

DEMOGRAPHIC CHANGES AND THEIR IMPACT ON HUMAN RESOURCES - EMPLOYMENT IN SLOVAKIA

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Abstract: One of the prerequisites for the creation of employment opportunities is the overall condition of the economy, however, this prerequisite is not the only one required for the guarantee of the increase of employment. Factors influencing the employment rate are connected to the entrepreneurial environment, which is one of the basic factors of creation of work opportunities in the market economy. In the future, the growth of the employment rate will be connected to the quality of the work force as well as of the renewed economic-political concept with a priority on the knowledge economy based on the learning competence.

Key words: Employment. Structure of Employment.

JEL Codes: M54, E24

Introduction

Slovakia belongs to countries with the labor force being one of the most important comparative advantages [1]. Nowadays, Slovakia is facing a problem of a shortage of the labor force in certain subdivisions. This problem is common in other member states of the EU as well. The labor market lacks specialists in IT, builders and mechanics. It is important to solve this problem and to eliminate the disproportion between the supply and demand for work from the perspective of education, skills and work experience. Similar opinion is expressed by *Bobáková, V. – Hečková, J* [3].

The main goal of this research article is to reveal remaining problems and resources of the labor market in the Slovak Republic. This is done with the use of the analysis of employment according to demographic factor. This study analyzes employment in the Slovak Republic during years 2002 -2006. The reference data are derived from official statistical information of the Slovak Republic, professional literature and research articles. Several research methods were used during the writing of this article, namely comparison, analysis and synthesis. Furthermore, during the final discussion of results standard mathematical-statistical equations and calculations are used. The employment index is calculated according

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to three methodologies: employment according to the registration index of employees, employment according to the labor force sample survey (VZPS) and employment according to the methodology of the ESA95.

Results and Discussion

During the period of 2002 – 2006 the employment is growing annually by 2.66% according to the VZPS (calculated by the index k – average annual growth rate). This is the highest average rate comparing it to the growth rate according to the administrative information and information from ESA95. The overall employment decreased only in 2004 by 0.34% according to ESA95. According to the registration index of employees the employment is growing during the whole period. In 2004, the smallest increase in employment is reached. In absolute numbers, the employment, according to ESA95, is from 2 026 417 to 2 131 784 persons, according to VZPS from 2 127 000 to 2 301 400 persons, and according to the registration index of employees from 2 008 851 to 2 148 182 persons. In any case, the growth of employment during the period of 2002 – 2006 exceeded 100 000 persons and, according to the VZPS methodology, it reached 174 400 persons.

	2002	2003	2004	2005	2006	k
Overall employment (ESA95)	2 026 417	2 062 693	2 055 711	2 083 971	2 131 784	-
I _R (%)	-	101,79	99,66	101,37	102,29	101,70
Employees (VZPS)	2 127 000	2 164 600	2 170 400	2 216 200	2 301 400	-
I _R (%)	-	101,77	100,27	102,11	103,84	102,66
Average registration index of employees	2 008 851	2 024 992	2 030 348	2 074 988	2 148 182	-
I _R (%)	-	100,80	100,26	102,20	103,53	102,26

Table 1. Employment in the SR (in persons)

Source: Statistical Office of the SR, author's calculations

In 2002, there are no prominent changes. The employment rate calculated according to persons of 15 – 64 years of age is in 2002 only 56.7%. During the period, it oscillated around 57%, and during the last year of the study research it reached the maximum of 59.4%. According to the index of the employment rate of persons older than 15 years of age, this includes employed old age pensioners older than 64, the employment rate naturally reaches lower numbers. The growth of the employment rate above 15 years of age almost copies the growth of the employment rate of the 15 – 64 years of age group.

