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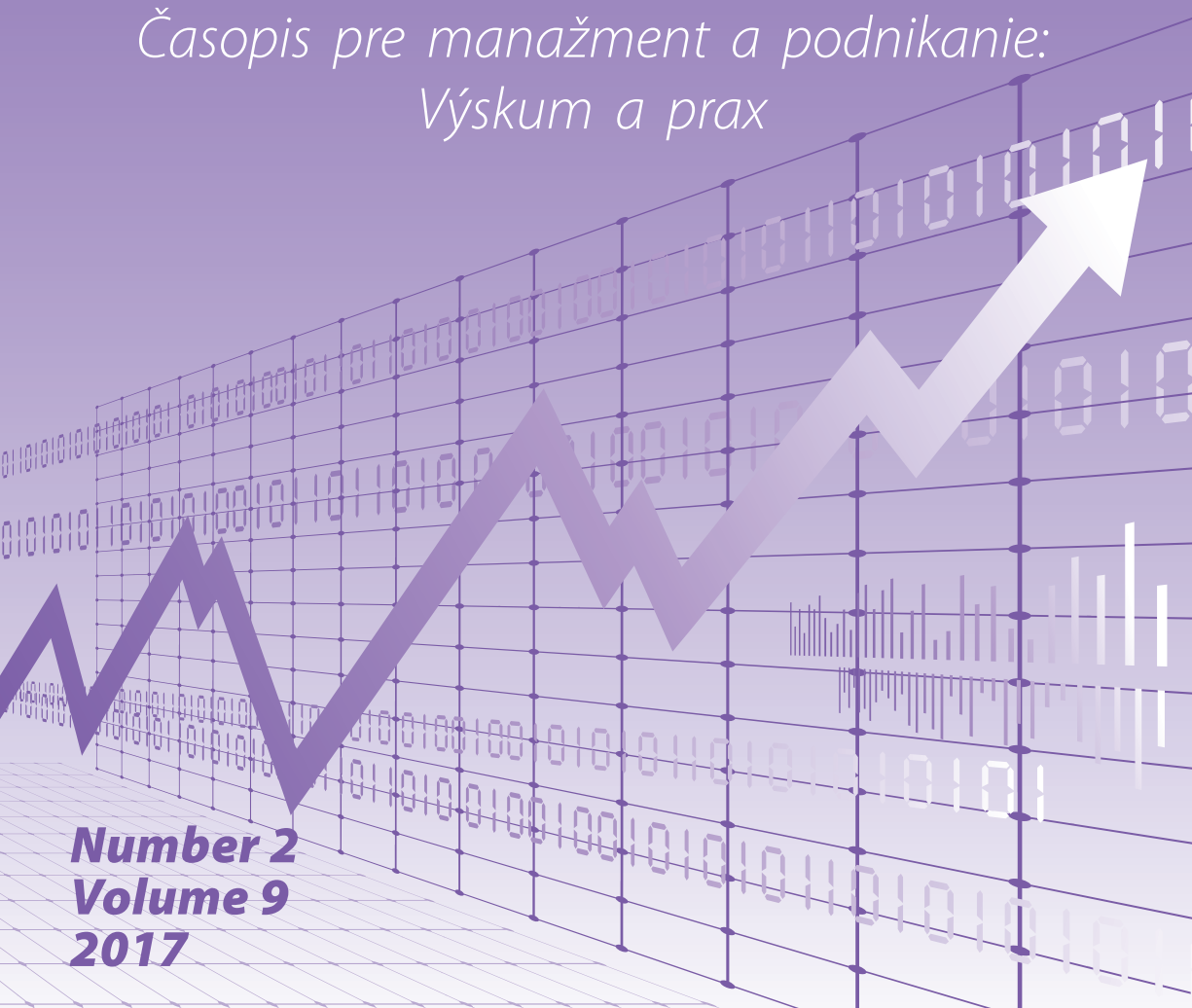

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IMPORTANCE OF HEALTH LITERACY IN MANAGEMENT

VÝZNAM ZDRAVOTNEJ GRAMOTNOSTI V MANAŽMENTE

Abstract: *At present, there are many opinions and alternatives to value quantification, which can only be a general guideline for management decisions in health management and the country's health policy. The health of each individual is largely determined by his level of health literacy. The aim of this paper is to provide an insight into the definition of health literacy, into models of health literacy and its impact on the efficiency of the healthcare system.*
Key words: *management, health literacy, health literacy assessment*

Kľúčové slová: *manažment, zdravotná gramotnosť, význam zdravotnej gramotnosti*

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Introduction

The efficiency of the healthcare system greatly determines the level of health literacy. Health is the most valuable asset of an individual. Its value is incalculable despite the different methods of measurement. One of the cardinal intentions of the healthcare system is the health and welfare of individuals. The healthcare system is an open system at local, national and international level. It is determined by political, economic, environmental and technological factors. The healthcare system represents a summary of all government organizations, private organizations, institutions and resources that are designed to improve, maintain or re-establish health. World health systems are analyzed in detail in [11], [10], [9]. The healthcare system that is implemented and influenced in the social environment has its resources, structure, processes and activities which are transformed into outputs in the form of results of care. System theory quantifies services as continuity of inputs, processes, and outputs. The cardinal goals of healthcare systems should be maintaining the health of the population (public health and primary prevention), treatment of the sick (treatment, secondary and tertiary prevention), economic sustainability (financial regulation). The United Nations Organization currently registers 206 countries, each with a different health policy system with large or small differences [12]. Health economics is one of the parts of economic theory that deals with health and health care. The Health Economics examines the functioning of healthcare systems on a macroeconomic basis (market and regulator intervention), and on microeconomic basis (individual and his / her health) [1].

Health Management and Health Literacy

In relation to healthcare, management processes are all processes in the company that are aimed at influencing healthcare [12, p. 24]. In mentioned paper, there is described management of healthcare at a macro level as a management of healthcare organizations, and at a micro lever as solving key topics of health management. According to [6], management in this area should be especially about increasing healthcare performance, economic interpretation of health concepts, creating an equilibrium between supply and demand for health care, effective financing and quantification of health care output.

The term health literacy was introduced for the first time in 1974 by Simods. Health literacy means, in the narrower sense, health education and individual behaviour oriented on communication. It is achieved through methods that go beyond the passive reception of information and includes interactions, participations and critical analyzes. Knowing the level of health literacy leads to the personal and social benefit of the patient [8, p.421].

Health literacy has been defined by the World Health Organization as "*the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health*". It is the ability to search, understand and use information about health and health services.

Health literacy means [7]:

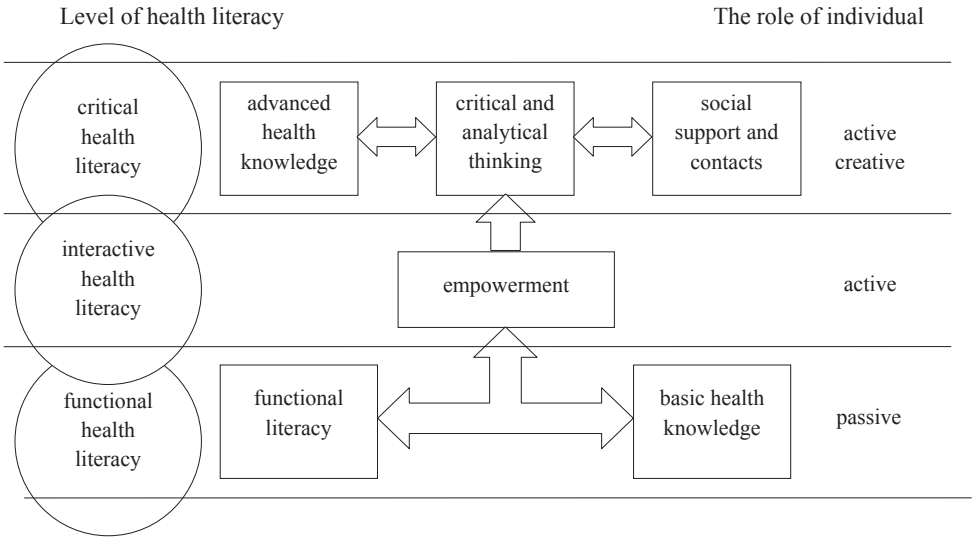
- the ability to make the right decisions about health in the context of everyday life - at home, at a company, at a workplace, in healthcare facilities, in a business, and in politics;
- an important method of increasing the influence of people on their own health and enhancing their ability to acquire and use information, to receive and carry their personal part of responsibility;
- interaction between the health worker and the patient;
- the doctor's (health worker's) ability to inform the patient and explain clearly what is needed and, on the other hand, the patient's ability to understand what is being communicated to him / her and to participate appropriately in his / her therapy.

The key factors (health, health literacy, social and economic position) that interact with each other quantify a situation in which the disruption of one factor affects positively or negatively the other two factors. The key factors determine health literacy, i.e. inputs are transformed to output that is quantified for health benefits. Therefore, it is necessary to give importance to the entire health system, system of education and training and, last but not least, health literacy is influenced by culture and society.

The aim of authors Čepová, Kolarčik, Madarasova Geckova [3], [4] was to create a comprehensive and reliable measuring instrument for measuring health literacy and to determine its basic relationships with health indicators.

The level of health literacy in specific groups of individuals, and differences in the level of health literacy in terms of age, gender, degree of education were determined in [5]. Baker [2] models health literacy as the ability of an individual and as a variable dynamic competence that is conditioned by previous experience or the nature of a particular situation, i.e. the level of health literacy is determined by the way in which text or spoken information is presented to the patient. The connection between health literacy and other activities is illustrated in the table 1, Fig.1.

Fig. 1 Basic structure of health literacy



Source: [9]

Table 1 Categories of basic activities

Health activity	Role	Example of materials	Example of tasks
Health support	Maintaining and improving health	Articles in newspapers, brochures, leaflets, charts, tables, food information (composition, durability)	Plan of healthy living, food production and sale
Health protection	Health security provided by individuals and social structures	Articles in newspapers Information on health risks and protection options Reports on water quality and air quality Referendum	Selection of health-conscious goods Use of protective equipment Vote
Prevention of diseases	Implementation of preventive actions Detecting early disease states	Media use Invitations for vaccination and preventive examination and reporting of their results	Detecting risk factors Secure vaccination and screening
Health services	Searching for medical help and contacting healthcare providers	Medical record Prescription Instructions on release Leaflets and brochures containing instructions for the sick	Description and evaluation of symptoms Instructions for use of medicines (type, quantity and time)
Navigation system (movement of the patient in the healthcare system)	Availability of the necessary health services Understanding the right to healthcare	Materials enabling basic orientation Forms, applications Reports of rights and entitlements Responsibility and informed consent	Knowledge of the address of suitable medical facilities Application of sickness benefits Providing informed consent

Source: [9, p. 251]

Models of healthcare systems

Healthcare systems are undergoing various reforms, which are presented by several models of health care. Ondrus, Ondrusová [11] describe and divide the basic models of healthcare systems on:

Healthcare systems based on insurance:

- The Bismarck model (public, mandatory health insurance),
- The Liberal model (private, voluntary health insurance in the healthcare market)
- The Singapore model based on the philosophy of individual responsibility of the citizen for his health (personal health savings accounts),

State healthcare (healthcare covered by public funds, taxes):

- The Beveridge model (national health service),
- The Semashko model (characteristic of social states).

The comparison of healthcare financing systems in selected countries is described in detail in [1].

The classical liberal model and family model of private security is based on the individual responsibility of individuals for their health. The model is implemented in countries with a totally liberal system, where healthcare is not organized, health care is only accessible to solvent people. A population group that is marked by poverty does not have access to it (Africa, South America).

The business model of social security is presented by the provision of high-quality health care, where the financial security was covered by expenditure on public administration. It provides support in old age or invalidity (Germany for civil servants).

The Bismarck model of social security is applied in Germany, France, Netherlands, Austria, Belgium, Japan, Switzerland, Slovakia, Czech Republic, Poland, Hungary. Comparison of healthcare system model of Slovakia with Netherlands and Denmark is presented in Table 2.

