

KNOWLEDGE AS A FACTOR OF ECONOMIC GROWTH OF TRANSITION COUNTRIES

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Abstract. *The purpose of this paper is to analyse the impact of knowledge on economic growth of transition countries. The aim is to identify the correlative relationship between the achieved level of development of the knowledge economy measured by KEI (Knowledge Economy Index) and level of GDP (Gross Domestic Product) and economic growth in transition countries by applying appropriate methods. The methods of comparative, correlation and regression analysis are used in the paper. The paper includes the following three parts: the analysis of the achieved level of the knowledge economy development in transition countries based on the KEI and its pillars; analysis of the actual level of GDP and economic growth in transition countries; testing of correlation between the KEI, on the one hand, and GDP and its growth, on the other hand and analysis of the influence of pillars within the KEI on GDP of transition countries. The results of the research indicate a weak correlation between the KEI and GDP in analysed countries. Based on them, we can conclude that knowledge is not a significant factor in the economic growth of transition countries.*

Key words: *knowledge, growth, development, GDP, transition countries.*

INTRODUCTORY DISCUSSION AND THEORETICAL BACKGROUND

Knowledge-based economy is a part of the development strategy of every economically developed country and its companies (Milisavljević, 2010, p. 115). Development of the knowledge economy has become a necessity in developed countries, but also in developing countries and transition economies. The richness of the state no longer depends on the ability to collect and convert raw materials, but on the ability to develop and upgrade intellect in the state, as well as skills related to specific companies. The company's success depends

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on their ability to operate in a global market that is rapidly changing, and where consumers are more eager to gain new knowledge, where there are a large number of choices, and where relationships between buyers and sellers are constantly changing. Development of skills based on knowledge, and those concerning the efficient and effective use of knowledge, is important to increase the absorption capacity of the company (Krstić, 2011, p. 275). Knowledge management is becoming the dominant form of management in the company, and as such, the basis of management in the new knowledge society. It is continuously directing of all kinds of knowledge - individual, group, team or organizational, in order to meet existing and further needs (Krstić, 2009, p. 99).

The creators of value - people and their intellect, become now, in the "knowledge economy", i.e. "information society", a strategic resource of modern economy and its subjects (Krstić, 2007, p. 316). For successful economy and its subjects in this environment, people must acquire new skills. In particular, they must acquire skills that enable them to identify, manage, share and utilize information and knowledge. They need "information skills". Increase of both organizational and individual skills is the primary success factor in the development of the knowledge economy.

Many authors point to the importance of improving the knowledge economy, not only in developed countries, but also in countries that have achieved a lower level of economic development. Krstić and Stanišić have conducted a detailed analysis of the competitiveness of the Southeastern Europe countries based on the GCI (Global Competitiveness Index) and the KEI (Knowledge Economy Index), as well as its pillars. "Innovative policies, greater investments in education and training, creation of innovations and technological competences, information infrastructure, as well as, stimulating economic environment and institutional regime with the aim of creating, disseminating, transferring, and effective use of knowledge in production, services, and export of SEE countries, are needed" (Krstić, Stanišić, 2013, p. 165).

The World Bank Institute, within the program Knowledge for Development, regards that the successful development of the knowledge-based economy requires long-term investment in education, development of innovation skills, development of information and communication technologies and the existence of legal and economic framework. The World Bank divided these features into four elements that are crucial for the state to be able to develop the economy based on knowledge. The first element relates to the legal and economic framework of the country, the second to the innovation system, the third to education and training, and the fourth to the information and communication system.

The first important element of the knowledge economy is the legal and economic framework of the country. Its effects depend on whether the state has a well-established and transparent macroeconomic and competitive politics and the legal system that allows economic operators to create and use knowledge freely. Legal and economic framework of the state should encourage continuous education, free movement of knowledge, the commercial application of the results of scientific-research development, cooperation between educational institutions and the public and private sector, investment in information and communication technology, encourage entrepreneurship and the like. On that basis, development of professionals is a necessary, but not sufficient determinant of state competitiveness. Proper economic policy that encourages improving governance, reducing corruption, encouraging an entrepreneurial climate, and domestic savings is needed.

