

COMPARISON AND TENDENCIES OF BUSINESS SERVICES TRADE INDICES IN THE CZECH REPUBLIC, THE SLOVAK REPUBLIC AND EU28

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Abstract:

The proposed paper deals with the tendencies of business services trade and their structure in two countries - Czech Republic and Slovak Republic – as well as the comparison of the structure and shares with EU28 and EU19. Both countries are the members of EU from 2004 and The Slovak Republic is also member of euro zone. Also both countries are classified as the high income countries by OECD. The analysis is based on OECD and EUROSTAT data and used the data about the import and export of services and the global innovation index both the input and output sides' indexes. The contribution discusses differences or distances between the indexes and their stability. They show the opportunities for better understanding of the knowledge economy conditions as well as the performances in the international trade of business services. In the context of business services, the key challenges are developing knowledge and skills and transfer this to economy including the trade.

Keywords: business services, indices, knowledge, criteria, regional disparities, creativity, customisation

1. INTRODUCTION

As part of the shifts in the increase in the share of services in the overall output of the economy, they occupy a special position in the knowledge-intensive service. The comparative advantage becomes in the 21st century less a function of natural resources or a capital / work ratio but becomes a function of technology and ability. The system of knowledge-based society is based on the synthesis of intellectual and physical power, interconnection of innovation and production. (Greenhalgh C., Rogers M. 2010) Creating prosperity and wealth allows us to exploit the integrity of human intellectual creative abilities. (Čajka; Rýsová, 2008)

Knowledge-intensive business services depend on knowledge and support business activities (Benešová, D. 2013). We distinguish technology services with high utilization of scientific and technological knowledge (research and development services, engineering services, computer services, etc.) and more professional services (legal, accounting and management consulting and marketing services). These services either deliver primary sources of information and knowledge, or use their expertise to create a service that makes it easier for their clients to do their own (Huttmanová, E., Hečková, J. 2013). The first mention of KIBS was used in the 1995 report for the European Commission "Knowledge-intensive business services: users, carriers and sources of innovation". (ZEMCC, 2006)

According to the European Monitoring Centre for Change in the Knowledge Economy, the whole range of new professional activities and professions listed as knowledge-intensive business services will grow.

The contribution is devoted to the trends in the trade and structure of other business services in relation with knowledge and skills share in The Slovak Republic (further SR), in the comparison with The Czech Republic (further CR) and the EU28 as well as EU19. SR and CR are part of EU28 and SR is the part EU19, euro zone. The supply and trade of business services affects quantity, price, technology available, entry prices, regulatory measures and organizational solutions, and the life cycle of services and inputs necessary for their production. The initial research questions were:

- What is the structure of the business services offer and what determines it?
- What factors affect the business services offer level?
- What is the importance of these factors, the bid determinants?
- How is the business services offer formed?

2. STRUCTURE OF OTHER BUSINESS SERVICES

Knowledge intensive business services includes real estate, technical and technical activities (legal and accounting activities, management consultancy, architectural and engineering activities, advertising and other professional activities), administrative and support services (renting and leasing, brokering, office and security services, administrative assistance activities), other education and training activities, arts, entertainment and recreation, repair of computers and various needs and personal services. The data shall include the data for legal entities registered in the Commercial Register and for natural persons doing business on the basis of a license. Within the SR, in view of the offer of knowledge-intensive business services in the sense of classification SK NACE (SUSR 2017), the selected business services offer was monitored and analysed.

Based on the value added by economic activity over the monitored period 2008-2016 in the SR, "M Scientific and Technical Activities" were examined and compared with the activities "A Agriculture" and "C Industrial Production". Based on this, we calculated the percentage increase in the share of these activities (Table 1).

Table 1. Selected activities and their share of growth in gross value added GVA in 2008-2016 in the SR

Activities	Growth of rate in %	Average level of GVA	Average level of share in %
Agriculture	3,00	2 427,84	3,76%
Industrial production	20,84	14 044,35	21,77%
Other business services	34,80	3 198,40	4,95%

Source: own research, ŠUSR, 2017

In the monitored period 2008-2016, agriculture reached a 3% increase, industrial production 20,84% and other business services 34,8%. Other business services had the highest growth over the monitored period compared to the above mentioned activities. The overall share of gross value added (GVA) from all activities was as follows: Agriculture 3,76%, Industrial production 21,77% and Other business services 4,95%.

Prahalad, C.K. and Krishnan, M.S. (2008) describe the ongoing fundamental transformation of business in relation on the factors of competitiveness, networking, knowledge, innovations and research and development drivers as well as the business services trade. We are discussing about the concept of knowledge economy and the relations among some indicators related to the economy structure, trade structure and business services structure among SR and CR in comparison with the EU28 and EU19. Greenhalgh and Rogers (2010) deal with the need for improving the impact of investments in the education, research and innovation by systemic and continuous interaction. They influence input and output sides of economy and trade (Krizanova 2015, Jankalova 2013). The negative phenomena in transition countries influence the performance, competitiveness and innovativeness of economy (Buno, Hraskova and Bartosova 2015). The quantitative aspects of processes also in Visegrad countries investigated Kliestik (2009), Gregova and Dengov (2015).