Table 2 Comparison of healthcare systems

	Slovakia	**Netherlands**	**Denmark**
Funding method	*Payment* *Bismarck model*	*Payment* *Bismarck model*	*Tax* *Beveridge model*
Health insurance companies	Pluralism of health insurance companies	Pluralism of health insurance companies	One non-profit health insurance company + private health insurance companies (reinsurance)
Strengths	The scope of free care	Patient orientation, drug policy	Patient rights and information, eHealth
Weaknesses	Poor quality and efficiency	Longer waiting times	Non-existent direct access to specialists

Source: [1]

The Beveridge model represents a model of national health service. It is characterized by general availability and equity of health care, low overall costs, less bureaucratic burden, longer waiting time, limited doctor choice. The disadvantages of the model are eliminated by individual reinsurance (Great Britain, Italy, Greece, Spain, Denmark, Australia).
In the Dutch model of compulsory private health insurance, an interesting idea is a working bonus for not receiving health care [1]. This bonus has been carefully designed to not discourage people from visiting a doctor. The health care benefits for this bonus did not include treatment provided by the general practitioner and health care during pregnancy and maternity.
The Semashko model represents a model of central management and health care of former socialist countries where healthcare is available to all citizens. This is a low-cost model of healthcare, with elementary budgeting, low administrative and bureaucratic burden.
Figure 2 illustrates a model of health literacy as a risk. It helps healthcare professionals orient themselves in managing various health problems of people with low health literacy. Figure 3 describes a health literacy model understood as a health benefit. The main intention is to understand health literacy as an asset, i.e. as a resource enabling individuals to better respond to all health components, and then favourably determine their own health destiny.

Fig. 2 The model of health literacy understood as a risk

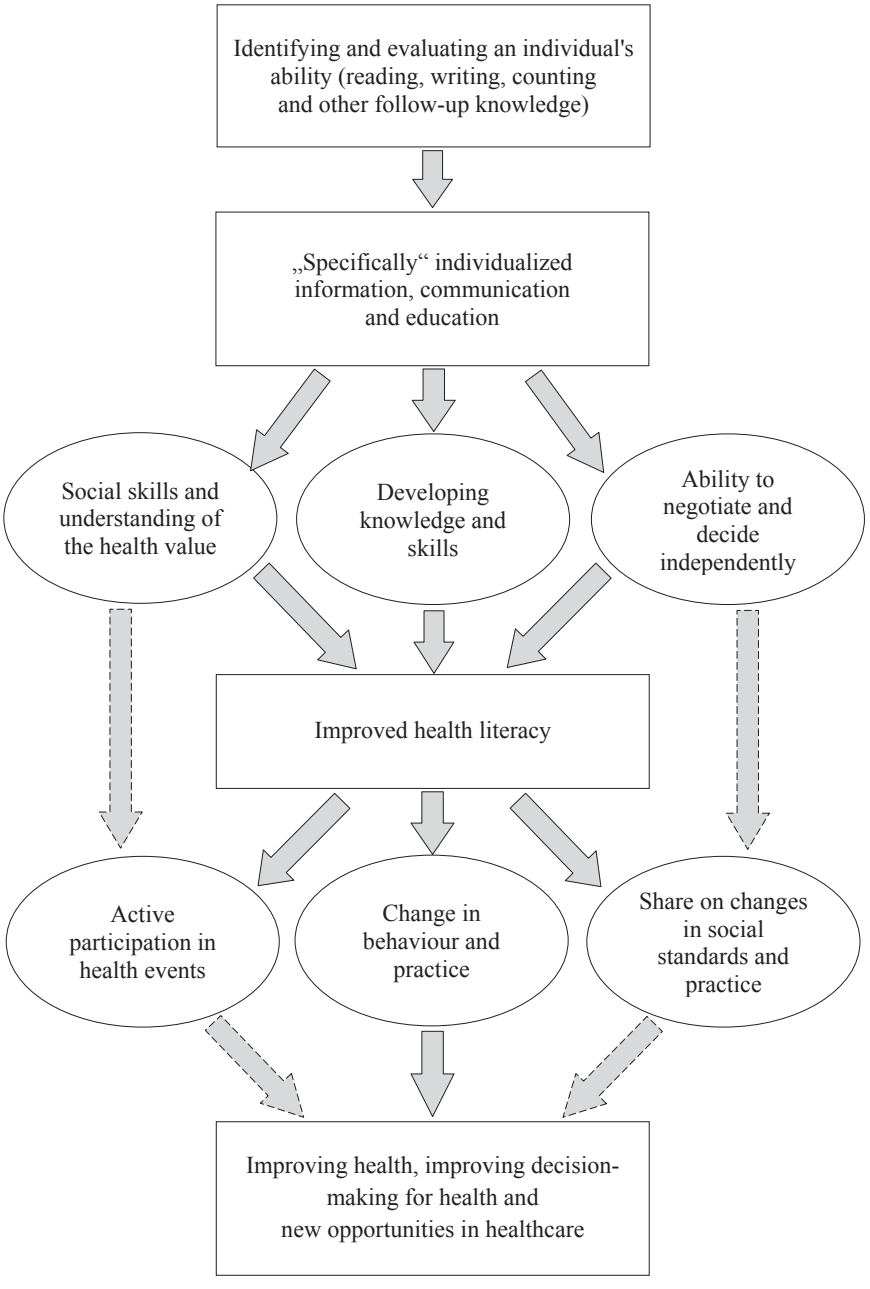
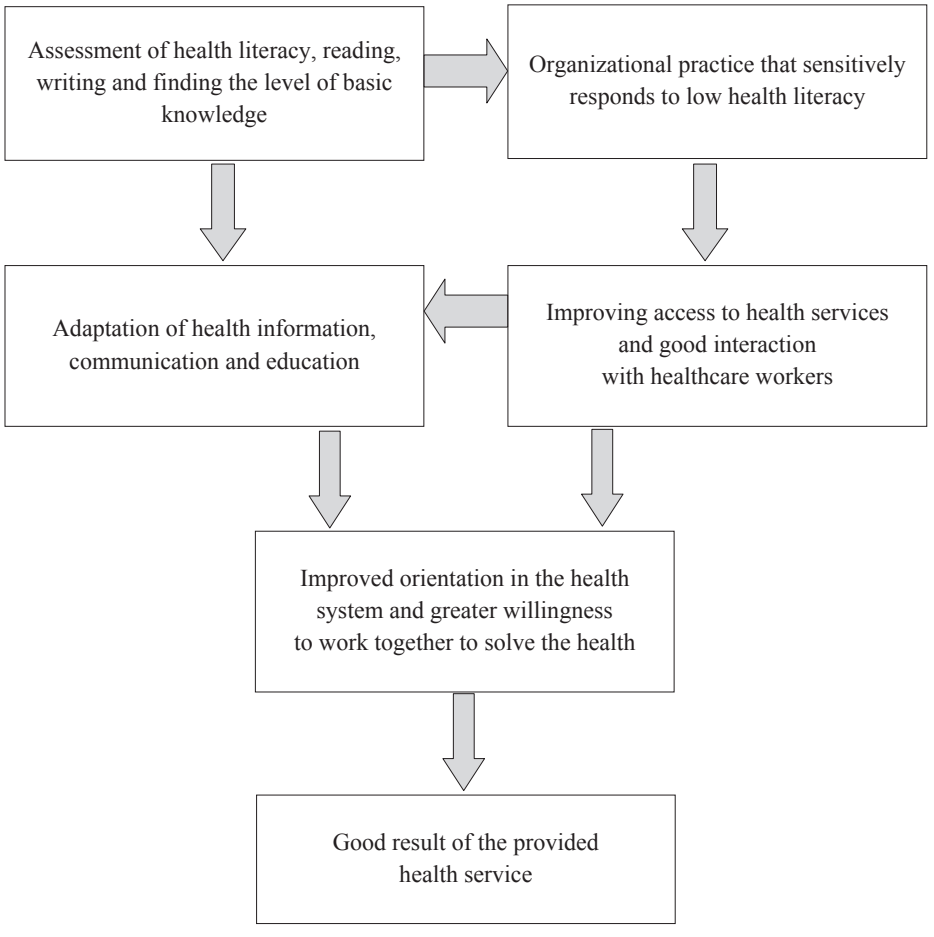


Fig. 3 Model of health literacy understood as a health benefit



Conclusion

Health literacy is part of the basic equipment for life. It is one of the basic tasks of the healthcare system, an important part of social capital and undoubted economic value and a priority. Higher health literacy leads to better human health. Poor health literacy is associated with worse health and leads to economic losses. The key factors determine health literacy, i. e. inputs are transformed to output that is quantified for health benefits. This contribution provides a view on the definition of health literacy, models in the healthcare system, comparison of models in selected countries, and on the efficiency of the healthcare system.

At present, with increasing health literacy, it is necessary to give importance to the entire health system, system of education and training and, last but not least, health literacy is influenced by culture and society.

The ideal healthcare provider must be patient oriented, and has to coordinate processes. It also represents an environment with minimal risk, employs real professionals and focuses on quality [12]. At present, it is a necessity to develop health literacy wherever where individuals work, learn, act, live, rest, with an emphasis on measures contributing to the enhancement of health literacy, i.e. cities, organizations, educational institutions, shops, workplaces, medical facilities, media and communication, social media, viral marketing.

References

[1] BALÁŽI, P. Komparácia systémov financovania zdravotníctva. In *Finančné trhy*. 2012, august, Available at: <http://www.derivat.sk/index.php?PageID=1928>.

[2] BAKER, D. W. The Meaning and the Measure of Health Literacy. In *J Gen Intern Med*. 2006, vol. 21(8), p. 878-883.

[3] ČEPOVÁ, E., KOLARČIK, P., MADARASOVÁ GECKOVÁ, A. Health literacy, method as improve health population and exploitation in public health . *Health and Social Work.* 2017, vol. 12(1), p. 24-32.

[4] ČEPOVÁ, E., KOLARČIK, P., MADARASOVÁ GECKOVÁ, A. Konceptualizácia zdravotnej gramotnosti a validizácia slovenskej verzie Dotazníka zdravotnej gramotnosti HLQ™. Psychológia zdravia v multidisciplinárnom pohľade na zdravie. In *Zborník abstraktov z 9. celoslovenskej konferencie Psychológie zdravia.* Košice: LF UPJŠ. 2014, p. 4.

[5] DINGOVÁ, M., JAKUBCOVÁ,T. Health Literacy – New Concept for Nursing Practice. In *Ošetrovateľstvo: teória, výskum, vzdelávanie*. 2011, vol. 1(1), p. 34-41.

[6] FOLTÁN, V. a kol. *Manažment, marketing a lieky.* Bratislava: Herba, 2010. 156 p. ISBN 978-80-89171-68-2

[7] HOLČÍK, J. *Systém péče o zdraví a zdravotní gramotnost.* Brno: Masarykova univerzita, 2010. 293 p. ISBN 978-80-210-5239-0.

[8] NOVYSEDLÁKOVÁ, M., HUDÁKOVÁ, Z. Zdravotná gramotnosť pacienta ako edukačný problém. In *Vedecko-odborná konferencia Quo vadis zdravotníctvo*. Prešov: FZO. 2012, p. 416-421.

[9] ONDRUŠ, P. *Medzinárodné verejné zdravotníctvo.* Turany: Tlačiareň P+M, 2015, 273 p. ISBN 978-80-971965-4-7.

[10] ONDRUŠ, P. *Svetové zdravotnícke systémy v čase globalizácie.* Turany: Tlačiareň P+M, 2014, 320 p. ISBN 978-80-89057-74-4.

[11] ONDRUŠ, P., ONDRUŠOVÁ, I. a kol. *Manažment a financovanie v zdravotníctve*. Turany: Tlačiareň P+M, 2017, 328 p. ISBN 978-80-972535-9-2.

[12] OZOROVSKÝ, V., VOJTEKOVÁ, I. a kol. *Zdravotnícky manažment a financovanie.* Bratislava: Wolters Kluwer, 2016, 344 p. ISBN 978-80-8168-522-4.

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THE CURRENT STATE OF THE DEVELOPMENT OF MERGERS AND ACQUISITIONS WITHIN COUNTRIES OF WESTERN, CENTRAL AND EASTERN EUROPE

SÚČASNÝ STAV VÝVOJA FÚZIÍ A AKVIZÍCIÍ V KRAJINÁCH ZÁPADNEJ, STREDNEJ A VÝCHODNEJ EURÓPY

Abstract: *A result of the globalization of the world's economy for business entities is the need to look for different ways to gain competitive advantages. One way of achieving economies of scale is the creation of strategic alliances in the form of mergers and acquisitions. The contribution is to characterize current state of cross-border mergers and acquisitions in terms of the total volume of the trades as well as in relation to the diversity of sectorial classification. Territorial focus of the analysis is focused on mergers and acquisitions in Western, Central and Eastern European countries.*
Key words: *Mergers, acquisitions, Western, Central and Eastern Europe countries.*

Kľúčové slová: *Fúzie, akvizície, krajiny západnej a strednej a východnej Európy.*

This paper was compiled as a part of the project VEGA No. 1/0031/17 ″Cross–border mergers and acquisitions in the context of economic and social determinants in the European area".

JEL: 030

Introduction

Mergers and acquisitions become one of the basic tools to gain more market share. Creating strategic alliances in the form of mergers and acquisitions is one way of achieving economies of scale.

Merger is used as a collective name for individual cases of voluntary association of two or more independent enterprises into a single entity [1]. It may take the form of a national merger relating to companies with business activities within national or cross-border merger, which represents a merger of undertakings operating in different countries [2].