The second element of the knowledge economy refers to the innovation system. Innovation system is a network of institutions which contribute to the development and dissemination of new technologies individually and collectively and provide a framework within which the state shapes and implements innovative policy. It is a system of interconnected institutions for creating, storing and transferring the knowledge and skills that are the basis for the development and diffusion of new technologies (Metcalf, 1995, p. 408). Innovation system does not lead to progress if its results do not apply, then they are set. Science, engineering and technology do not stand still, but constantly progress and most modern technical and technological solutions very quickly become obsolete (Arandelović, Gligorijević, 2008, p. 60).

Scientific research and the application of its results are important for the creation of a competitive economy. Based on the importance of innovation for the development of enterprises and the economy, the need for scientific research and inventive work must be integrated into the production flow and become a lever of rapid economic and social development is imperative (Hinić, 2001, p. 19).

A modern economy needs an education system that is functional, comfortable, efficient and adaptable to the changes and needs of society and the individuals (Babić, 2009, p. 58). Only an economy whose citizens and employees are educated, skilled, creative and able to adapt to constant change will be successful in the XXI century. People, businesses and economies that want to survive and prosper are forced to continuously and quickly learn that, as soon as they reach the relevant information and knowledge. Many studies have indicated that there is a positive correlation between the achieved level of staff education and economic growth. The economy and companies must equally continue to develop their scientific, technological and creative potential if they want to achieve and sustain a competitive advantage in the coming years (Despotović, Stamatović, 2013, p. 81).

The educational process was always a process based on the theoretical and practical application of various knowledge in achieving some objective function. As an important element of the knowledge economy, the education in its content, structure and level of development differs between developed countries and countries in transition. For creating an education system corresponding to the knowledge economy, it is necessary to move to the variable knowledge base by entering new knowledge, and by new systematization of existing knowledge. It is a requirement for knowledge that will enable overviewing the complexities of the world, its understanding and adaptation needs.

Information and communication technology (ICT) sector is the fourth element of the knowledge economy. It refers to the availability, dependability and efficiency of computers, phones, television and radio, as well as the different networks that link them (Chen, Dahlman, 2005, p. 7). The World Bank defines the ICT sector as a set of hardware, software, networks, and media for collection, and storage, processing and transmission of data, and presentation of information in the form of voice, data, text and images (The World Bank, <http://info.worldbank.org>).

Although there is no consensus on the causes of the decrease the global economic growth in the seventies and increase the growth rate of the nineties of the last century, a number of theoretical papers and empirical research suggest that the development of high technologies, especially the internet and related technologies, influenced the growth and development of the global economy at the end of the last and at the beginning of this

century. Adoption of new internet technologies and the model based on them and the success of using the growth potential that they offer become one of the most important strategic issues, both at the microeconomic and on the overall economy of a country. Using the internet in business contributes to increasing its effectiveness and efficiency (Avramović, 2006, p. 219).

All four mentioned elements of the knowledge economy are equally important. It is necessary to point out that the importance of any part of the knowledge economy can not be extracted. Best educated people will not be competitive enough if the economy does not stimulate innovation and entrepreneurship, if there is no rule of law and if information and communication sector is not developed.

1. RESEARCH METHODOLOGY AND HYPOTHESES

Bearing in mind that the development of modern economies is based on knowledge, the main objective of this paper is to determine whether the development of transition economies is based on knowledge. The achieved level of the knowledge economy development is measured using the KEI, while the level of development of countries is viewed on the basis of the achieved level of GDP and GDP growth rates. The research includes all transition countries (except Turkmenistan, due to lack of data) analysed in the Transition Report 2012, which was prepared by the European Bank for Reconstruction and Development (The European Bank for Reconstruction and Development, 2012).

Based on the purpose and primary objective of the research, the authors of the paper will test the following hypotheses:

H1: More than 50% of transition countries have made progress towards knowledge society and knowledge economy in the period from 1995 to 2012;

H2: There is a strong positive correlation between the KEI and GDP in transition countries;

H3: The achieved level of the knowledge economy development in the transition countries has a significant impact on its economic growth measured by GDP indicator;

H4: All pillars of the KEI indicator have a significant impact on the GDP level of of transition countries.

The data of the World Bank represent the information basis of research for data about the KEI and GDP. The method of dynamic (comparative) analysis of the competitiveness of transition countries based on the KEI, the method of correlation analysis and the method of regression analysis are applied in the paper.