Table 2 Share of other business services on the total service trade

Services		SR		CR		EU28		EU19	
		2013	2016	2013	2016	2013	2016	2013	2016
Total Services	export	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	import	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Other business services	export	20,94	18,77	21,42	20,03	23,42	25,18	21,62	24,54
	import	20,28	20,17	24,35	24,06	27,33	30,94	25,20	28,78

Source: own research by OECD (2018)

Industrial production remains dominant in SR, but it is the "other business services" that reach the highest growth. This is a consequence of the new requirements for the knowledge and skills of the employees, respectively the new labour market structure.

Table 3 Index of export and import of business services in the period 2013-2016 v %

Services		SR	CR	EU28	EU19
		2016	2016	2016	2016
Total Services	export	92,25	99,70	100,04	102,06
	import	91,60	96,99	104,56	101,96
Other business services	export	82,71	93,21	107,54	115,88
	import	91,12	95,83	118,36	116,46

Source: own research by OECD (2018)

We used the OECD data (2018) to compare the share of services and other business services on services export and import. According to Table 2, the share of other business services was in 2013 20.94% resp. in r. 2016 in the SR 18.77%. Compared to the Czech Republic it was 0.48-1.26% less and with the EU28 3.36-6.41% less. In the SR and the CR, there was also a decrease in the share of exports of other business services, as opposed to the trend in the EU28 where the growth of other business services was in the period 2013-2016. At the same time, while imports and exports in EU-28 and EU-19 (euro area) exports grew, imports and exports were higher than imports, both in the SR and the CR declined during this period and imports were higher than exports (Table 3). The tendencies were the opposite. The causes can be identified in inputs and outputs, but in particular in the underdevelopment of the business services market within these young market economies. Both economies are primarily oriented to industrial production.

From the point of view of the internal structure, it is possible to see substantial differences between SR and CR (Table 4), as well as the EU28 or EU19 in terms of shares. Only one import category

e.g. business and management consulting and public relations services have become equally important. In the CR, the EU28 and the EU19, there are high export and import shares in particular:

- Research and development services
- Business and management consulting and public relations services
- Advertising, market research and public opinion polling services

Table 4 Heat map of import and export structure of other business services

Services		SR		CR		EU28		EU19	
		2013	2016	2013	2016	2013	2016	2013	2016
Other business services	export	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	import	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Research and development services	export	4,26	3,26	6,58	11,44	13,84	14,33	11,90	11,58
	import	7,35	6,82	9,89	12,96	16,18	22,24	12,27	12,99
Legal services	export	20,51	14,56	1,81	2,13	2,78	3,00	1,54	2,15
	import	12,61	10,30	1,17	1,09	1,77	1,69	1,42	1,33
Accounting, auditing, bookkeeping and tax consulting services	export	16,46	18,58	8,56	9,84	2,69	2,70	2,18	2,16
	import	4,58	7,26	4,01	5,23	2,04	1,81	2,05	2,14
Advertising, market research and public opinion polling services	export	11,58	7,28	11,95	11,34	8,61	8,91	10,06	10,20
	import	6,95	8,62	12,26	9,52	10,90	11,19	12,96	14,76
Architectural services	export	0,16	0,13	0,25	0,33	0,46	0,32	0,24	0,22
	import	0,17	0,12	0,12	0,04	0,23	0,12	0,27	0,14
Business and management consulting and public relations services	export	5,09	20,09	28,94%	25,79	19,49	18,00	22,23	21,22
	import	21,20	24,32	35,40%	34,63	19,06	16,92	20,51	19,08

Source: own research by OECD (2018)

Within the SR, however, the major difference lies in the size of legal services. The share of legal services is substantially higher in business services than in the CR, EU28 and the EU19. The opposite situation can be identified in the area of research and development services, where the share of trade is significantly lower in SR than in the CR, EU28 and EU19. There is a direct link between the indicators of inputs and outputs of the global innovation index for the period 2013-2016 and their impact on trade in research and development services. Significantly lower gross expenditures on research and development (%GDP), lower knowledge-intensive employment (%), university/industry research collaboration on the input side of GII and the low levels on the output side of GII in relation with domestic resident patent, citable documents H index and royalty and license fees receipts determine the low share of trade in research and development services in the SR.

Within the SR and individual regions (8 region – Bratislava, Trnava, Nitra, Trenčín, Banská Bystrica, Žilina, Prešov, Košice), we focused on selected indicators indirectly expressing the level of business services offer, namely indicators of sales in mil. EUR, the number of employees in individual business services, the average monthly wage and the number of enterprises in 2008-2016. Output height determines input changes, i.e., new technologies and new employees with other required knowledge and skills.