Acquisition is the acquisition of ownership and management control of one enterprise over another. Through the acquisition, businesses legally separate into a higher economic entity and are joining together. After completion of the acquisition, both companies will continue their activities, they do not alter the legal situation, any of them does not cease [3].

The Treaty on the Functioning of the EU is the cornerstone of the law on mergers of companies in European Union law. The text of the Treaty on the Functioning of the EU does not explicitly address the area of business combination. The absence of an explicit legal basis has been offset by the application of, for example: a flexible clause allowing the European Union institutions to take the appropriate action necessary to achieve the objectives of the European Union laid down in the founding Treaties. On the basis of the flexible clause, the relevant secondary legislation was adopted, namely Council Regulation No. 4064/89 of 21 December 2002 on the control of concentrations between undertakings, which was replaced by Council Regulation 139/2004 of 20 January 2004 on the control of concentrations between undertakings. The definition of concentrations from the point of view of the law of the competition law includes [4] Art. 3 Merger regulations. According to Art. 3 section 1 Merger Regulations: "A merger shall be deemed to constitute a lasting change of control resulting from: (a) the merger of two or more previously independent undertakings or parts of undertakings, (b) the acquisition, directly or indirectly, of all or part of one or more other undertakings, multiple persons already controlling at least one undertaking or one or more undertakings, whether by way of purchase of securities or assets, by contract or by other means".

The aim of the paper is to characterize the current state of the development of cross-border mergers and acquisitions in terms of the total volume of trades executed as well as in relation to the diversity of the division of mergers and acquisitions. The analysis was conducted over the period 2010 to the first quarter of 2017. The territorial focus of the analysis is geared to highlighting the global development trends as well as the specifics of the quantitative development of mergers and acquisitions in the countries of Western and Central and Eastern Europe. The database was obtained from the Bureau van Dijk database (2017). The contribution was processed as part of the Vega No. project 1/0031/17 "Cross-border mergers and acquisitions in the context of economic and social determinants in the European area".

Methodology and research sample

The aim of the contribution is to characterize the current state of the development of cross-border mergers and acquisitions in terms of the total volume of trades carried out as well as in relation to the diversity of the division of mergers and acquisitions in the territories defined in the West and Central and Eastern Europe for the period 2010 to the first quarter of 2017.

Results

In examining the possible motives leading management companies to effect mergers and acquisitions, it is necessary to focus attention on the growth potential of individual sectors of the economy. The total value of mergers and acquisitions from the sectorial point of view is presented in Table 1. Based on the available data analysed, we can conclude, that the most attractive one is the one that appears in particular from the publishing, printing (from 2014 showed an above-average value of the transactions). In 2016, the publishing and printing industries reached merger and acquisition value of $ 136,449 million. In 2016, there was a significant interest in the acquisition of printing companies specializing mainly in the packaging segment, as the sector was perceived to be much more sustainable and less intrusive in the given period than other target industries. Relatively low interest is for enterprises of the primary sector, textiles, wearing apparel, leather and wood, cork, paper. These narrowly specialized sectors include businesses whose market power lies in their flexible response to changed market conditions. Mergers and acquisitions in these sectors would not have an additional competitive advantage and are therefore only limited.

Tab 1: Value of mergers and acquisitions by industry (US $ million)

Target sector	2010	2011	2012	2013	2014	2015	2016	2016/2010	*Q1/ 2017
Primary sector	315 720	306 508	348 567	268 661	324 222	313 786	278 840	0,88	187 230
Food, beverages, tabacoo	110 568	103 655	175 874	147 163	169 696	308 077	246 763	2,23	101 169
Textiles, wearing apparel, leather	23 118	33 806	16 622	27 238	35 239	34 880	25 305	1,09	27 917
Wood, cork, paper	19 590	23 417	21 243	20 183	22 404	41 302	20 211	1,03	6 784
Publishing, printing	**29 905**	**25 060**	**35 312**	**44 756**	**78 850**	**133 949**	**136 449**	**4,56**	**64 526**
Chemicals, rubber, plastics	244 543	292 107	212 585	263 700	480 922	802 140	511 384	2,09	226 406
Metals & metal products	174 639	213 597	203 011	156 658	141 506	154 335	156 971	0,90	47 839
Machinery, equipment, furmiture, recycling	330 609	398 055	327 011	390 744	660 457	749 951	710 408	2,15	253 582
Gas, water, electricity	209 963	193 243	137 778	179 362	213 577	229 009	249 237	1,19	94 628
Construction	124 970	117 333	107 566	147 509	187 385	296 068	193 095	1,55	97 750
Wholesale & retail trade	132 764	148 487	205 087	188 536	260 175	317 648	231 963	1,75	116 417
Hotels & restaurants	42 299	29 821	32 148	28 548	68 119	63 204	69 855	1,65	29 813
Transport	149 911	152 739	134 741	144 344	247 435	275 921	166 547	1,11	94 628
Post & telecomunications	191 657	114 564	127 204	329 529	185 380	425 948	117 300	0,61	49 156
Banks	416 773	294 745	273 480	291 906	354 254	335 493	210 999	0,51	159 395
Insurance companies	102 269	149 801	154 103	78 208	101 741	254 099	80 512	0,79	36 080
Public administration and defence	1 509	3 939	371	3 988	3 595	6 206	625	0,41	411
Education, health	34 529	39 219	27 998	44 192	43 870	67 544	43 885	1,27	22 603
Other services	757 298	798 973	784 849	923 620	1 334 090	1 395 686	1 441 314	1,90	532 484

Source [5]: Self-prepared by Zephyr Annual M&A Report Global, FY 2017
* Note: Data for 2017 are for the first quarter (Q1)

Table 2 summarizes the evolution of the number and total volume of merger and acquisition transactions made in Western European countries between 2010 and 2016. Based on the data obtained from the Bureau van Dijk (2017), we can conclude that in the Western European countries in the reference period 2010 to 2016 there is an increase in the number and volume of mergers and acquisitions made. The increase in the number and volume of mergers and acquisitions carried out is due to tax considerations (expectations of the management of start-ups are related to the expected reduction in the tax base of the new entity, thereby reducing the resulting tax liability on income tax). The monopolistic position of the company in the market, the acquisition of a larger share and a stronger position on the market can be considered the main motives of mergers and acquisitions.

Tab 2: Evolution of mergers and acquisitions in Western European Countries (US $ million)

Year	Number of transactions	Transaction value (US $ million)
***Q1/2017**	12 135	629 719
2016	28 360	1 211 172
2015	25 507	1 734 886
2014	22 501	1 156 677
2013	23 270	951 378
2012	21 137	835 347
2011	21 254	844 669
2010	19 017	793 314

Source [5]: Self-prepared by Zephyr Annual M&A Report Global, FY 2017
* Note: Data for 2017 are for the first quarter (Q1)

The evolution of mergers and acquisitions in Central and Eastern European countries is shown in Table 3 in the reference period 2010 to 2016. In the analysed period 2010 to 2016, we can see that the number of realized transactions is decreasing overall. In 2016, 9 277 transactions were recorded. The increase in transactions in 2016 was a strengthening of technological capabilities in technology, media and communications (the sector accounted for more than 20% of the volume of trades in 2016). The value of transactions executed between 2010 and 2016 had a decreasing value. These developing trends are affected by the unstable development of the monitored sectors. Macroeconomic shocks or disturbing changes in market participants' positions are characterized by a rise in uncertainty. This may be a motive for mergers and acquisitions. In 2014, 12 309 transactions were recorded. The increase in the number of transactions in 2014 was due to a synergy effect. It is

the effect of linking the parts as a whole and that the value of the enterprises after the merger will be higher than the sum of the values of the individual enterprises.
Tab 3: Evolution of mergers and acquisitions in Central and Eastern European Countries (US $ million)

Year	Number of transactions	Transaction value (US $ million)
***Q1/2017**	3 862	41 317
2016	9 277	137 667
2015	8 471	141 393
2014	12 309	193 209
2013	10 969	239 877
2012	7 988	133 819
2011	7 782	224 267
2010	9 752	213 970

Source [5]: Self-prepared by Zephyr Annual M&A Report Global, FY 2017
* Note: Data for 2017 are for the first quarter (Q1)

The sectorial direction of mergers and acquisitions in the countries of Western Europe and Central and Eastern European countries is shown in Table 4 and Table 5. Comparing the values of merger and acquisition volumes in 2016 with 2010 (Table 4), we can see that in the Western European countries, the most attractive sector food, beverages, tobacco, which recorded a dynamic increase over the monitored period. The dynamic growth of the food, beverages, tobacco industry has been due to the growing trend of organic growth for the green light forvege tables. On the other hand, the downward trend in the volume of merger and acquisition transactions by sector in Western European countries was recorded in the gas, water, electricity and textiles, wearing apparel, leather sectors. These downward trends are influenced by the volatile development of key commodities, which is reflected in the decline in the value of enterprises closely linked to these commodities.

Tab 4: Value of mergers and acquisitions by industry in Western European Countries (US $ million)

Target sector	2010	2011	2012	2013	2014	2015	2016	2016/2010	*Q1/ 2017
Primary sector	19 300	52 812	41 973	54 050	38 653	86 607	37 028	1,92	16 313
Food, beverages, tobacco	**35 769**	**22 209**	**32 040**	**45 277**	**25 619**	**180 014**	**161 897**	**4,53**	**7 505**
Textiles, wearing apparel, leather	12 194	24 196	3 992	9 489	15 762	9 326	8 619	0,71	19 050
Wood, cork, paper	5 142	1 815	9 790	4 464	5 670	4 496	4 632	0,90	634
Publishing, printing	5 125	3 265	8 858	19 550	14 957	23 354	31 784	6,20	10 335
Chemicals, rubber, plastics	43 267	67 199	45 185	64 429	132 122	366 755	131 881	3,05	114 422
Metals & metal products	19 708	31 348	57 206	41 181	20 613	36 147	34 650	1,76	11 479
Machinery, equipment, furniture, recycling	80 580	85 252	87 992	81 414	151 029	118 158	190 086	2,36	83 845
Gas, water, electricity	67 966	58 511	39 788	46 748	50 745	65 249	55 299	0,81	33 328
Construction	26 636	25 050	34 501	29 294	38 366	31 242	28 256	1,06	23 495
Wholesale & retail trade	31 811	52 025	52 549	40 566	70 987	96 249	62 908	1,98	25 250
Hotels & restaurants	8 721	9 001	4 632	7 894	15 954	16 977	12 905	1,48	5 348
Transport	45 625	20 442	24 179	38 010	22 398	40 377	30 277	0,66	45 018
Post & telecommunications	56 926	36 128	28 924	53 322	74 841	191 570	32 288	0,57	19 139
Banks	121 799	122 786	163 609	152 823	135 751	116 404	63 140	0,52	61 780
Insurance companies	27 048	20 021	24 179	30 139	32 784	39 869	27 298	1,00	13 793
Public administration and defence	528	2 354	144	2 635	35	610	29	0,05	22
Education, health	5 888	7 428	4 161	10 597	12 511	11 412	16 679	2,83	5 351
Other services	181 798	200 400	179 748	216 985	296 073	307 411	292 357	1,61	132 700

Source [5]: Self-prepared by Zephyr Annual M&A Report Global, FY 2017
* Note: Data for 2017 are for the first quarter (Q1)

The different situation is in Central and Eastern European Countries in the 2010 to 2016 reference period (Table 5), where the wood sector, cork and paper sector is the most attractive sector within this territorial definition, which has more than tripled in 2016 compared to 2010 (from $ 315 million in 2010 to $ 1,116 million in 2016). Relatively low interest in 2016 is the textile, wearing apparel, leather, construction and primary sector. These narrowly specialized sectors include businesses, whose market power lies in their flexible response to changed market conditions. Mergers and acquisitions in these sectors would not have the added competitive advantage. In 2014, the textile and wearing apparel sector has witnessed a significant increase due to several reasons (the growth of new textile fabrics that produce different products in one company).