	2002	2003	2004	2005	2006
Employment rate in the SR 15-64 years of age (VZPS)	56,7	57,6	56,9	57,7	59,4
Growth of the employment rate	-	0,9	-0,7	0,8	1,7
Employment rate in the SR 15+ years of age (VZPS)	48,7	49,6	49,1	49,8	51,2
Growth of the employment rate	-	0,9	-0,5	0,7	1,4

Table 2. Employment rate according to VZPS (in %)

Source: Statistical Office of the SR, author's calculations

The overall employment rate for persons in the age between 15 – 64 in the given period is growing slowly throughout EU (15) as well, and reaches the level of 64.2 – 66 %.

The demographic development in the Slovak Republic is characterized by the aging of the population and decrease in the annual growth of population. In the given period, the supply of the employment opportunities is growing; population in the productive age group rises by 472 400 persons, which is granted by the continuation of the wave, that is characterized by the inpouring of the economically active population to the labor market. This fact is visible in the growth of employment, however, a huge part might have been absorbed by the shadow economy, foreign work opportunities, or by the growth of unemployment [5].

The most visible impact of the demographic development is in 2004, when the growth of the population in the productive age rises by 12% and it exceeds the

stagnating growth by 0.27% of the number of employed persons. That is the reason for the decrease in the unemployment rate by 0.7 % to 18.1%, in 2004 only. This is compensated by a positive influence in the following years. In 2005, the employment rate reaches the level from before 2004, and in 2006 it further grows to 59.4% thanks to the 3.84% of the labor force. During the rest of the years (except for 2004) the employment rate is continually growing compared to the growth of the productive age population. This is the reason why there is no increase of the unemployment due to the no inclusion of the growth of the population in the productive age group to the labor force.

During 2002 to 2006 the cumulative growth of the overall employment is almost 8.20%. The employment is growing in absolute numbers as well as in comparison to the population in the productive age. It is possible to state that even in 2006 apart from positive trends, there is a strong imbalance on the labor market. The supply of the work opportunities exceeds the demand.

<i>according to VZPS</i>	2002	2003	2004	2005	2006
Population in the productive age	3 389,80	3 389,80	3 801,60	3 827,70	3 862,20
Increase of population in the productive age in %	-	0	12,15	0,69	0,90
Employed	2 127,00	2 164,60	2 170,40	2 216,20	2 301,40
Increase of the number of employed people in %	-	1,77	0,27	2,11	3,84

Table 3. Growth of employment and the increase in population in the productive age (in thousands)

Source: Statistical Office of the SR, author's calculations

In 2002, the shares of employed, unemployed and economically inactive in the age group of 15 – 64 are approximately 49%, 11%, 40%. Till 2006, these shares changed to approximately 51%, 8%, 41%. This means that the share of the employed in the age group of 15 – 64 increased by 2.32 %, meanwhile, the share of economically inactive persons increased by 1 percentage point. The share of the unemployed decreased by almost one third.

According to this calculation, it is possible to state that the increase of employment means the decrease of unemployment, accompanied by a slight increase of the population in the unproductive age group [9].

<i>According to VZPS</i>	2002	2003	2004	2005	2006	2006 - 2002
Employed in %	48,88	49,7	49,19	49,82	51,2	2,32
Unemployed in %	11,19	10,54	10,89	9,61	7,86	-3,33
Inactive population in %	39,94	39,76	39,92	40,57	40,94	1

Table 4. Share of segments of population in the age group of 15 - 64

Source: Statistical Office of the SR, author's calculations

As there exists the trend of the ageing of the society, it is important to monitor the impact of this trend on the structure of employment according to different age groups. The labor force is divided into 4 age groups 15 – 24, 25 – 49, 50 – 64 and 65 and older. The percentage shares of these groups in 2002 are as follows 12 : 72 : 17 : 0. This shows that the biggest share of the labor force is formed by the age group of 25 – 49 years of age, followed by the age group 50 – 64 years of age. The lowest level of employment is the age group of 65 and older, which is natural as this group is mainly formed by working old age pensioners.

During 2002 – 2005 the old age pensioners become more active in the labor force. The share of this group increased in the overall employment. The only exemption is the year 2006, when the number of labor force decreased in absolute and comparative numbers. The share of this group in the overall employment is approximately 0.3%.

