



Knowledge intensive business services (KIBS) and potential of regions in Visegrad group countries

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What is KIBS:

The knowledge intensive business services sector consists two categories:

- a) technology focused KIBS services that include R&D services, engineering services, computer services
- b) KIBS also include accounting, advertising, business and management consultancy.

Theoretical framework- Why KIBS?

- The innovations in the services, especially in IT has influence on activities in all sectors of the economy and play a central role in the innovation processes.
- Factories need KIBS for increased production efficiency as they bring new innovations, a stronger position, and a competitive advantage to these firms.
- Knowledge intensive business services have recorded significant growth in the last years within national and regional economies (Toivonen, 2006),
- The production organizations require innovations in cooperating KIBS organizations to reinforce their innovation process.

Research aims

- What are differences among the regions in their potential in relation to KIBS.
- Are regional differences in KIBS higher than in the economic potential of the regions?
- The research will be applied in the analysis of the regions in Visegrad countries - NUTS II. level.

Methodology

- The analysis is based on the research goal and data, The group of indicators, consists following data:
- $GDPEA_{(l-n)}$ - represents gross domestic product per capita that provides a representative insight to the economic potential of the region (in Eur per capita)
- $AHRST_{(l-n)}$ - share of university students in the IT field per work force in %
- $AKIBS_{(l-n)}$ - share of employment in KIBS on employment total (in %)
- $RDEX_{(l-n)}$ - Intramural R&D expenditure (GERD) in Euro per Inhabitant
- $I_{KIBS13(l-n)}$ - Index of KIBS potential in 2013
- $I_{KIKBI6(l-n)}$ - Index of KIBS potential in 2016

Index of Knowledge Intensive Business Services

(I_{KIBS13} , I_{KIBS16})
of Visegrad regions

Region NUTS II.	IKIBS 13	IKIBS 16
Prague	69,3	87,5
Central Bohemia	30,3	32,6
Southwest	28,5	29,3
Northwest	21,0	22,5
Northeast	27,2	28,4
Southeast	35,9	36,9
Central Moravia	26,4	27,2
Moravian-Silesian	26,0	28,3
Central Hungary	41,3	42,7
Central Transdanubia	22,0	23,5
Western Transdanubia	21,5	24,4
Southern Transdanub.	21,1	22,2
Northern Hungary	18,8	20,8
Northern Great Plain	21,5	22,4
Southern Great Plain	20,7	23,5
Lódź	23,2	25,7
Masovia	37,9	41,6
Lesser Poland	24,2	28,0
Silesia	24,3	26,8
Greater Poland	23,1	26,0
West Pomerania	21,1	24,6
Lubusz	19,9	22,3
Lower Silesia	25,6	29,2
Opole	18,5	22,2
Kuyavia-Pomerania	19,3	22,7
Warmia-Masuria	19,5	21,5
Pomerania	25,3	28,8
Holy Cross Province	19,1	22,3
Lublin	21,2	23,2
Subcarpathia	20,0	23,9
Podlaskie	19,2	23,2
Bratislava	63,1	61,5
West Slovakia	21,8	26,7
Central Slovakia	22,8	26,4
East Slovakia	20,8	23,4

Correlation dependency of selected indicators

	GDP EAI3	HRST13	AKIBS 13	RDEX 13	IKIBS13	GDPEA 16	HRST 16	AKIBS 16	RDEX 16	IKIBS 16
GDPEA13	1,000	,684**	,109	,682**	,854**	,988**	,759**	,087	,700**	,880**
HRST13	,684**	1,000	,202	,676**	,740**	,670**	,843**	,162	,660**	,763**
AKIBS13	,109	,202	1,000	,341*	,342*	,106	,237	,932**	,291	,280
RDEI3	,682**	,676**	,341*	1,000	,920**	,713**	,614**	,313	,907**	,853**
IKIBS13	,854**	,740**	,342*	,920**	1,000	,861**	,720**	,308	,856**	,932**
GDPEA16	,988**	,670**	,106	,713**	,861**	1,000	,732**	,083	,717**	,879**
HRST16	,759**	,843**	,237	,614**	,720**	,732**	1,000	,170	,623**	,832**
AKIBS16	,087	,162	,932**	,313	,308	,083	,170	1,000	,296	,272
RDEX16	,700**	,660**	,291	,907**	,856**	,717**	,623**	,296	1,000	,894**
IKIBS16	,880**	,763**	,280	,853**	,932**	,879**	,832**	,272	,894**	1,000

Conclusion

- The localization of KIBS shows that the services have a tendency to concentrate in the regions with metropolitan areas.
- Externalities and agglomeration effects are an important factor of the development of the KIBS sector.
- Another factor is the relatively higher connection of KIBS with the economic development level of the regions or their economic specializations.
- The regional differences in KIBS development are higher than in the economic potential of the regions.
- A region with a long developed economy and higher gross domestic product has created better conditions for the development of KIBS, even through the innovation activity.
- The result of the correlation analysis reveals a statistically significant dependency between KIBS development and the economic potential of the regions.

Conclusion

- From the theoretical point of view of the regional innovation system, localization of the universities and R&D institutions support development of KIBS.
- Externalities and agglomeration effects are an important factor of the development of the KIBS sector and regional specialisation.
- Level of concentration of KIBS is frequently linked to the level of regional innovation systems and other factors, which have a direct influence on the development of the economic potential of the regions.
- Spreading of information and communication technologies and services decreases the requirement for the geographical proximity of companies.
- KIBS are used by the organizations from other less developed regions.



Thank you for your attention.