Tab 5: Value of mergers and acquisitions by industry in Central and Eastern European Countries (US $ million)

arget sector	2010	2011	2012	2013	2014	2015	2016	2016/2010	*Q1/ 2017
Primary sector	36 608	29 944	16 066	38 737	33 613	25 961	34 792	0,95	8 296
Food, beverages, tobacco	8 254	6 128	3 469	1 588	3 157	3 490	8 896	1,08	2 521
Textiles, wearing apparel, leather	311	108	140	174	2 095	189	58	0,19	15
Wood, cork, paper	**315**	**89**	**767**	**339**	**404**	**1 019**	**1 116**	**3,54**	**16**
Publishing, printing	231	264	80	608	427	337	227	0,98	73
Chemicals, rubber, plastics	25 325	20 850	6 467	33 599	7 159	25 650	7 330	0,29	2 646
Metals & metal products	18 100	30 794	16 404	23 954	17 111	9 438	11 664	0,64	2 089
Machinery, equipment, furniture, recycling	7 734	3 029	5 002	7 076	12 893	13 484	9 068	1,17	4 545
Gas, water, electricity	32 898	27 070	15 542	35 303	25 918	4 761	9 284	0,28	4 458
Construction	7 436	4 170	7 405	11 715	10 413	4 927	6 389	0,86	3 180
Wholesale & retail trade	5 046	9 587	4 707	8 530	10 141	4 306	15 073	2,99	4 101
Hotels & restaurants	1 878	603	379	596	913	940	1 072	0,57	361
Transport	4 163	10 537	11 119	8 078	5 994	13 567	5 216	1,25	4 608
Post & telecommunications	38 668	15 224	7 724	16 261	14 404	2 138	1 160	0,03	747
Banks	11 222	45 512	21 526	27 665	27 801	22 922	19 568	1,74	2 180
Insurance companies	2 135	1 784	1 629	1 372	1 803	1 013	1 005	0,47	563
Public administration and defence	4	2	1	2	0	0	0	0	0
Education, health	20	170	421	693	348	78	161	8,05	59
Other services	21 362	22 179	13 599	24 393	19 959	10 696	14 923	0,70	3 089

Source[5]: Self-prepared by Zephyr Annual M&A Report Global, FY 2017
* Note: Data for 2017 are for the first quarter (Q1)

Conclusion

The changing market conditions due to the various motivated globalization trends of the world's economy are the most important factors influencing the direction of mergers and acquisitions globally in terms of both volume and sectorial structure. The benefits of joint ventures are the strongest motivational impetus that ultimately leads to the achievement of individual business success. In the long run, the joint venture creates a synergy effect that leads to the long-term economic growth of national economies. The data analysed in the paper shows that mergers and acquisitions represent an important instrument for increasing global competitive advantages on a global scale, despite the fact that individual world regions differ in the attractiveness of the industry from the point of view of merger and acquisition transactions. However, this is a natural economic and social development due to changing macroeconomic and microeconomic conditions.

Resume

In the current economic situation of national economies, the global trend of ownership concentration can be observed. The reason for the need of company's management to realize some of the forms of ownership is represented by several types of motives (tax motives, concentration of market power, monopoly theory, value theory, personal motives of managers, state support etc.).

The aim of this paper is to characterize the current state of cross-border mergers and acquisitions in the light of the total volume of trades conducted as well as the diversity of division of mergers and acquisitions on the basis of acquired data from Bureau van Dijk (2017). From the data obtained, we can say that mergers and acquisitions are an important competitive tool for economic operators, even though individual world regions differ in the attractiveness of the industry from the point of view of merger and acquisition transactions.

Súhrn

V súčasnej ekonomickej situácii národných ekonomík možno konštatovať celosvetový trend koncentrácie vlastníctva. Dôvodom, ktoré vedú manažment podnikov k potrebe realizácie niektorej z foriem majetkového spojenia predstavuje niekoľko druhov motívov (daňové motívy, koncentrácia trhovej sily, teória monopolu, teória hodnoty, osobné motívy manažérov, štátna podpora a pod).

Cieľom príspevku je na základe získaných sekundárnych údajov z databázy Bureau van Dijk (2017) charakterizovať súčasný stav cezhraničných fúzií a akvizícií z pohľadu celkového objemu realizovaných obchodov ako aj vo vzťahu k rôznorodosti odvetvového členenia fúzií a akvizícií. Zo získaných údajov môžeme konštatovať, že fúzie a akvizície predstavujú pre ekonomické subjekty významný konkurenčný nástroj aj napriek tomu, že jednotlivé svetové regióny sa líšia atraktivitou odvetví z pohľadu smerovania uskutočnených transakcií fúzií a akvizícií.

References

[1] HRABOVSKÁ, Z., HEČKOVÁ, J., CHAPČÁKOVÁ, A.*,: Súčasný stav fúzií a akvizícií v krajinách strednej a východnej Európ*y. In: Exlusive Journal. Vol. 4, 2016, ISBN 1339-0260.

[2] MARKOVÁ, S., HEČKOVÁ, A., CHAPČÁKOVÁ, A.,: *Atraktívnosť realokácie kapitálu prostredníctvom cezhraničných fúzií a akvizícií z pohľadu indexu atraktivity v krajinách V4.* In. Journal of Managemet and Business: Research and Practice, 2017, ISSN 1338-0494.

[3] HEČKOVÁ, J., CHAPČÁKOVÁ, A., LITAVCOVÁ, E.,: *Analytický pohľad na aspekty determinujúce vývoj cezhraničných fúzií a akvizícií v európskom priestore.* 1. Vydanie. Praha: RADIX, 2016, ISBN 978-80-87573-25-9.

[4] ZMIJ, M. 2012. Vybrané aspekty kontroly zlučovania podnikov v práve Európskej únie – vymedzenie podstatných znakov koncentráte v aplikačnej prizme Komisie a Súdneho dvora EÚ. *In: Societa set respublica – medzinárodný internetový vedecký časopis.* Trnava: Fakulta sociálnych vied Univerzita sv. Cyrila a Metoda v Trnave. 2012, ročník I. číslo 1. [online]. Dostupné z: [http://serp.fsv.ucm.sk/archive/2012/01/SOCIETAS-ET-RES-PUBLICA-2012-01.pdf]. ISSN 1338-6530.

[5] M&A portal (2017). *Zephyr Monthly M&A Report Report Global, FY.* [online]. Dostupné z: http://www.bvdinfo.com/BvD/media/reports/Global-FY-2017_1.pdf

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ANALYSIS OF THE POST MERGER AND ACQUISITION PROCESS OF IMPLEMENTATION OF THE CROSS-BORDER MERGERS AND ACQUISITIONS BY MEANS OF THE pDM&A METHODOLOGY

ANALÝZA PO-FÚZIJNÉHO A AKVIZIČNÉHO PROCESU REALIZÁCIE CEZHRANIČNÝCH FÚZIÍ A AKVIZÍCIÍ METODIKOU pDM&A

Abstract: *The main objective of the proposed contribution is to identify and specify the key determinants of the post-merger-and-acquisition process reflection. These determinants, extracted on the basis of an original pDM&A methodology (post-Determinants of Mergers and Acquisitions), were identified and content-specified by analyzing the views of managers from 120 companies which had been subjects to merger or acquisition processes. By means of a factor analysis, five key determinants of the post-merger-and-acquisition process reflection were extracted and labeled as: Unification strategy, Business management, Internal business environment, Business identity, and Strategic intent. The contribution also presents some of the basic parameters of the pDM&A methodology and results of the analysis of differences in the assessment of the extracted factors by managers.*
Key words: *Cross-border mergers, cross-border acquisitions, post-merger management, post-acquisition management, pDM&A methodology*

Kľúčové slová: *Cezhraničné fúzie, Cezhraničné akvizície, po-fúzijný manažment, po-akvizičný manažment, metodika pDM&A*

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JEL: A 10, F 20, G 34

Introduction

The term merger is used as a collective name for individual cases of voluntary mergers of two or more independent enterprises into one entity. The prerequisite of its implementation is the adoption of the entrepreneurial decision itself by the management (owners) of all the participating undertakings about the fact that such a

transaction is to take place. This is a complex transaction outside of normal business management over a longer period of time, covered by an agreement based on relevant financial and factual information.
Acquisition means acquiring the ownership and management control of one enterprise over another. Through the acquisition, individual businesses legally unite into a higher economic entity. Once the acquisition has taken place, both enterprises continue their business, their legal relations are not changed, none of them is extinguished. On the other hand, however, there is a partial or complete loss of business autonomy. In this entity, the enterprise which has acquired a decisive influence in the new enterprise, gains a role of a controlling, parent undertaking and the controlled undertaking becomes a subsidiary. Making an acquisition often precedes a merger itself (more in [1]).

Implementation and effectiveness of the merger and acquisition processes are multifactorially conditioned. These processes are supplemented by factors of various macro- and micro-economic natures ([2], [1]). One of the crucial aspects is also their subjective perception.

Research Methodology
For the purposes of identification and investigation of the key determinants of the post-merger-and-acquisition (p-M&A) process, a questionnaire research aimed at identification of the significant factors related to the successful corporate process of integration in the p-M&A phase of cross-border mergers and acquisitions was conducted.
The research objective was, on the basis of the theoretical elaboration of the issue, to verify the factor structure of the original methodology pDM&A – post-Determinants of Mergers and Acquisitions. The task for managers was to assess the individual items on a 4-point Likert scale, where: 1 = unimportant, 2 = slightly important, 3 = important, and 4 = very important. Identification and specification of the key determinants of the p-M&A process took place in accordance with an analysis of the opinions of managers from 120 companies, which had been the subject of mergers or acquisitions.

Research Sample
The research sample consisted of 108 men and 12 women aged from 21 to 65 years ($M = 42.90$ years, $SD = 11.270$) who worked in the given company from 1 to 25 years ($M = 11.50$ years, $SD = 6.118$).

Data Processing
Acquired data were processed by means of mathematical and statistical analyses of descriptive statistics, the method of Principal Component Analysis with Varimax Rotation, Pearson's Correlation Coefficient, and Friedman test.

Research Results
A factor analysis by means of the Principal Component Analysis with Varimax Rotation enabled extraction of five key determinants of the p-M&A process implementation:

1. Unification strategy
2. Business management
3. Internal business environment
4. Business identity
5. Strategic intent

The extracted factors explain 75.262% of the variance (Table 1) and it was possible to specify them clearly by content. This is supported by the satisfactory values of Cronbach's alpha reliability of the items within the individual factors. These factors express in their complexity the need to take into account the information on Unification strategy (α = .895), Business management (α = .865), Internal business environment (α = .847), Business identity (α = .809), and Strategic intent (α = .787). These factors relate to the effective and long-term functioning of the newly created enterprises.

Tab. 1: Extraction Method – Principal Component Analysis

	Eigenvalues	% of Variance	Cumulative %
Unification strategy	10.474	43.643	43.643
Business management	2.294	9.559	53.202
Internal business environment	1.857	7.737	60.939
Business identity	1.774	7.392	68.331
Strategic intent	1.663	6.930	75.262

Source: own processing

The extracted factors of the p-M&A phase may be characterized as follows:

Unification Strategy
= the sense of coherence of the target enterprise's autonomy, communication strategy, p-M&A acquisition activities in the areas of key role definition, responsibility, creation of training and development programs, building common tools, procedures, practices, processes, setting up new procedures for analyzing the competition

The unification strategy of the p-M&A phase should be planned from the outset of the entire cross-border merger or acquisition process and should be managed progressively. The p-M&A integration involves a complex and interactive process of mutual adaptation of affiliated enterprises (see [3],[4],[5],[6]). This strategy should be perceived as a discrete business function in the areas of marketing, finance and human resources. Subsequent immediate notification and rapid implementation should be made in connection with the decisions on management structure, key roles and responsibilities, reporting relationships, redundancy plans, restructuring plans, and other post-acquisition career-influencing plans. It is also important to create new training and development programs, procedures for building common tools, procedures, practices, processes, communication to create a sense of unity for the members of the whole organization as well as new procedures for analyzing the competition.

Business Management
= creating a post-acquisition strategy, providing sufficient resources for post-acquisition integration, cash flow compensation, addressing management-style differences, creating an efficient source allocation system, aligning the acquisition plan and operational strategy

The significance of business management in the p-M&A phase lies in securing and providing sufficient resources for the post-acquisition integration on the basis of the post-acquisition strategy developed at the beginning of this phase. The strategy is a determinant of the enterprise's basic long-term goals, adoption of the procedures of the process implementation, and the allocation of resources needed to achieve these goals. The strategy concept allows for the simplification of the complex tasks of senior managers. The tasks of senior management are to identify and determine the long-term goals of their businesses, as well as control over the day-to-day operations of their strategic business units.

Internal Business Environment
= adaptation/assimilation of cultural systems, integration of information system infrastructure

A key aspect of managing the integration process after the acquisition is "to obtain the participation of people and create a challenge" ([7], pp. 106-107). Culture is crucial for configuration of the overall organizational structure, influencing the efficiency of the enterprise's internal environment. Insufficient cultural capability and compatibility are often considered to be a significant factor in the failure of the merger and acquisition process (see [8],[9],[10]).