2. DYNAMIC ASPECT OF COMPARATIVE ANALYSIS OF THE KEI CHANGES IN TRANSITION COUNTRIES FOR 1995 AND 2012

The World Bank Institute has developed a methodology for benchmarking the development towards the knowledge economy called "The Knowledge Assessment Methodology" (KAM). KAM is an interactive program which allows the states, on the basis of systematic analysis and evaluation of the above mentioned parts of the knowledge

economy, to see their strengths and weaknesses based on the comparison of the knowledge economy pillars with neighbouring or other countries.

Comparison within the KAM includes 109 structural and qualitative indicators that serve as a replacement for the four pillars of the knowledge society, as well as 146 countries and 9 regions (The World Bank, <http://info.worldbank.org>). The KAM indicators are determined on the basis of data from renowned national institutions. Data are reliable and consistent with each other, because they are being continuously updated. The KAM allows states to identify the problems and dangers with which they are faced and thus focuses attention on future investments that would enable the transformation to a knowledge economy.

Using a methodology for benchmarking the transformation towards the knowledge economy, every year the World Bank forms ranking list of countries according to their level of development using the Knowledge Economy Index and the indicators that determine the level of development of each pillar within the KEI. Knowledge Economy Index shows how the environment in the country or region is conducive to effective use of knowledge for the purpose of economic development. It is an aggregate index that shows the achieved phase in the knowledge economy development in the country or region. In order to calculate the Knowledge Economy Index, the level of development of each pillar based on certain indicators is determined:

- 1) the first pillar – *The Economic Incentive and Institutional Regime*: tariff & nontariff barriers, regulatory quality and rule of law;
- 2) the second pillar – *The Innovation System*: investments in scientific research as a % of GDP, the cooperation of higher education institutions and the business sector, the number of registered patents per million inhabitants; number of published scientific papers per million inhabitants, private sector investment in scientific research;
- 3) the third pillar – *Education*: percentage of literate compared to the population over 15 years, public investment in education expressed as a % of GDP, percentage of professors and teachers in staff, investment in staff training;
- 4) the second pillar – *Information and Communication Technology (ICT)*: the number of telephone lines (fixed and mobile) per thousand inhabitants, the number of computers per thousand inhabitants and the number of internet users per thousand inhabitants, and the availability of government services via the internet.

Table 1 shows the KEI score and rank for selected transition economies in 1995 and 2012. Based on the value of the KEI it can be concluded that Estonia had the highest value and the first position relative to other transition countries in 1995 and 2012. Estonia recorded an increase in the value of the KEI, but also improved the position on the world list of countries in observed period. The lowest value of the KEI was recorded in Mongolia in 1995, and in Tajikistan in 2012.

Table 1 Rank and score of KEI for transition economies

	Country	1995		2012	
		Rank	Score	Rank	Score
1	Estonia	27	7.94	19	8.4
2	Slovenia	28	7.89	28	8.01
3	Hungary	33	7.5	27	8.02
4	Slovak Republic	34	7.22	33	7.64
5	Poland	39	6.85	38	7.41
6	Bulgaria	40	6.81	45	6.8
7	Lithuania	43	6.59	32	7.8
8	Latvia	45	6.51	37	7.41
9	Croatia	48	6.25	39	7.29
10	Ukraine	52	5.96	56	5.73
11	Romania	53	5.91	44	6.82
12	Belarus	55	5.81	59	5.81
13	Russian Federation	59	5.67	55	5.78
14	Jordan	61	5.55	75	4.95
15	Turkey	62	5.46	69	5.16
16	Serbia	64	5.35	49	6.02
17	Armenia	67	5.25	71	5.08
18	Macedonia, FYR	68	5.14	57	5.65
19	Georgia	70	5.1	68	5.19
20	Moldova	73	5.07	77	4.92
21	Kazakhstan	79	4.93	73	5.04
22	Uzbekistan	84	4.78	104	3.14
23	Egypt	87	4.68	97	3.78
24	Azerbaijan	88	4.62	79	4.56
25	Tunisia	89	4.54	80	4.56
26	Kyrgyz Republic	91	4.42	95	3.82
27	Bosnia and Herzegovina	92	4.39	70	5.12
28	Albania	93	4.33	82	4.53
29	Morocco	96	4.17	102	3.61
30	Tajikistan	97	4.13	105	3.13
31	Mongolia	99	4.08	83	4.42

Source: The World Bank, http://info.worldbank.org/etools/kam2/kam_page5.asp

Starting from the 145 countries analysed by the World Bank, we can conclude that about 60% of transition countries are located within the first half of the world list of countries according to the KEI score. Serbia, which is among them, took the 64th place in 1995 and the 49th place in 2012. Ten transition countries have decrease of the KEI score in 2012 in relation to 1995. Nine transition countries are worsening position on the world list of 145 countries in this period. Since about 71% of transition countries achieve the improvement of the knowledge economy, we can conclude that the first hypothesis of research is confirmed.