If the company innovates, it can reduce the number of employees (robotics, automation of production processes, etc.), but in particular change the structure of employees, or increase the number of qualified and skilled employees in the given environment. The other business services such as law and accounting, business management and consulting, architecture and engineering, advertising and market research, other professional and technical activities are based on the use of a highly

qualified workforce. Trends recorded in industrial activities are affecting business services, which are partly excluded from industrial enterprises and outsourced such as accounting, consultancy, advertising, science and research, and the like. The highest increase in labour productivity was performed other professional scientific and technical activities, and the highest growth in the number of enterprises is in activity of legal and accounting activities, the largest increase in revenues and the number of employees has activity Business and management consulting. The decrease in the number of employees in industrial production reached 13% in 2016 relative to 2008.

Table 5. The growth of business services economic indicators in the monitored period 2008-2016 in the SR

Indicators of business services	The highest growth in %	The lowest growth in %
Sales	Business and management consulting and public relations services	Research and development services
Number of employees	Business and management consulting and public relations services	Other business services
Labour productivity	Other business services	Research and development services
Average wage	Industry	Advertising, market research and public opinion polling services
Number of firms	Legal, Accounting, auditing, bookkeeping and tax consulting	Research and development services
Number of employees in the firm	Research and development services	Industry

Source: own research

Technological determinants affecting industrial production and overall production processes have the effect of reducing employees. Based on a comparison of these economic indicators, we identify the potential of the knowledge economy in the country / region. Reducing staff, businesses, increasing labour productivity, and the share of sales in industrial production indicates an increase in the potential for growth in the knowledge economy.

Table 6. The average salary by selected services in the monitored period 2008-2016 by the region in the SR

Business services	The highest average salary	The lowest average salary
Legal, Accounting, auditing, bookkeeping and tax consulting	Bratislava region	Nitra region
Business and management consulting and public relations services	Bratislava region	Trnava region
Architectural services	Trnava region	Žilina region
Research and development services	Trenčín region	Trnava region
Advertising, market research and public opinion polling services	Bratislava region	Trenčín region
Industrial production	Bratislava region	Prešov region

Source: own research

Industrial production has relatively reduced labour costs. After an initial decrease in sales in 2008-2009, followed by revenue and labour productivity growth since 2010, the number of employees did not reach the level of 2008 for the whole reference period. The most significant growth in the average salary for the period 2009-2016 was recorded by the Bratislava architectural activity and other scientific and technical activities with the largest representation in the Nitra Region.

Based on primary research, it was necessary to evaluate business services from the perspective of the business sector and compare these services based on criteria reflecting the demandingness of services to creativity, customisation or standardisation.

3. COMPARISON OF BUSINESS SERVICES BY SELECTED CRITERIA

We compared KIBS services based on selected criteria that characterize different service sides and to which they were included: creativity, customization, rules / laws, databases / tools, and required business investment. The criteria that have been selected serve to compare these services, primarily because of the variation in the intensity of use of tacit and codified knowledge and skills (Madudova, Rostasova and Ciba 2014). For some KIBS services, codified knowledge and skills predominate, tacit knowledge and skills dominated by others (Hudec, Klasova 2016).

Table 7 shows services classified by SK NACE rev. 2 and sorts them according to the factors used and their outputs from the perspective of the firm as a customer. Creativity in these services is most used in the field of architectural activities, which also reach the highest production values. These services also have a high degree of use of rules / laws and standards, are customized by customer requirements.

4. CONCLUSION

A knowledge economy is today described as a pillar of a healthy and prosperous economy, especially for countries that do not have mineral wealth. KIBS are based on human knowledge and expertise associated with customization and creativity. These activities are only partly influenced by technological determinants, rather they directly create, innovate and differ from services built on manual and mechanical work. The growing trend in these services in the innovation index indicates growth in the knowledge economy.

Growth of KIBS is influenced by regions and the concentration of demand for these services. Knowledge-intensive business services (KIBS) are concentrated in major cities. This is due to the increased demand for these services by foreign entrepreneurs, the concentration of businesses requiring these services and also the number of inhabitants and working or wage conditions. These services are affected by an increasing number of businesses, educational levels, and other factors in the country. Countries that are known for success in the knowledge economy have an increased concentration of employees at KIBS. Influencing the determinants of these services is the focus of businesses in the region, the population, the business environment and the motivation of education as well as the level of wages in KIBS, more sophisticated demand and customer needs / demands, increased competition, market globalization, natural resources and pressure to protect the environment based on regulations.

Table 7. Comparison selected business services by 5 criteria

Services	Creativity (tacit knowledge)	Customisation (tacit knowledge)	Rules/laws (codified knowledge)	Databases/tools (codified knowledge)	Firm investment
Legal services	middle	middle	high	low	low
Accounting, auditing, bookkeeping and tax consulting services	middle	middle	high	middle	low
Business and management consulting and public relations services	high	middle	middle	middle	high
Architectural, engineering services	high	high	high	high	high
Research and development services	high	high	middle	high	high
Advertising, market research and public	high	high	low	high	high

opinion polling services					
Special design services	high	high	middle	high	high

Source: own research

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