Business Identity
= to involve new managers in the target organization, identify and retain key employees and managers, create an appropriate internal mechanism for the transfer of competences and assets between/across business units, identify a new set of opportunities to improve the competitive position of the merged organization

Maintaining, integrating and motivating key employees of the affiliated companies are the key factors of a successful merger or acquisition. The merger and acquisition process has an impact on a number of business areas, including the assimilation of the aforementioned cultural differences [8], the integration of corporate structures and the unification of human resource policy [11]. Identifying and retaining the key employees and managers in the target enterprise, as well as the immediate involvement of new managers in the target enterprise, can have a significant impact on the value of the merged entity. Importance of the human factor in a successful business combination makes the efficiency of creating an appropriate internal mechanism for the transfer of competences and assets between business units conditional on the creation of an appropriate mechanism. Thus created new business identity enables identification of a new set of opportunities to improve the competitive position of enterprises after unification.

Strategic Intent
= to develop a plan for the integration of the top management teams of both enterprises, to create new performance rating programs, the degree of centralization and the autonomy of employees, to create a new set of competitive methods, a portfolio of products and services, setting strategic goals

A clearly defined strategic intent in the p-M&A phase is important to achieve the expected synergies from the entire cooperative transaction. After the merger or acquisition, the acquiring undertaking has to improve its competitive position by creating a new set of competing methods to compete effectively, to maintain its competitive advantage and at the same time to achieve the intended synergic benefits. The most used competitive methods include strategic alliances, technological innovation, branding, international expansion, franchising and management fees, core business management, business diversification, and so on.

Factor Structure Suitability
Suitability of the presented factor structure of the pDM&A methodology was also supported by the calculated inter-correlation coefficient values between the individual extracted factors (more in [12]), which manifest that all the factors of the pDM&A methodology are statistically significantly positively related. This means that the higher the managers score in the factor of Unification strategy, the higher they score in Business management, Internal business environment, Business identity and Strategic intent. This characterization of correlations is also true for the rest of the factors. Correlation coefficient values point to the fact that the extracted factors form a homogeneous whole, but at the same time the value of the correlation

coefficients indicates that they identify and specify different areas related to the p-M&A process.

The presented results were supplemented by the calculation of the mean values obtained by the respondents in the individual factors of the pDM&A methodology and the comparison of the statistical significance of the differences between the assessment of these factors (Table 2). This comparison was carried out by means of the Friedman test. The result of this test was statistically significant at the .000 significance level.

Tab. 2: Differences in assessment of the individual factors of pDM&A

	Mean value
Unification strategy	2.9583
Business management	3.0067
Internal business environment	3.1333
Business identity	2.9917
Strategic intent	3.0417

Source: own processing

The acquired results of mathematical and statistical analyses confirmed statistically significant differences in the assessment of the individual factors of the pDM&A methodology. Respondents scored the highest in the factor of Internal business environment, then in the factors of Strategic intent and Business management. The lowest score was found when assessing the factors of Business identity and Unification strategy. However, these differences need to be interpreted in the context of positive assessment of all the extracted factors in the p-M&A process.

Conclusions

Cross-border mergers and acquisitions can be considered as one of the most important sources of foreign direct investment, which significantly influence market share, are a significant indicator of economic activity and one of the key factors in the development of capital markets. However, the cooperative form of business in the form of cross-border mergers and acquisitions is not related only to the financial resources and investments.

It significantly contributes to the synergy effect of exchanging experience among partners, integrating know-how, improving market position, mitigating business risks, reducing transaction costs, and so on. All these factors were also reflected in the concepts of extracted attributes of the p-M&A process, i.e. Unification strategy, Business management, Internal business environment, Business identity, and Strategic intent.

The presented results make it possible to enrich the knowledge of mergers and acquisitions in two areas. Methodologically, the added value in the field of knowledge is the design and verification of the pDM&A methodology, the use of which can increase the efficiency of the functioning and development of newly established organizations in the p-M&A phase. Theoretically, the identification and subsequent specification of the essential attributes of the concept of p-M&A processes are beneficial. Extracting these attributes makes it possible not only to define the theoretical concept of these processes but also to implement them in practice to help increase the effectiveness of the practical implementation of mergers and acquisitions and to maintain the effects of these processes in the long run. The presented results testify to the existence of the structural factors of the processes that take place after the mergers and acquisitions. Also in this context, it is crucial to consider the question of the versatility of these factors, or to what extent are these factors applied in a particular p-M&A process and what weight they have [12]. The contribution presents one of the possible views on this issue.

References

[1] HEČKOVÁ, J., c., LITAVCOVÁ, E. *Analytický pohľad na aspekty determinujúce vývoj cezhraničných fúzií a akvizícií v európskom priestore [Analytical view of aspects determining the development of cross-border mergers and acquisitions in the European area]*. Praha: Radix, 2016.

[2] HEČKOVÁ, J., CHAPČÁKOVÁ A., BADIDA, P. Aktuálne problémy ohodnocovania podnikov pri fúziách a akvizíciách a ich riešenie [Current issues of merger and acquisition enterprise valuation and their solutions]. In *Ekonomický časopis [Journal of Economics]*. 2014, vol. 62(7), pp. 743-766.

[3] BIRKINSHAW, J., BRESMAN, H., HÅKANSON, L. Managing the Post-acquisition Integration Process: How the Human Iintegration and Task Integration Processes Interact to Foster Value Creation. In *Journal of Management Studies*. 2000, vol. 37, pp. 395-425.

[4] CANTWELL, J., SANTANGELO, G. D. M&As and the global strategies of TNCs. In *Developing Economies.* 2002, vol. 40(4), pp. 400-434.

[5] MEGLIO, O., RISBERG, A. Mergers and Acquisitions: Time for a Methodological Rejuvenation of the Field? In *Scandinavian Journal of Management*. 2010, vol. 26(1), pp. 87-95.

[6] ANGWIN, D. N., MEADOWS, M. New integration strategies for post-acquisition management. In *Long Range Planning*. 2015, vol. 48(4), pp. 235-251.

[7] HASPESLAGH, P., JEMISON, D. B. *Managing Acquisitions*. New York: The Free Press, 1991.
[8] WEBER, R. A., CAMERER, C. F. Cultural conflict and merger failure: An experimental approach. In *Management science.* 2003, vol. 49(4), pp. 400-415.
[9] BLIGH, M. C. Surviving post-merger 'culture clash': can cultural leadership lessen the casualties? In *Leadership.* 2006, vol. 2(4), pp. 395-426.
[10] CARTWRIGHT, S., SCHOENBERG, R. Thirty years of mergers and acquisitions research: Recent advances and future opportunities. In *British journal of management.* 2006, vol. 17, p. 1.
[11] BUONO, A. F., BOWDITCH, J. L. *The human side of mergers and acquisitions: Managing collisions between people, cultures, and organizations*. Beard Books; 2003.
[12] HEČKOVÁ, J., FRANKOVSKÝ, M., BIRKNEROVÁ, Z., CHAPČÁKOVÁ, A., ZBIHLEJOVÁ, L. Cross-border mergers and acquisitions in the context of the key determinants of their reflection in the post-merger-and-acquisition process. In *Proceedings of the sixth European academic research conference on Global business, economics, finance and social research* [online]. Dubai: Global business research, 2017, 10 p. ISBN 978-1-943579-95-2. Available at: http://globalbizresearch.org/Rome_Italy_July_2017_1/docs/doc/1.%20Global%20Business,%20Economics%20&%20Sustainability/I752.pdf

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ASSESSMENT OF THE MANAGERIAL DECISION-MAKING ATTRIBUTES IN TERMS OF GENDER AND AGE

HODNOTENIE ATRIBÚTOV MANAŽÉRSKEHO ROZHODOVANIA Z HĽADISKA RODU A VEKU

Abstract: *The main objective of the presented research is to contribute to the expansion of knowledge in the area of managerial decision-making by means of characterization of the differences and correlations in assessment of the individual types of managerial decision-making in terms of gender and age of the respondents. The original methodology Decision-Making Questionnaire (DMQ, [1]) was used to conduct the presented research. DMQ is based on the dispositional approach to studying personality traits. The extracted factors represent four decision-making styles defined by two dimensions (own information – acquired information, I make my own decisions – I make collective decisions with others). The mathematical and statistical analyses of the data confirmed the existence of major gender-related and age-related differences in the assessment of the decision-making attributes.*
Key words: *Decision-making, Decision-Making Questionnaire (DMQ), manager, gender, age*

Kľúčové slová: *Rozhodovanie, dotazník rozhodovania DMQ, manažér, rod, vek*

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JEL: D 70, M 19, Z 00

Introduction

Decision-making styles can be identified as either prescriptive, analytical, conceptual or behavioral [2]. Specification of these styles is based on several factors. In this context, it is possible to consider the sufficiency, quality and availability of information, personality characteristics of managers, but also situational conditions under which decisions are taken.

Part of the decision-making processes and the individual styles is also the inevitable acceptance of the risks involved in taking the decisions. One author [3] draws attention to the consideration of the potential risks versus expected profits. Another [4] states that in any decision made by the manager there is some risk and therefore, over time, risk management has become an ability and skill, which is recognized as a necessary part of the set of tools for managers.

Another aspect which should be taken into account when studying managerial decision-making is the effect of revaluation and the effect of the crowd [5]. The effect of revaluation is related to the revaluation of oneself and excessive self-confidence. This effect relates to the difference between what people know and what they think they know. Under the action of this effect it is necessary to draw attention to the obvious reduction in the level of self-reflection and a critical approach to one's own conclusions. The effect of the crowd lies in the fact that people are often influenced by what the majority thinks and does.

Common for various approaches to identifying the stages of the decision-making process are generally accepted steps of the decision-making problem identification, design, choice of solutions and checking the results [3]. The following contribution presents some theoretical and methodological ideas about the concepts of managerial decision-making, defining a particular taxonomy of decision-making processes and decision-making styles in the context of gender and age.

Decision-making and its barriers

The barriers to decision-making can be specified according to the manager's part (subjectively) and the part of the organization (objectively) [6]. Among the subjective decision-making barriers the author includes the limited ability to process information, formulations and solutions to complex decision-making problems by managers, and repeated ineffective solutions. Among the objective decision-making barriers the above-mentioned author includes the information base that is of insufficiently high quality as well as the inflexibility of the organizational structure.

Another subjective barrier to the decision-making by managers may also be the effect of cognitive distortions. One of the requirements for people who are in managerial positions is the ability to avoid cognitive distortions in decision-making, and the ability to identify the possible effects of these errors in thinking [7], [8]. Source of the cognitive distortions was identified by ref. [9] as the limitation of human cognitive abilities to solve complex problems. Therefore, the decision-making of a manager about a certain issue is sometimes beyond the strict criteria of obejctive rationality; it often does not even approach it, is emotionally underlined and uses a variety of schemas. This creates a situation where the decision-making of managers becomes vague, uncertain and lacks the precise structure [10].

Cognitive distortions can, in accordance with [11], occur with identifying the problem, when the manager sets the wrong hypothesis. It is likely that it is followed by a faulty analysis and reasoning by analogy. It is further followed by generation of false alternatives and an automatic search for simple solutions to the problem. Accordingly, wrong alternatives thus serve as a starting point, whereas negative values of the preferred alternative are ignored and perceived are only those positive. Later, in hindsight of the problem and evaluation of the chosen alternative there is again the illusion of control, certainty of proper selection effect, limitation of evaluation criteria and devaluation of the partially described alternatives. Cognitive distortions may occur also in implementation as the last stage of the decision-making process [11].

Investigating the tendency to cognitive distortions in managerial decision-making presupposes the existence of differences between the normative thinking (how a manager should decide along the lines of logic) and the descriptive thinking (how he or she actually decides). It is obvious that the descriptive thinking, based on intuitive judgments, may deviate from the logical standards of rationality [12].

Research Objective

The main aim of the presented research is to contribute to the expansion of knowledge in the area of managerial decision-making by characterizing the differences and correlations in assessment of the individual types of managerial decision-making in terms of gender and age of the respondents. The shift in knowledge relates to identification of the decision-making attributes and definition of the taxonomy of managerial decision-making.

Research Methodology

For the purposes of the presented research, an original methodology for assessment of the decision-making attributes (Decision-Making Questionnaire – DMQ; [1]) was used. The questionnaire consists of 20 items which enable assessment of the decision-making process from different perspectives. The items are evaluated on a 5-point Likert scale where: 1 = definitely no, 2 = no, 3 = neither no nor yes, 4 = yes, 5 = definitely yes.

Research Hypotheses

Hypothesis 1: There are statistically significant differences in assessment of the selected decision-making attributes between women and men.

Hypothesis 2: There are statistically significant correlations in assessment of the selected decision-making attributes in terms of age.

Research Sample

The research file consisted of 252 respondents, 110 of which were male managers (44%) and 142 were female managers (56%). The youngest respondent was 25 years, while the oldest respondent was 56 years (SD = 5.77 years, M = 32.9 years).

Research Results

The original DMQ methodology [1] contains four decision-making attributes as follows:

1. Type I represents a decision-making style in which the manager makes a decision alone on the basis of own information.
2. Type II represents a decision-making style in which the manager decides in cooperation with others, but makes the decision only on the basis of own information.
3. Type III represents a decision-making style in which the manager decides alone but using the information from others.