In order to view the position of each transition countries, according to each pillar within the KEI, its values are given in Table 2.

Table 2 The value of the pillars within the KEI indicator for transition countries (2012)

Country	Economic Incentive and Institutional Regime		Innovation System		Education		Information and Communication Technology	
1 Estonia	1	8.81	3	7.75	2	8.6	1	8.44
2 Slovenia	2	8.31	1	8.5	8	7.42	3	7.8
3 Hungary	3	8.28	2	8.15	3	8.42	7	7.23
4 Slovak Republic	5	8.17	5	7.3	9	7.42	4	7.68
5 Poland	7	8.01	6	7.16	5	7.76	12	6.7
6 Bulgaria	9	7.35	7	6.94	13	6.25	13	6.66
7 Lithuania	6	8.15	9	6.82	1	8.64	5	7.59
8 Latvia	4	8.21	10	6.56	6	7.73	8	7.16
9 Croatia	10	7.35	4	7.66	14	6.15	2	8
10 Ukraine	24	3.95	14	5.76	4	8.26	18	4.96
11 Romania	8	7.39	12	6.14	7	7.55	14	6.19
12 Belarus	28	2.5	15	5.7	10	7.37	10	6.79
13 Russian Federation	29	2.23	8	6.93	12	6.79	9	7.16
14 Turkey	12	6.19	13	5.83	29	4.11	25	4.5
15 Serbia	23	4.23	11	6.47	15	5.98	6	7.39
16 Armenia	13	5.8	22	4.21	11	6.96	28	3.35
17 Macedonia, FYR	14	5.73	19	4.99	24	5.15	11	6.74
18 Georgia	11	7.28	18	5.15	27	4.61	27	3.72
19 Moldova	21	4.44	23	4.16	18	5.79	15	5.28
20 Azerbaijan	26	3.36	26	4.01	16	5.95	19	4.93
21 Bosnia and Herzegovina	16	5.55	21	4.38	19	5.77	21	4.77
22 Albania	18	4.69	27	3.37	25	4.81	17	5.26
23 Kazakhstan	17	4.88	17	5.59	23	5.16	22	4.65
24 Kyrgyz Republic	30	1.58	29	3.12	22	5.32	16	5.27
25 Mongolia	22	4.3	30	2.91	17	5.83	23	4.63
26 Tajikistan	27	2.55	31	2.18	26	4.66	29	3.14
27 Uzbekistan	31	0.92	28	3.13	20	5.65	31	2.87
28 Egypt	20	4.5	24	4.11	30	3.37	30	3.12
29 Jordan	15	5.65	25	4.05	21	5.55	24	4.54
30 Morocco	19	4.66	16	5.67	31	2.07	26	4.02
31 Tunisia	25	3.81	20	4.97	28	4.55	20	4.89

Source: The World Bank, http://info.worldbank.org/etools/kam2/kam_page5.asp

According to the first pillar - the Economic Incentive and Institutional Regime, the highest value was observed in Estonia, and the lowest in Uzbekistan. The country which recorded the highest value of the pillar Innovation system is Slovenia, the country with the lowest value of this pillar is Tajikistan. Countries which recorded the highest value of the pillar Education are Lithuania and Slovenia, while Morocco recorded the lowest value of this pillar. Estonia recorded the highest value of the pillar Information and Communication Technology, and Uzbekistan had the lowest value of this pillar.

3. ANALYSIS OF GDP AS INDICATOR OF ECONOMIC GROWTH IN TRANSITION COUNTRIES

For the purpose of further analysis Table 3 presents data on the achieved level of GDP in transition countries in 2012. The list of transition countries is given on the basis of the Transition Report of the European Bank for Reconstruction and Development (The European Bank for Reconstruction and Development, 2012).