During the whole research period the share of the employment of the youngest age group of 15 – 24 is decreasing. This trend is visible in the absolute numbers with the decrease of number of employees by 25 700 persons. The employment rate in this group is lower than the overall employment rate. One of the possible reasons is that this age group is preparing for their future job (study), women are taking part in the reproduction process and another main reason is the

unemployment. In comparison with the EU, the decrease in employment in this age group is more vigorous in the SR.

The highest participation in the labor market is in the age group of 25 – 49 years of age. The share of this group on the overall employment rate is decreasing during the whole research period. The overall result is the decrease by 2.7% regardless to the increase in the absolute numbers by 62.9 thousands of persons. This group can be excluded from the labor market because of unemployment, maternity and paternity leaves, illnesses and disabilities.

The next group of the labor force is the age group of 50 – 64 years of age. The oldest working old age pensioners (without the paid pension) create a more numerous group than the youngest age group of 15 – 24 years of age. Their share on the labor force increased from 16.8% to 21.14%. It is probable, that with ever increasing age limit for the pension, the employment of the labor force of the age group 50 – 64 will increase as well. Different age limit for pension for men and women in Slovakia is the reason for the difference in their share of the labor force. The number of the youngest employees decreases and the number of the employees of the age group of 50 – 64 increases. This tendency is similar in the majority of the European countries, and this trend only shows the ageing of the labor force in the Slovak Republic. This trend is connected to other issues dealing with the older employees (e.g. contentment with the work conditions, interest in the early retirement, prioritization of a certain work routine) that are needed to be taken care of, because they are constantly changing with the age.

<i>according to VZPS</i>	2002	2003	2004	2005	2006	I _{B 06/02} (%)
All age groups	2 127,00	2 164,60	2 170,40	2 216,20	2 301,40	108,20
15 – 24 years of age	245,9	250	234,8	224,1	220,2	89,55
25 – 49 years of age	1 524,60	1 546,80	1 524,70	1 536,10	1 587,50	104,13
50 – 64 years of age	356,4	367,8	403,2	447,8	486,5	136,50
65 and older	5,2	7,2	7,7	8,2	7,2	138,46

Table 5. Trend of the number of employees according to age groups (in thousands of persons)

Source: Statistical Office of the SR, author's calculations

Summary

Employment in the Slovak Republic is in the period of 2002 – 2006 growing. According to the average European employment rate it is possible to classify the Slovak Republic between the developing countries. Period after 2002 is characterized by the growth of population in the productive age group. Palpable is the trend of the ageing of the population as well. According to the gender division, there is a trend of the gradual extrusion of men and women without qualification, as well as insufficient qualification from the labor market.

List of Abbreviations:

ESA95	European System of Accounts 1995
EU(15)	European Union – first 15 member states
GDP	Gross Domestic Product
I _B	Basilar Index
I _R	Chain Index
k	Average Annual Growth Rate in %
SR	The Slovak Republic
VZPS	Labor Force Sample Survey

References

- [1] Adamišín, P. Macroeconomic Coherences of Regional Development in the Slovak Republic. In: *Sborník vybraných příspěvků z vědecké konference Hradecké ekonomické dny 2008: „Aktuální problémy rozvoje regionů“*. Hradec Králové : Gaudeamus, 2008. s. 7-12. ISBN 978-80-7041-190-2.
- [2] Adamišín, P. – Rákoš, J. Makroekonomické súvislosti rozvoja agrárneho sektora v Slovenskej republike. In: *MendelNet 2007 - Sborník vědeckých příspěvků z mezinárodní vědecké konference*. Brno : Mendlova zemědělská a lesnická univerzita v Brně , 2007, CD nosič, ISBN 978-80-903966-6-1.