4. Type IV represents a decision-making style in which the manager decides in cooperation with others, also using and accepting the information from others.

Analysis of the differences in assessment of the extracted decision-making types in terms of gender is a typical point of view in research studies which take into account the social context of the studied issue.
The mathematical and statistical analysis of the data confirmed the existence of two significant differences between men and women in assessment of the examined types of decision-making. In Type I, a higher level of agreement was expressed by women than men. It means that women tend to decide alone and according to their own information more than men. Similar tendency was found in assessment of Type IV. In this case, higher score was, again, obtained by women. Thus they tend to use more joint decision-making based on the gained information. It should be noted that the described differences are only in the range of mild disagreement/agreement. Similarly, at first sight paradoxical detection of predominance of Type I and Type IV in decision-making of women can be explained by the fact that apparently, there are two clear-cut groups of women who decide in terms of Type I or Type IV (Table 1).

Tab. 1: Gender differences in assessment of the selected Decision-making attributes

	Gender	M	t	Sig. (2-tailed)
Type I	male	2.81	2.301	.025
	female	3.23		
Type II	male	3.19	.729	.435
	female	3.31		
Type III	male	3.81	.731	.453
	female	3.95		
Type IV	male	3.11	3.211	.002
	female	3.73		

Source: own processing

Hypothesis 1 was thus supported.

The mathematical and statistical analyses of the given data highlight the fact that the older the respondents, the more they prefer the decision-making styles of Type III and Type IV. The older the respondents, the more they try to acquire in their

decision-making new necessary information to improve their decision, whether they decide alone or together with others (Table 2).

Tab. 2: Correlations between assessment of the selected Decision-making attributes and age

	Type I	Type II	Type III	Type IV
Age	-.075	-.003	.141*	.155*

Source: own processing
* statistical significance at the significance level of 0.05

On the basis of the results of the presented analyses, Hypothesis 2 may be considered supported.

Discussion and Conclusion

The acquired results confirm the importance of information about the managerial decision-making. The significance of information in the context of this decision-making acts as a separate attribute [2], [3], or as an important factor in the occurrence of cognitive distortions in managerial decision-making (e.g. [7]-[12]).

The mathematical and statistical analyses of the data supported the existence of two major differences between the addressed men and women. Type I, which represents an individual decision-making on the basis of own information, was preferred more by women, and a similar tendency was observed in Type IV, which is a joint decision-making based on acquired information. These differences, however, remained in the zone of mild disagreement/agreement. Paradoxical at first glance, the predominance of Type I and Type IV in decision-making of women may be explained by the fact that, apparently, there are two clear-cut groups of women who decide in terms of Type I or Type IV.

Further analyses of correlations between the selected decision-making attributes in terms of age showed that the older the respondents, the more they prefer the decision-making styles of Type III and Type IV. The two types of decision-making have a common basis in the fact that in their decision-making, the individuals try to acquire new necessary information to improve their decisions.

The main objective of this report was to enrich the area of knowledge of decision-making processes and to identify and specify the differences in assessment of the selected attributes of decision-making in terms of gender and age of managers. The presented findings support the meaningfulness of studying this issue. At the same time they contribute to verification of the new methodology (Decision-Making Questionnaire – DMQ; [1]) which identifies the characteristics of managerial

decision-making and specifies differences in assessment of the extracted factors of this decision-making in terms of gender and age of managers.

References

[1] FRANKOVSKÝ, M., BIRKNEROVÁ, Z., ZBIHLEJOVÁ, L., SUHÁNYI, L. Possibilities of identification and specification of attributes of managerial decision-making. In *Fifth Middle East conference on global business, economics, finance and banking* [online]. Dubai: Global business research, 2016, 15 p. ISBN 978-1-943579-27-3.

[2] SOJKA, L. *Základy manažmentu*. Prešov: Fakulta manažmentu Prešovskej univerzity, 2009, 104 p.

[3] ADAIR, J. *Jak se správně rozhodovat a řešit problémy*. Brno: Computer Press, a.s., 2007, 82 p.

[4] HEERKENS, H. Assessing the importance of factors determining decision-making by actors involved in innovation processes. In *Creativity and Innovation Management*. 2006, vol. 15(4), pp. 385-399.

[5] DOBELLI, R. *Pasti v myšlení a jak do nich nespadnout*. Praha: Wolters Kluwer, 2012.

[6] GRASSEOVÁ, M. *Efektivní rozhodování, analyzování, rozhodování, implementace a hodnocení*. Brno: Edika, 2013, 392 p.

[7] FRANKOVSKÝ, M., BIRKNEROVÁ, Z., ZBIHLEJOVÁ, L. Possibilities of identification of predictors of occurrence of cognitive distortions in managerial work. In *Polish Journal of Management Studies*. 2015, vol. 12(2), pp. 69-78.

[8] ZIBRÍNOVÁ, Ľ., BIRKNEROVÁ, Z., FRANKOVSKÝ, M., LITAVCOVÁ, E. Emotions in Relation to Cognitive Distortions in Thinking of the Employed and Unemployed Individuals. In *Economic Annals-XXI*. 2015, vol. 155(11-12), pp. 109-113.

[9] NEWELL, A., SIMON, H. A. *Human problem solving*. Englewood Cliffs, NJ: Prentice Hall, 1972.

[10] DAS, T. K., TENG, B. Cognitive Biases and Strategic Decision Processes: An Integrative Perspective. In *Journal of Management Studies*. 1999, vol. 36(7), pp. 57-78.

[11] SCHWENK, Ch. R. *Policy Dialogue and Problem Formation in Strategic Planning* [online]. Illinois: University of Illinois, 1982. Available at: http://www.archive.org/stream/policy dialoguepr870schw.

[12] SAMUELS, R., STICH, S., FAUCHER, L. Reason and Rationality. In I. Niiniluoto, M. Sintonen, and J. Wolenski (eds.), *Handbook of Epistemology*. Dordrecht: Kluwer, 2004, pp. 131-179.

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RELATIONSHIP BETWEEN BASIC INDICATORS OF ECONOMIC PERFORMANCE AND GCI AND HDI INDEXES IN THE CASE OF EU-27 COUNTRIES

VZŤAH MEDZI ZÁKLADNÝMI INDIKÁTORMI EKONOMICKEJ VÝKONNOSTI A INDEXMI GCI A HDI V PRÍPADE KRAJÍN EÚ-27

Abstract: *Citing Aiginger [1.] "We propose defining competitiveness as the ability of a country or location to create welfare." Welfare of people in the perspective of economy is described as net economic welfare which is basically net GNP adjusted so it contains only elements directly contributing to economic welfare [6.]. This lead us to believe that there should be a correlation between factors like competitiveness of an economy, economic performance and economic or even overall welfare. Thus the purpose of this article is to validate this presumption of a correlation between macroeconomic performance indicators and indexes dedicate to capture and measure competitiveness and state of human development. This contribution was treated as a part of project No. 1/0031/17 "Cross-border mergers and acquisitions in context of economical and social determinants in the European area" under the VEGA Grant Agency.*
Key words: *Human Development Index, Global Competitiveness Index, Macroeconomic Quadrangle, Correlation, Directly Proportional Dependency, Indirectly Proportional Dependency.*

Kľúčové slová: *Index ľudského rozvoja, Index globálnej konkurencieschopnosti, Makroekonomický štvoruholník, Korelácia, Priama proporcionálna závislosť, Nepriama proporcionálna závislosť.*

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Introduction

Our initial presumption of possible correlation between Global Competitiveness Index (further referred only as GCI) and Human Development Index (further referred only as HDI) is validated by Aiginger's [1.] claim that welfare and

competitiveness are related phenomenons. On the other side Beneš [2.] is claiming that a competitive country is such a country that "can commend somewhat positive trajectory in it's base macroeconomic indicators such as growth of gross domestic product (further referred only as GDP), living standards or employment."
Therefore we also intend to include variables that together form the so called macroeconomic quadrangle such as year-on-year average change of GDP and inflation, unemployment and share of current account balance on nominal GDP. This quadrangle is an instrument for measuring economic performance and a reference benchmark of government's national economic policy setup with each element having its recommended value as follows: change of GDP at least 3%, inflation 2%, unemployment 5,5% and current account balance on nominal GDP 0, preferably in surplus [9.].
Human development index established in 1990 by United Nations Development programme is the most renowed indicator of human well-being of today. The index is taking into account a set of variables composed from quality of life expressed as GDP per capita in USD calculated through purchasing power parities (100-40 000), literacy of adult population from 0 to 100% and life expectancy at birth 25 – 85 years [6.].
Global Competitiveness index on yearly basis composed and published by World Economic Forum in Geneva. Index in last year of period covered by our research evaluated 144 economies in 114 various indicators of competitiveness categorized within 12 so called pillars of competitiveness which are [8.]: market size, macroeconomic environment, goods market efficiency, labor market efficiency, financial market development, institutions, infrastructure, innovation, technological readiness, business sophistication, health and primary education and higher education and training. Statistical data of this indicators are then normalized by point evaluation from 1(worst) to 7(best) as to correspond with another important component of this index which is Exclusive Opinion Survey. The survey is the second part of this composite system and is from methodological point of view based on expert opinions on various fields of study [7.]. Then a consecutive aggregation is applied to form three main sub-indexes the factor driven basic requirements subindex, efficiency enhancers subindex driven by efficiency of economic production and innovation and sophistication factors subindex driven by innovation [8.].

Hypotheses

Within the examined subject we expect the following to be proved by our analysis:
Positive correlations not only between development in GCI and HDI indexes but also each individual index compared to change of GDP which will validate that more competitive the economy the bigger is its output which also results in increase of citizens welfare. Based on the known fact that inflation is an economic defect witch decreases real economic output as well as real wages, we're expecting negative correlation between inflation factor compared to GCI and HDI alike. Despite the relationship known as Philips curve which represents indirect proportionality between unemployment and inflation [6.], we expect to see results

similar to that of inflation, when testing correlation between unemployment, GCI and HDI. Based on arguments provided we form these hypotheses:

a) Within countries of European Union can be found a directly proportional dependency between the development of GDP and results in indexes GCI and HDI.

b) Indirectly proportional dependency between inflation development and indexes aforementioned.

c) Also dependency of indirect proportions between development of unemployment percentage and indexes aforementioned.

Data and Methodology

Data for the analysis were taken from various credible sources in form of databases aggregating statistical data such as Eurostat and respective bodies that handle and compile specific indexes we implied into the analysis. The research sample consist of EU27 countries (excluding Croatia) and the time-span we focus on has year 2006 as its beginning and ending in year 2015, because data evaluation of year 2016 isn't fully complete yet. So the total of the observation set is the complete list of variables applied in the analysis provided by Table 1.

Table 1 List of variables applied in regression modeling

Variable	Description	Source
HDI	Point score of Human Development Index. This variable represents evaluation of achieved human development according to United Nations methodology *(dependent variable)*	*OSN*
GCI	Point score of Global Competitiveness Index. This variable represents evaluation of country's competitiveness according to the methodology used.*(dependent variable)*	*WEF*
GDP	Year-to-year change of GDP expressed as percentage. This variable is defined by percentage change in year-to-year volume of GDP for developing country. *(independent variable)*	*Eurostat*
INF	Percentage change of inflation. Variable is calculated as year-to-year change in consumer price level. *(independent variable)*	*Eurostat*
TRB	Current account balance in percentage. Variable represents current accounts balance share on nominal GDP. *(independent variable)*	*Eurostat*
UNE	Unemployment as a percentage. Variable represents share of unemployed workers on overall sum of economically active population within that specific country. *(independent variable)*	*Eurostat*

Source: own construction

Based on the structure of variables used, which contains not only time series, but cross-sectional data as well issues the need to use of a panel regression, in this case pooled regression (further referred to as only PR) and fixed effects model (further referred to as only FEM). We tested the adequacy of one of the models chosen with joint significance of differing group means method. Because of panel diagnostics FEM model was applied to quantify impacts of chosen factors (elements of macroeconomic quadrangle) on the point scores of HDI and GCI, which better reflects factor impacts on changes in dependent variables. Latency (t-1) for each dependent variable represents over time change of that concrete variable and latency (t-1) in other factors takes into account the availability of the up-to-date data in time of HDI and GCI composition. Following is the transcript of applied variables which looks like this:

$$\textbf{PR: } HDI_{tc} = \alpha + \beta_1 * HDI_{(t-1)ci} + \beta_2 * GDP_{(t-1)ci} + \beta_3 * INF_{(t-1)ci} + \beta_4 * TRB_{(t-1)ci} + \beta_5 * UNE_{(t-1)ci} + \varepsilon_{tc}$$

$$\textbf{FEM: } HDI_{tc} = \alpha_t + \beta_1 * HDI_{(t-1)ci} + \beta_2 * GDP_{(t-1)ci} + \beta_3 * INF_{(t-1)ci} + \beta_4 * TRB_{(t-1)ci} + \beta_5 * UNE_{(t-1)ci} + \varepsilon_{tc};\ \alpha_c = \alpha_1 * Z_{c1} + \alpha_2 * Z_{c2} + \ldots + \alpha_e * Z_{ce}$$

or;

$$\textbf{PR: } GCI_{tc} = \alpha + \beta_1 * GCI_{(t-1)ci} + \beta_2 * GDP_{(t-1)ci} + \beta_3 * INF_{(t-1)ci} + \beta_4 * TRB_{(t-1)ci} + \beta_5 * UNE_{(t-1)ci} + \varepsilon_{tc}$$

$$\textbf{FEM: } GCI_{tc} = \alpha_t + \beta_1 * GCI_{(t-1)ci} + \beta_2 * GDP_{(t-1)ci} + \beta_3 * INF_{(t-1)ci} + \beta_4 * TRB_{(t-1)ci} + \beta_5 * UNE_{(t-1)ci} + \varepsilon_{tc};\ \alpha_c = \alpha_1 * Z_{c1} + \alpha_2 * Z_{c2} + \ldots + \alpha_e * Z_{ce}$$

where HDI summarizes the resulted evaluation of human development index compiled by United Nations methodology, and *t* as a time factor (period), c as a cross-section unit (one of observed countries), *i* as a vector of spectrum of variables chosen. *GDP* represents year–to–year change in countries aggregated production, *INF* is expression of year–to–year change of consumer prices level, *TBI* is trade balances share on nominal GDP of country covered, *UNE* is level of unemployment and average Z_{ce} defines the individual character of cross–section unit effect of a country within FEM model. Prior to every evaluation of interrelations between chosen dependent and independent variables, we judge their stacionarity via ADF test of their unit roots.