Table 3 GDP and GDP growth rate in transition countries (2012)

	Ranking	Country	GDP (millions of US dollars)	Δ% GDP
1	8	Russian Federation	2,014,775	+3.44
2	17	Turkey	789,257	+2.24
3	24	Poland	489,795	+1.82
4	39	Egypt	262,832	+2.21
5	50	Kazakhstan	203,521	+5.00
6	54	Ukraine	176,309	+0.20
7	56	Romania	169,396	+0.35
8	58	Hungary	124,600	-1.70
9	62	Morocco	95,982	+4.20
10	63	Slovak Republic	91,348	+1.80
11	67	Azerbaijan	66,605	+2.20
12	68	Belarus	63,267	+1.50
13	70	Croatia	59,228	-1.98
14	74	Uzbekistan	51,113	+8.20
15	75	Bulgaria	50,972	+0.80
16	78	Tunisia	45,662	+3.60
17	79	Slovenia	45,378	-2.50
18	83	Lithuania	42,344	+3.70
19	87	Serbia	37,489	-1.70
20	91	Jordan	31,015	+2.65
21	93	Latvia	28,373	+5.00
22	102	Estonia	22,376	+3.94
23	110	Bosnia and Herzegovina	17,466	-0.70
24	113	Georgia	15,747	+6.00
25	124	Albania	12,648	+1.60
26	129	Mongolia	10,271	+12.28
27	132	Armenia	9,951	+7.19
28	134	Macedonia, FYR	9,613	-0.27
29	139	Tajikistan	7,633	+7.50
30	141	Moldova	7,253	-0.80
31	144	Kyrgyz Republic	6,475	-0.89

Source: The World Bank, <http://data.worldbank.org/indicator>

Within the observed sample of transition countries, Russia has the highest level of GDP. Russia is ranked on the eighth place on the list of the World Bank according to the

value of GDP. Only seven transition countries achieve higher GDP than the average value of GDP (163,184 million) that all the countries in transition have made. Serbia is on the 19th place on the list of transition countries, and on the 87th place on the world list of 144 countries according to the value of GDP. Mongolia recorded the biggest economic growth and increase of GDP in 2012 compared to 2011. The largest decrease of GDP is recorded in Slovenia, followed by Serbia and Hungary.

4. RESULTS OF EXAMINATION OF INTERDEPENDENCE BETWEEN KEI AND GDP AND IMPACT OF KEI ON GDP IN TRANSITION ECONOMIES

The results of correlation analysis, which examines the interdependence between the KEI indicator and the value of GDP for the group of selected countries in transition in 2012, are given in table 4. Based on the correlation coefficient, it can be concluded that there is a very weak correlation between the achieved level of the knowledge economy development, measured by KEI, and the achieved level of GDP in the transition countries in 2012. In this way, the second hypothesis of the research is rejected.

Table 4 Correlation between the KEI and GDP for transition countries

		Correlations	
		KEI	GDP
KEI	Pearson Correlation	1	0.039
	Sig. (2-tailed)		0.837
	N	31	31

Source: Authors' calculation

Based on the value of the correlation coefficient presented in table 5, it can be concluded that there is a medium negative correlation between the level of the knowledge economy development measured by KEI and increase/decrease of GDP in 2012 (compared to 2011).

Table 5 Correlation between the KEI and GDP growth for transition countries

		Correlations	
		KEI	GDP growth
KEI	Pearson Correlation	1	-0.412 [*]
	Sig. (2-tailed)		0.021
	N	31	31

* Correlation is significant at the 0.05 level (2-tailed).

Source: Authors' calculation

The results of correlation analysis shown in Table 4 and Table 5 indicate that the transition countries do not base their economic growth on the knowledge economy, and that countries that have achieved significant economic growth recorded extremely small value of the KEI. At the same time, we can conclude that the third hypothesis of the research is not confirmed.

The determination coefficient shows how much of the variance of the dependent variable explains the model. In our case, the determination coefficient is 0.343 (Table 6). When we express this as a percentage, we can conclude that 34% of the achieved level of GDP in transition countries are influenced by all pillars of the KEI.