- [3] Bobáková, V. – Hečková, J. Analýza konkurencieschopnosti slovenského spracovateľského priemyslu. In: *Politická ekonomie*, roč. LV, 2007, č. 4, s. 490-507. ISSN 0032-3233.
- [4] Hečková, J. – Huttmanová, E. – Chapčáková, A. *Národohospodárstvo*. Prešov: Fakulta manažmentu Prešovskej univerzity v Prešove, 2009, 290 s. ISBN 978-80-8068-983-4.
- [5] Kárász, P. - Kárász, P. 2002. *Zamestnanosť a základné tendencie na trhu práce v ekonomike Slovenska v roku 2002* [online]. Bratislava: Friedrich Ebert Stiftung, Október 2002. [cit. 2007-12-3]. Dostupné na internete: <http://library.fes.de/pdf-files/bueros/slowakei/04217.pdf>
- [6] Kotulič, R. Analysis of Labour Market Indicator in Slovakia. In: *Journal of Competitiveness*, Issue 2/2011, Zlín : Tomas Bata Univerzity in Zlín, s. 20-27. ISSN 1804-171X.
- [7] Kotulič, R. Analýza zamestnanosti v Slovenskej republike podľa demografickej štruktúry a regionálnej diferenciacie. In: Zborník vedeckých štúdií z výskumného grantu VEGA č.1/4638/07 „Znalosti a ich transfer pri akcelerácii regionálneho rozvoja a dosahovaní konkurencieschopnosti regiónu“ a Centra excelentnosti výskumu kognícií CEVKOG. Prešov: FM PU v Prešove, Ed. Róbert Štefko, 2008, s.79-85. ISBN 978-80-8068-890-5.
- [8] Kotulič, R. – Adamišín, P. Reálna konvergencia sektorov slovenskej ekonomiky a jej vplyv na zamestnanosť. In: Zborník z medzinárodnej vedeckej konferencie „Národná a regionálna ekonomika VII“. Košice : EKF TU v Košiciach, 2008. s. 425-430. ISBN 978-80-553-0084-9.
- [9] Lubyová, M. *Trh práce*. In: Marcinčin, A – Belbavý, M. a kol. *Hospodárska politika na Slovensku 1990-1999*. Bratislava: Centrum pre spoločenskú a mediálnu analýzu, Slovak Foreign Policy Association, INEKO, 2000. ISBN 80-968147-1-0, s. 161-201.
- [10] Štefko, R. – Frankovský, M. – Bačík, R. Regional University Marketing in Underdeveloped Regions. In: *Współczesna ekonomia – Contemporary Economics*. Warsaw : University of Finance and Management in Warsaw, Nr.3, 2007, p.71-81. ISSN 1897-9254. Statistical Office of the SR. [cit. 2009-11-12]. <http://www.statistics.sk>

ZMIANY DEMOGRAFICZNE I ICH WPŁYW NA ZASOBY LUDZKIE - ZATRUDNIENIE NA SŁOWACJI

Abstrakt: Jednym z podstawowych warunków dla tworzenia możliwości zatrudnienia jest ogólny stan gospodarki, jednak ten warunek nie tylko jeden wymagany dla gwarancją wzrostu zatrudnienia jest. Czynniki wpływające na poziom zatrudnienia połączone są z otoczeniem, które jest jednym z podstawowych czynników tworzenia możliwości pracy w gospodarce rynkowej. W przyszłości wzrost wskaźnika zatrudnienia będzie podłączony do jakości siły roboczej, jak również odnowionej koncepcji gospodarczo-politycznej z priorytetem w gospodarce opartej na wiedzy w oparciu o kompetencje uczenia się.

人口变动特征及对人力资源的影响 - 在斯洛伐克就业

摘要: 为创造就业机会的先决条件之一是整体经济状况，然而，这个前提

是不是只有一个要求，为保证增加就业。就业率的影响因素是连接到的创业环境，这是在市场经济中创造工作机会的基本因素之一。就业率的增长，在未来将连接到工作队伍的质量，以及恢复经济和政治的概念上的学习能力为基础的知识经济的优先。