Results and discussion

Only by proclaiming time series as of stationary character, we can proceed with estimated regression models. By applying ADF set of tests examining the unit roots, we were able to confirm stationarity of all selected variables. First we undergo testing of correlation, which proved the statistical significance of dependences in between all selected variables and indexes HDI and GCI. The most unexpected was the recognition of indirect proportionality between year-on-year change of GDP and HDI index. It can be an outcome of uneven distribution of benefits connected to the growth of GDP through out the entire country's population of residents, so it can contribute to the increase of regional and gender based wage disparities, which negatively effects its development and sub-indicator results. Results of unemployment and inflation indicator's correlation were expected. Proportionally indirect relation is a result of negative impact of consumers price level increase on purchasing power of the citizens leads to decreasing expenditure in healthcare and education of individuals. Increase of unemployment also negatively affects amount of expenditure in these categories and contributes to deceleration of human development. Long term character of these effects course can lead to a effect of multiplication and can have impacts not only on current but the next generation of citizens as well.

Table 2 Correlation analysis

	HDI	*GCI*	*GDP*	*INF*	*TRB*	*UN*
HDI	*1*					
GCI	*-0,0356* *(0,0126)* *[0,05606]*	*1*				
GDP	*-0,1917* *(0,0367)* *[0,0003]****	*0,0438* *(0,0019)* *[0,4736]*	*1*			
INF	*-0,4455* *(0,1984)* *[0,0000]****	*-0,1919* *(0,0368)* *[0,0015]****	*0,1818* *(0,0330)* *[0,0006 ****	*1*		
TRB	*0,6044* *(0,3652)* *[0,0000]****	*0,5284* *(0,2792)* *[8,15e-021]****	*-0,1517* *(0,0230)* *[0,0062]****	*-0,4965* *(0,2465)* *[1,44e-021]****	*1*	
UNE	*-0,2248* *(0,0505)* *[0,0000]****	*-0,4044* *(0,1635)* *[4,78e-012 ****	*-0,1874* *(0,0351)* *[0,0004]****	*-0,1741* *(0,0303)* *[0,0011]****	*-0,1066* *(0,114)* *[0,0553]**	*1*

Source: own construction

1 first number is the value of correlation coefficient
2 value closed in brackets represents coefficient of determination,
3 square brackets include p-value of t-test

By using the Joint significance of differing group means, which F of test statistics equaled 1,69599 with p-value on 0,0212877 level, we identified the inadequacy of pooled regression in favor of the fixed effects alternative within selected variables capturing the state of human development. Based on the results recognized for all observed countries, we were able to identify the following statistically significant variables: year-to-year change of consumer price level and GDP. The current account share on nominal GDP, nor the inflation haven't proven to be statistically significant. Reason for this kind of result lies probably in the fact that current account balance's share on nominal GDP creates only minimal wage differences within citizens population, so its impact on education level and health quality are also minimal. Minuscule fluctuation of import and export doesn't create enough significant impact on employment (due to the production increase that is linked to increased demand on foreign markets).
For the Baltic-Nordic and Southeast European countries, this impact was even indirectly proportional due to the often negative balance of these countries. Therefore, this factor was more negative than positive, indicating a clear link between human development and competitiveness. Reason for the insignificance of unemployment is probably related to the inflation factor, since both of these variables are interconnected. We can only consider the unemployment factor (again) as significant in the case of Nordic and Southeast European countries, which is related to the lower impact of inflation. The change in size of the aggregated production of a country expected to have an direct relation, but within partial analyses, in some cases, this causality was negative (albeit statistically insignificant).
This is connected to the high variability of the sample due to inclusion of financial crisis period within the period under review, in case of certain countries. Growth in consumer prices has had a negative impact on human development (proven in majority of partial tests).
The apparent link with the price increase (by increasing costs in the same volume of consumption) and by decreasing the tendency to support education and health of the population, is aimed at reducing HDI. Based on the results of our correlation analysis for the whole spectrum of countries covered we can identify only year–to–year change of GDP and inflation as statistically relevant and other’s have proven to be statistically insignificant.

Table 3 Regression analysis for HDI

	SRM ●	MFV +	MNV ●	V4+Aus.	NB8°	Romanian. countries	BENELUX	Countries of JVE
Constant	0,0282931	0,104524	0,0835522	0,0732866	0,0818423	0,130822	0,18771	0,134273
	[2,15e-06]***	[2,07e-011]***	[0,0088]***	[0,0237]**	[0,0301]**	[0,0141]**	[0,0002]***	[0,0313]**
HDI (t-1)	0,970991	0,881463	0,906203	0,913522	0,909796	0,861976	0,763855	0,852445
	[2,88e-277]***	[2,81e-139]***	[9,04e-029]***	[6,50e-032]***	[7,23e-028]***	[4,13e-014]***	[6,60e-014]***	[6,98e-015]***
Δ GDP (t-1)	0,0197609	0,0143401	−0,0140498	0,0234	-0,0007068	−0,018359	0,0005737	−0,009160
	[0,0002]***	[0,0098]***	[0,2660]	[0,0064]***	[0,9696]	[0,2535]	[0,9712]	[0,7167]
Δ INF (t-1)	−0,0218170	−0,0284747	−0,00200024	−0,0521001	0,0215898	−0,172325	−0,0773327	0,0595979
	[0,0505]*	[0,0192]**	[0,9322]	[0,0083]***	[0,5765]	[0,0034]***	[0,0196]**	[0,3521]
TRB (t-1)	0,00258762	3,07E-05	−0,0100867	−0,0285998	0,0347434	0,0231452	−0,0456242	0,0437085
	[0,5338]	[0,9960]	[0,5543]	[0,0325]**	[0,0118]**	[0,4958]	[0,0083]***	[0,3038]
UNE (t-1)	0,00500563	0,0122552	−0,00304056	-0,0601931	-0,0065927	−0,0343564	-0,112611	0,00304792
	[0,3428]	[0,1101]	[0,8668]	[0,0031]***	[0,6661]	[0,6639]	[0,0240]**	[0,9118]
Adjusted. R^2 / cor $(y,\hat{y})^2$	0,992916	0,993927	0,993179	0,995283	0,981518	0,975042	0,996958	0,936985

Source: own construction
● for information only
+ constants for individual countries are listed in Table 5 within enclosure
° from NB8 group we are taking into account only EU member countries (excluding Norway and Iceland)
*,**,*** - statistically relevance on 10%, 5% a 1% level

Based on the analysis results, we're able to identify statistically significant dependency between GDP as an indicator of homeland productivity's change on the GCI ranking among EU member countries covered. Proportional dependency was proven as on both at the level of the EU and at the regional level. Thus we can confirm that GCI index is conceived as to reflect prime indicator of economy's productivity. In case of our selected regions concretely countries of Benelux, V4 countries plus Austria and south-eastern countries this proportionality's significance is nonexistent. The influence of consumer price level has shown statistically significant positive relation. That confirms how the level of international prices is structured and the fact that the prices in Europe are among the highest.

Every price rising tendency has significant impact on foreign demand after goods and services produced in Europe. Regions of south-eastern countries and V4 seems to be the exception thanks to the fact that majority of their export stays within EU. The same situation is among ''the other"countries in which we included France, Germany and United Kingdom. However, at the same time, we consider it necessary to add that in the context of regional analyzes, significance has only been demonstrated regarding only the Nordic and Baltic countries. Current account balance, a significant variable connected to GCI ranking is showing statistical significance in all model variations applied on the complete EU dataset. This finding is proving our presumption of proportional relationship based on the fact that the balance's increase directly reflects increase in foreign demand.

We accounting in its significance within partial regression analysis only when considering V4 and "the other" countries. The impact of the level of unemployment on the competitiveness of economies in Europe is not statistically significant, having negative relation with the GCI ranking in most cases. The Benelux countries appearing to be an exception, where, in addition there is a directly proportional relationship. This condition should indicate the overheating of these economies and employment exceeding level of full employment. Thus, the further increase in employment leads to an even greater use of the labor factor at the expense of the growth of the wage costs of companies. While there is exactly the opposite effect in the V4 countries. A complete summary of the analysis results for GCI regression analysis is provided in Table 4.

Table 4 Regression analysis for GCI

	SRM ●	MFV +	MNV ●	V4+Aus.	NB8°	Romanian countries	BENELUX	Countries of JVE	"Other countries"
Constant	0,245517	1,79421	1,2985	1,84599	1,82995	2,12746	2,49061	0,992681	3,01012
	[0,0001]***	[1,16e-012]***	[4,00e-011]***	[0,0013]***	[0,0027]***	[0,0002]***	[0,0147]**	[0,1786]	[0,0016]***
GCI (t-1)	0,951562	0,628961	0,732954	0,623011	0,644170	0,520030	0,478645	0,790190	0,418373
	[1,63e-174]***	[2,18e-028]***	[2,19e-076]***	[4,52e-06]***	[8,06e-07]***	[8,15e-05]***	[0,0185]**	[5,43e-05]***	[0,0143]**
HDP (t-1)	0,259831	0,425104	0,381484	0,180077	0,352200	0,838892	0,0859410	0,417331	1,08055
	[0,0228]**	[0,0002]***	[0,0005]***	[0,5804]	[0,0425]**	[0,0209]**	[0,7798]	[0,3144]	[0,0114]**
INF (t-1)	−0,575041	−0,877767	−0,769158	0,137638	−1,45526	−0,340292	0,151664	−1,07382	0,50476
	[0,0187]**	[0,0008]***	[0,0021]***	[0,8326]	[0,0008]***	[0,6294]	[0,8842]	[0,2662]	[0,6106]
OBI (t-1)	0,393804	0,353698	0,433893	0,87728	0,353814	0,341458	−1,39806	0,0061804	1,33315
	[4,95e-05]***	[0,0102]**	[0,0008]***	[0,0609]*	[0,1809]	[0,2325]	[0,1233]	[0,9891]	[0,0835]*
NEZ (t-1)	0,00510524	−0,190748	−0,161138	−1,56603	−0,315800	−0,0983930	4,88784	−0,762857	0,0355181
	[0,9666]	[0,2945]	[0,3561]	[0,0437]**	[0,4547]	[0,7496]	[0,0090]***	[0,5914]	[0,9547]
Adjusted R^2 / cor $(y,\hat{y})^2$	0,981269	0,986016	0,980242	0,975783	0,991036	0,920233	0,938175	0,842616	0,951295

Source: own construction
● for information only
+ constants for individual countries are listed in Table 5 within enclosure
° from NB8 group we are taking into account only EU member countries (excluding Norway and Iceland)
*,**,*** - statistically relevance on 10%, 5% a 1% level

Summary and conclusions

Based on the theory on the problematics provided, which suggests the possible existence and character of the relationships between the basic indicators of economic productivity and the HDI and GCI indexes, we have for the purposes of our analysis determined the hypothesis of directly proportional dependence between the two indices and the year-to-year change in GDP, and also indirectly proportional dependencies with both unemployment and consumer prices level. In order to test these hypotheses we used dataset containing the data of aforementioned variables in case of EU 27 countries (excluding Croatia) within the time-span from year 2006 and ending in year 2015. Because the variables in this dataset are partially cross-sectional and partially of a time series character the statistical methodology we applied also consist of two models pooled regression and fixed effects model. Precise transcript of applied variables is provided in the section under table 1. Before we could start applying the described methodology we had to make sure of stationarity of selected variables which was eventually proven by the results of ADF set of tests examining the unit roots. Based of the results of executed analysis we were able to conclude the following most notable results:

Testing of correlation, proved dependences in between all selected variables and indexes HDI and GCI possessing statistical relevancy. The most unexpected was the recognition of indirect proportionality between year-on-year change of GDP and HDI index. With regard to this result we reject our hypothesis no. 1. We presume that uneven distribution of benefits connected to the growth of GDP throughout the entire country's population of residents can by a significant factor for this result. Such a state has the potential to increase regional and gender based wage disparities, which negatively effects its development and sub-indicator results. Results of unemployment and inflation indicator's correlation were expected so we were able to confirm hypothesis no. 2 and 3.