Table 6 Impact of all pillars within the KEI on the value of GDP in transition countries

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.586 ^a	0.343	0.242	3.30671E5

a. Predictors: (Constant), Information and Communication Technology, Economic Incentive and Institutional Regime, Education, Innovation

b. Dependent Variable: GDP

Source: Authors' calculation

Based on the values of Beta from Table 7, we can conclude that the Innovation pillar has the highest impact on GDP, followed by the pillar Economic Incentive and Institutional Regime, while the Education pillar has the smallest impact. When the Sig. value is smaller than 0.05, the variable makes a significant unique contribution to the prediction of the dependent variable. When this value is greater than 0.05, it should be concluded that this variable does not make a significant unique contribution to the prediction of the dependent variable.

Table 7 Impact of pillars within the KEI on the value of GDP in transition countries

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	142318.208	251809.203		0.565	0.577
Economic Incentive and Institutional Regime	-120287.073	38287.473	-0.708	-3.142	0.004
Innovation	237214.007	76362.040	1.073	3.106	0.005
Education	-41281.297	52223.235	-0.173	-0.790	0.436
Information and Com. Technology	-62644.806	70228.333	-0.270	-0.892	0.381

a. Dependent Variable: GDP

Source: Authors' calculation

In our case, the Innovation pillar and the pillar Economic Incentive and Institutional Regime give unique and statistically significant contribution to the prediction of the results of measurements relating to realized GDP. Based on the results of regression methods, we can conclude that only two of the four pillars within the KEI have a significant impact on the size of GDP in transition countries. The fourth hypothesis of the research is not confirmed.

CONCLUSION

Knowledge becomes a vital development resource and key factor of sustainable economic growth in modern conditions. Companies that base their business processes on knowledge have a greater chance to survive and be competitive in the dynamic global market of products and services. Knowledge economy and its continuous improvement become the future of modern economies. This statement is valid for both developed economies and developing countries.

Analysing the situation in transition economies when it comes to the knowledge economy development measured by the Knowledge Economy Index, leads to the conclusion that, from 1995 to 2012, most transition countries, or about 71% of transition countries have made the improvement of the knowledge economy measured by the KEI. However, by observing their position in the world rankings, we find that some of these countries are located in the second half of the world list of countries in 2012. In this regard, we conclude that despite adequate progress, there is a possibility that transition economies continue to improve their position when it comes to knowledge society and knowledge economy.

The correlation analysis showed that transition countries do not base their growth on knowledge. Naimely, the research showed the existence of the weak positive correlation between the KEI and GDP in the analysed countries in transition. Exploring of correlation between the economy and the knowledge in the context of the knowledge economy development has highlighted the situation and the need to change the role of knowledge, education, innovation system, the information and communication sector and the economic and legal framework of the state.

Results of regression analysis confirmed the weak impact of the knowledge economy on the level of gross domestic product in the surveyed countries. All this leads us to the conclusion that knowledge is still an unused resource of economic growth, economic development and competitiveness of transition economies.

Greater investment in education, staff training and research, higher degree of development and application of modern technology, as well as the reduction of tariff and non-tariff barriers, increasing the protection of intellectual property, increasing the rule of law, reducing corruption are necessary in order to foster economic growth in transition countries. Developing and taking advantage of all components of the knowledge economy is a prerequisite for dynamic development of transition countries in the future.

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ZNANJE KAO FAKTOR PRIVREDNOG RASTA DRŽAVA U TRANZICIJI

Svrha ovog rada je da analizira uticaj znanja na privredni rast država u tranziciji. Cilj rada je da se primenom odgovarajućih metoda identifikuje korelaciona veza između dostignutog stepena razvoja ekonomije znanja merenom pomoću KEI (Knowledge Economy Index) u državama u tranziciji i dostignutog nivoa GDP (Gross Domestic Product) i privrednog rasta. U radu se primenjuje metoda komparativne, korelacione i regresivne analize. Rad obuhvata sledeća tri dela: analiza dostignutog nivo razvoja ekonomije znanja u državama u tranziciji na osnovu KEI i njegovih elemenata; analiza ostvarenog nivoa GDP i privrednog rasta u državama u tranziciji; ispitivanje korelacione veze između, KEI, sa jedne strane, i GDP i njegovog rasta, sa druge strane i analiza uticaja elemenata KEI na GDP država u tranziciji. Rezultati istraživanja ukazuju na postojanje slabe korelacione veze između KEI i GDP. Na osnovu njih se može zaključiti da znanje ne predstavlja značajan faktor privrednog rasta država u tranziciji.

Ključne reči: *znanje, rast, razvoj, GDP, države u tranziciji*