work..., 2001, p. 14-15).

Windrum and Tomlinsen (Windrum, Tomlinsen, 1999, p. 392) define KIS entities as private organisations that are based on professional or expert knowledge related to a defined technical or functional domain. KIS entities may constitute the primary source of information and knowledge. Knowledge intensive services are:

- water and air transport,
- post office and telecommunication,

³ HRST may be broken down into various subpopulations in accordance with OECD's guidelines presented in the Canberra Manual, depending on education or occupation.

⁴ In the HRSTO employment structure in the EU member states, the biggest share is recorded by education (74% of all employees; in Luxembourg: 93%) and health care (from 45 to 65%; the biggest 71% share in Poland, and the smallest 34% share in Portugal). The high share of HRSTO is also noted in financial agency services and property and business management.

⁵ One of manners to achieve the goals of the Lisbon Strategy is to increase the share of women in ST employment by establishing relevant working conditions. In 2006, almost 51% of women were hired in S&T, while in other parts of working population women constituted 42%. Admittedly, the biggest share of women employment in HRSTO was recorded in 2006 in Lithuania: out of 350,000 employees, women constituted almost 72%. However, a difference between employment in HRSTO and other employees was the biggest and reached 29 percentage points.

- financial agency services,
- property and business management,
- education,
- insurance and pension funds,
- recreation, culture and sport.

In that sector, employment has grown systematically, although a significant diversification between particular EU member states is visible. In highly developed countries, like Denmark, Luxembourg, the Netherlands, Finland and the UK, the share of persons employed in knowledge intensive services exceeds 40%, and in Sweden even 47%. In new EU member states, given a smaller development and less modern economic structure, employment in KIS is much smaller. In 2006, in Rumania, it did not exceed 15%, and in Bulgaria, Greece, Poland and Slovakia 25% (Table 2).

To deliver specialised knowledge, employees have to gain adequate education and professional experience. Thus, in the employment structure of KIS, employees with university education that use modern ICTs in their work prevail.

Such processes not only influence the growth of employment, but an average rate of growth of an added value in KIS, as well, which is relatively high among new EU member states. In 2006, the added value produced by the EU service sector constituted nearly 72%, with the smallest ratios recorded by Rumania and the biggest by France, the UK and Luxembourg.

Table 2. KIS employees – % of the total number of EU labour force in 1996-2006

Country	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU 27	-	-	-	-	30.34	30.89	31.42	31.98	32.18	32.36	32.78
Belgium	34.60	34.93	35.90	35.96	37.00	37.80	37.77	39.02	38.60	38.38	38.84
Bulgaria	-	-	-	-	21.28	23.12	22.21	22.13	22.23	22.02	21.99
Czech Rep.	-	22.83	22.56	22.78	24.03	24.11	23.82	24.42	24.52	24.98	25.07
Denmark	40.12	40.85	40.63	41.56	42.13	42.72	43.99	43.20	42.32	42.83	43.50
German	27.91	28.56	29.23	29.92	30.37	31.02	31.80	33.00	33.36	33.55	34.13
Estonia	-	27.53	28.05	28.63	26.88	28.03	30.86	31.61	27.49	28.96	28.64
Ireland	30.15	29.38	30.42	31.28	31.76	31.98	33.46	33.44	33.49	34.02	34.93
Greece	20.51	20.81	21.51	21.79	21.76	22.48	22.75	23.08	24.90	24.54	24.96
Spain	23.59	23.93	23.91	24.07	24.55	24.80	25.32	25.44	26.07	26.98	27.94
France	33.55	33.92	34.29	34.73	34.69	35.04	35.53	36.00	36.16	36.72	36.90
Italy	24.71	25.57	25.72	26.21	26.68	26.95	27.47	27.45	30.25	29.83	30.41
Cyprus	-	-	-	24.52	25.53	26.49	26.27	27.03	26.34	26.96	28.28
Latvia	-	-	22.67	24.21	24.76	24.76	24.83	23.97	24.60	25.81	25.48
Lithuania	-	-	23.77	24.59	26.19	26.90	24.74	24.16	24.96	25.54	25.58
Luxembourg	33.44	34.31	35.33	37.91	35.50	35.79	38.07	38.67	39.03	41.96	43.49
Hungary	25.27	25.37	25.83	25.49	26.50	26.31	26.46	27.95	28.47	28.27	28.42
Malta	-	-	-	-	19.72	27.83	28.50	28.80	29.08	30.40	31.02
Netherlands	36.39	36.93	38.00	39.07	39.21	39.96	38.77	42.43	42.16	41.91	42.02
Austria	26.53	27.55	28.02	27.98	28.17	29.28	30.06	30.17	31.30	30.98	30.44
Poland	-	-	-	-	-	-	-	-	24.32	24.23	24.66
Portugal	22.01	21.97	18.31	19.57	19.37	19.66	19.80	20.31	22.46	23.08	23.08
Rumania	-	11.94	11.70	11.44	11.12	11.30	13.09	13.02	14.07	13.72	14.59
Slovakia	-	-	22.99	24.18	24.48	25.33	24.01	24.14	25.05	25.59	24.87
Finland	37.44	37.37	38.30	37.41	37.91	39.14	39.23	39.72	40.34	40.53	41.10
Sweden	44.19	44.12	43.89	45.38	45.71	46.14	47.05	47.23	46.95	47.79	47.67
UK	37.25	37.86	38.44	39.46	39.81	40.54	40.92	41.10	42.11	42.39	43.01