Further we declare that we identified the inadequacy of pooled regression in favor of the fixed effects alternative within selected variables capturing the state of human development. The only statistically significant variables were: year-to-year change of consumer price level and GDP We see the reason for this kind of result in the fact that current account balance's share on nominal GDP creates only minimal wage differences within citizens population. Baltic-Nordic and Southeast European countries, showed indirectly proportional impact of import-export fluctuation on unemployment due to the often negative balance of these countries. Therefore, this factor was more negative than positive, indicating a clear link between human development and competitiveness. Reason for the insignificance of unemployment is probably related to the inflation factor, since both of these variables are interconnected.

Proportional dependency on both the EU and at the regional level was proven between GCI and year-to-year change of GDP. In our opinion this result confirms that GCI index is conceived as to reflect prime indicator of economy’s productivity. Regional level's proportionality’s statistical insignificancy of countries of Benelux, V4 countries plus Austria and south-eastern countries was an unexpected result. The influence of consumer price level has shown statistically significant with positive

relation which confirms how the level of international prices is structured and that Europe's prices are among the highest. Current account balance is showing statistical significance in all model variations applied on the complete EU dataset, proving to be a significant variable connected to GCI ranking. This finding is supporting our presumption of proportional relationship based on the fact that the balance's increase directly reflects increase in foreign demand. And finally the impact of the level of unemployment on the competitiveness of economies in Europe is not statistically significant, having negative relation with the GCI ranking in most cases.

Sumár a závery

Vychádzajúc z teórie problematiky, ktorá naznačuje možnú existenciu a charakter vzťahov medzi základnými indikátormi produktivity ekonomiky, indexom ľudského rozvoja a indexom globálnej konkurencieschopnosti sme si za ciele našej analýzy stanovili overenie hypotéz priamo úmernej závislosti medzi oboma indexmi a medziročnou zmenou hrubého domáceho produktu a taktiež nepriamo proporcionálne závislosti od úrovne nezamestnanosti aj od spotrebiteľských cien. Na testovanie týchto hypotéz sme v prípade krajín EÚ-27 (s výnimkou Chorvátska) použili súbor údajov obsahujúcich vyššie uvedené premenné v období od roku 2006 do roku 2015. Pretože premenné v tomto súbore sú čiastočne prierezové a čiastočne charakterom časových radov, štatistická metodológia, ktorú sme použili, pozostáva z dvoch modelov a to zo združeného modelu regresie a modelu fixných efektov. Presný prepis uplatnených premenných je uvedený v časti pod tabuľkou 1. Predtým, ako sme mohli začať uplatniť popísanú metodológiu, sme sa museli uistiť o stacionárnosti vybraných premenných, ktorá bola nakoniec preukázaná výsledkami súboru testov ADF skúmajúcich jednotkové korene. Na základe výsledkov vykonaných analýz sme dospeli k nasledujúcim najzávažnejším zisteniam:

Testovanie korelácie ukázalo závislosť medzi všetkými vybranými premennými a indexmi HDI a GCI, ktoré majú štatistickú relevanciu. Najviac neočakávané bolo uznanie nepriamej proporcionality medzi medziročnou zmenou HDP a HDI indexom. Vzhľadom na tento výsledok zamietame našu hypotézu č. 1. Predpokladáme, že nerovnomerné rozdelenie prínosov súvisiacich s rastom HDP prostredníctvom celkovej populácie obyvateľov krajiny môže byť pre tento výsledok významným faktorom. Takýto štát má potenciál zvýšiť regionálne a rodovo založené rozdiely v mzdách, čo negatívne ovplyvňuje jeho vývojové a subindikátorové výsledky. Výsledky korelácie ukazovateľa nezamestnanosti a inflácie boli očakávané, takže sme dokázali potvrdiť hypotézu č. 2 a 3.

Ďalej vyhlasujeme, že sme určili nedostatočnosť združenej regresie v prospech alternatívy s fixnými efektmi v rámci vybraných premenných, ktoré zachytia stav ľudského vývoja. Jedinými štatisticky významnými premennými boli: medziročná zmena úrovne spotrebiteľských cien a HDP Dôvod tohto druhu výsledku vidíme v skutočnosti, že podiel bežného účtu na nominálnom HDP vytvára v rámci obyvateľstva len minimálne mzdové rozdiely. Krajinách Baltsko-severskej a juhovýchodnej Európy ukázali nepriamo proporcionálny vplyv kolísania dovozu a vývozu na nezamestnanosť v dôsledku často negatívneho salda týchto krajín. Preto bol tento faktor skôr negatívny ako pozitívny, čo poukazuje na jasné prepojenie

medzi ľudským rozvojom a konkurencieschopnosťou. Dôvod nezanedbateľnosti nezamestnanosti pravdepodobne súvisí s inflačným faktorom, pretože obe tieto premenné sú prepojené.

Proporcionálna závislosť ako na úrovni EÚ tak aj na regionálnej úrovni bola preukázaná medzi GCI a medziročnou zmenou HDP. Podľa nášho názoru tento výsledok potvrdzuje, že index GCI je koncipovaný tak, aby odrážal primárny ukazovateľ produktivity ekonomiky. Štatistická nevýznamnosť regionálnej úrovne v krajinách Beneluxu, krajín V4 a Rakúska a juhovýchodných krajín bola neočakávaným výsledkom.
Vplyv úrovne spotrebiteľských cien sa ukázal štatisticky významný s pozitívnym vzťahom, ktorý potvrdzuje to, ako je štruktúrovaná úroveň medzinárodných cien a že ceny v Európe patria medzi najvyššie. Zostatok bežného účtu vykazuje štatistickú významnosť vo všetkých variantoch modelov aplikovaných na kompletnom súbore údajov EÚ, takže sa jedná o dôležitú premennú spojenú s poradím GCI. Toto zistenie podporuje našu domnienku proporcionálneho vzťahu založenú na skutočnosti, že nárast bilancie priamo odráža nárast zahraničného dopytu. Napokon vplyv úrovne nezamestnanosti na konkurencieschopnosť krajín Európskej 27 nie je štatisticky významný a vo väčšine prípadov má negatívny vzťah s klasifikáciou GCI.

PRÍLOHY

Table 5 Constants of individual cross-section units (countries) for FEM – HDI

Design	Constants of units	Entire dataset	Countries V4	Contries NB8	Romanian countries	BENELUX countries	JVE countries	"Other countries"
1	***Czech Rep.***	0,104723	0,08439					
2	***Hungary***	0,100553	0,08063					
3	***Poland***	0,101744	0,08309					
4	***Slovakia***	0,101293	0,08301					
5	***Austria***	0,107343	0,08664					
6	***Belgium***	0,106634				0,1311637		
7	***Bulgaria***	0,095260					0,1761433	
8	***Cyprus***	0,102300			0,08069			
9	***Denmark***	0,110266		0,079970				
10	***Estonia***	0,103923		0,071800				
11	***Finland***	0,106404		0,075190				
12	***France***	0,106849						0,13223
13	***Germany***	0,110737						0,13397
14	***Greece***	0,102942			0,08332			
15	***Ireland***	0,109169						0,13685
16	***Italy***	0,105792			0,08216			
17	***Latvia***	0,099490		0,06642				
18	***Lithuania***	0,101396		0,06900				

19	***Luxemburg***	0,107039			0,1294619			
20	***Malta***	0,101575		0,07971				
21	***Netherlands***	0,110650			0,13184			
22	***Portuguese***	0,100408		0,08104				
23	***Romania***	0,098370				0,18374		
24	***Slovenia***	0,106411				0,203248		
25	***Spain***	0,104872		0,08413				
26	***Sweden***	0,107845	0,07735					
27	***United Kingdom***	0,108160					0,13405	

Source: own construction

Table 6 Constants of individual cross-section units (countries) for FEM – GCI

Design	Constants of units	Entire dataset	Countries V4	Contries NB8	Romanian countries	BENELUX countries	JVE countries	"Other countries"
1	***Czech Rep.***	1,727810	1,834717					
2	***Hungary***	1,629984	1,750067					
3	***Poland***	1,686023	1,851714					
4	***Slovakia***	1,595010	1,800949					
5	***Austria***	1,925936	1,992478					
6	***Belgium***	1,942045				2,304188		
7	***Bulgaria***	1,637870					1,013542	
8	***Cyprus***	1,674266			2,130448			
9	***Denmark***	1,987433		1,923341				
10	***Estonia***	1,783445		1,749607				
11	***Finland***	2,057940		1,997473				
12	***France***	1,928596						2,969622
13	***Germany***	2,029230						3,068368
14	***Greece***	1,566676			1,985613			
15	***Ireland***	1,862341						2,879364
16	***Italy***	1,678115			2,139452			
17	***Latvia***	1,676309		1,654025				
18	***Lithuania***	1,706872		1,677592				
19	***Luxemburg***	1,879716				2,487141		
20	***Malta***	1,652181			2,097044			

21	***Netherlands***	2,013474			2,680504		
22	***Portuguese***	1,714453		2,178167			
23	***Romania***	1,622605				0,987049	
24	***Slovenia***	1,638595				0,977453	
25	***Spain***	1,761968		2,234063			
26	***Sweden***	2,042401	1,977649				
27	***United Kingdom***	2,022303					3,123110

Source: own construction

References

[1] AIGINGER, K. 2006. Competitiveness: From a Dangerous Obsession to Welfare Creating Ability with Positive Externalities. Journal of Industry, Competition and Trade, 6(2), 161–177. DOI: 10.1007/s10842-006-9475-6.

[2] BENEŠ, M. 2006. Konkurenceschopnost a konkurenční výhody. Centrum výskumu konkurenční schopnosti české ekonomiky Working Paper No. 5. ISSN 1801-4496. [online], [cit. 2017-11-19]; available at: https://is.muni.cz/do/econ/soubory/oddeleni/centrum/papers/wp2006-05.pdf

[3] EUROSTAT., 2017. Gross Domestic Product (GDP) at market prices - annual data. [online], [cit. 2017-4-15]; available at: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tipsau10&plugin=1

[4] EUROSTAT., 2017. HICP - inflation rate. [online], [cit. 2017-4-15]; available at: http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00118&plugin=1

[5] EUROSTAT., 2017. Unemployment rate - annual data. [online], [cit. 2017-4-15]; available at: tab=table&init=1&language=en&pcode=tipsun20&plugin=1

[6] LISÝ, J. a kol. 2011. Ekonómia Bratislava : Iura Edition s.r.o., 2011, vydanie: 1., 622 s., ISBN 9788080784232

[7] PILKOVÁ, A., a kol. 2012. Podnikanie na Slovensku: vysoká aktivita, nízke rozvojové ašpirácie. Bratislava: Univerzita Komenského, Fakulta Manažmentu, 2012, 207 s., ISBN 978-80-223-2823-4

[8] SCHWAB, K., SALA-I-MARTIN, X. et al. *The Global Competitiveness Report 2014-2015*. Geneva: World Economic Forum, 2015. 381 p. ISBN 978-92-95044-98-2. [online], [cit. 2016-01-22]; available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf

[9] VINCÚR, P., a kol. 2006. Teória a prax hospodárskej politiky. Bratislava: Sprint, 2006, vydanie: 2., 432 s., ISBN 80-89085-60-1

[10] UNITED NATIONS., 2017. Human Development Index. [online], [cit. 2017-11-19]; available at: http://hdr.undp.org/en/data

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[2] HORVÁT, J. et al., 1999. Anatómia a biológia človeka. 2. vyd. Bratislava: Obzor. ISBN 80-07-00031-5.

[3] STEINEROVÁ, J., 2000. Princípy formovania vzdelania v informačnej vede. In: Pedagogická revue. Roč. 2, č. 3, s. 8-16. ISSN 1335-1982.

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