Source: own calculations based on <http://epp.eurostat.ec.europa.eu/> (as at 10.08.2008)

KIS development is determined by a number of various factors (The Knowledge-Intensive..., 2008). The force of their influence in particular countries is determined by the role of KIS in a given economy, the size of the sector and the rate of growth. The main factor influencing KIS development is a technological and information revolution and a related transition to the knowledge-based economy. Increasing competition, the shorter and shorter cycle of innovative solution implementation contribute to the growth of demand for external source of specialised knowledge to be delivered under KIS. Such services include both comprehensive support in solving technological problems in engineering, mechanics, biotechnology or nanotechnology, as well as administrative or legal issues. Taking into account the fact that, from a technological point of view, the knowledge-based economy is determined by the development of IT and communication technologies, a broad range of ICT services is an important measure thereof. In the sector, the number of small and innovative organisations which are difficult to classify, but which are connected with new media, grows all the time. The development of them results from a wider and wider Internet access, wireless data transmission, digital network integration. The activity of contemporary enterprises also requires many environmental actions (wastes management, gas emission management and monitoring, environmental audit, etc.).

KIS development may be also analysed in the context of globalisation and internationalisation manifesting themselves in the form of service outsourcing and offshoring. Decreasing transport expenses, increasing IT capacities, ongoing specialisation cause that outsourcing and offshoring are more and more popular not only with regard to simple office work or the establishment of telephone centres, but in relation to more professional and specialised services, as well. Although outsourcing may contribute to the growth of the number of companies offering KIS, offshoring may cause, at the same time, that a part of activities will be located in countries offering smaller labour costs and the quality of labour force will be maintained. That is why, new EU member states and India and China are very popular. High costs of knowledge intensive services reduce the group of recipients thereof. Small businesses often cannot afford to take advantage of specialised services, R&D is rarely subject to outsourcing and that may be the field for their further development.

Summary

The direction and rate of changes ongoing in highly developed countries, where the share of employment and GDP of the service sector exceeds 70-80%, show that not the whole progress may be explained on the basis of a sectoral analysis (agriculture-industry-services), and changes taking place inside such sectors are more and more important. Fundamental shifts towards modern and knowledge intensive services occur.

Causes of business service development and increasing opportunities for the establishment of jobs in the service sector are sought, for example, in outsourcing and offshoring, which mostly cover computer, legal, accounting services, etc. The movement of jobs to countries characterised by not only smaller labour costs, but mainly the high quality of labour force, is more and more important from the point of view of the global labour market. Globalisation, technological progress and new media, including Internet, create new opportunities for service provision and delivery.

Service development contributes to changes in work organisation, the implementation and wide utilisation of flexible employment forms, as well as the growth of women share in the labour market.

In spite of significant diversification within the European Union, in all countries, employment in services connected with real estate and business management, financial and insurance services and, in particular, IT services has been growing systematically. Knowledge

embodied in products and technologies, as well as highly qualified labour force determines the innovativeness of a given economy, constituting the source of its growth and competitiveness. It is forecasted that these sectors will develop dynamically, in particular in less developed countries.

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