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ON THE CHALLENGES IN VOCATIONAL TRAINING IN HUNGARY BASED ON EUROPEAN COMPARISONS

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Abstract: One objective of the study is exploring the interrelations of vocational training and the labor market, and the tendencies in Hungary and Europe. The other objective is to explain what kind of important tasks can be defined in the relationship between vocational training and labor force management, due to the rapid technological changes. Based on the analysis of the presented problems and shortcomings, the conclusions, proposals considering the skills development of future professionals, are aimed at decreasing the distance between formal education and the labor market. In our opinion, we need a coordinated development, the elements of which are built on one another better than earlier, with a complementary character in the fields of school system vocational training, adult education, retraining and human resources management. The demographic and technological changes affecting labor market trends, globalization and digitalization require new approaches and better trained labor force.
Keywords: Europe, employment, HR-development, labor force, vocational training

1. INTRODUCTION

Our analysis of the European and Hungarian tendencies about the utilization of employment and the human capital potential, is based on secondary research and literature analysis. The subject of the research is the exploration of interrelationships between human development, qualification, vocational training and employment.

In the forthcoming years, for the training of professionals, the spread of digitalization, the expectable acceleration of technological changes will bring about a new situation, it will mean a significant challenge, according to the requirements of the world of labor, for the tasks of educational reforms. The efficiency of human resources management in a country is also shown by how efficiently the available human potential is utilized. Analyzing the recent tendencies, it seems reasonable that in the member states of the European Union, based on the objectives of the European Strategy until 2020, on an average, they will achieve or exceed the 75% employment rate. Based on our prior research, we expect that in the years to come those with better qualification will have a more favorable chance of finding a job also in Hungary. The results of the research show the complexity of training, employment and human resources development, and based on this we drew up proposals.

2. MATERIAL AND METHODOLOGY

We defined the objective of the research that it includes the exploration of the growing lack of coordination between vocational training and the labor market in Hungary, in several cases we made comparisons between European tendencies, as well. As for the methodology, the research is based on the study of Hungarian and international professional literature, and on the secondary analysis of the available statistical data of KSH/Eurostat. The explication also spread on comparisons based on the human capital index of some Western-European and Central-European member states of the European Union. According to the secondary processing of the World Economic Forum and Eurostat surveys, we illustrate several years of employment and training figures of the countries included in the research in tables.

From the point of view of achieving the research objectives set, we consider the examination of the human development of the European countries a relevant issue. We analyzed the data of employment and unemployment, and within this we paid special attention to the analysis of the values collected about the 15-24-year-old. The analysis of the changes in the employment rate according to school qualification tells a lot. Every other of those with lower qualification, or of those who do not have a qualification cannot find a job in Europe. We also examined the distribution of those taking part in vocational training in Hungary, and it shows lower values, a smaller number than that of the European average.

3. THE EXPECTABLE TENDENCY OF THE RELATIONSHIP BETWEEN LABOR FORCE SUPPLY AND DEMAND

Tóth (2017) evinced that nowadays it is not only a characteristic phenomenon in Hungary, but all over Europe, that due the recession following the economic crisis in 2008, in the recent years unemployment has decreased, at the same time the growing lack of trained labor force significantly frustrates the companies. The difference

between labor supply and demand, among others, also plays a role in it. You have to consider that there are people able to work, lacking qualification or skills, can only be employed in the framework of communal employment financed by the state. In quantity respect, we can lastingly expect the effect of the demographic decrease in numbers on the labor market, and in the qualitative respect, a significant number of qualified labor force will leave Hungary, and we have to consider the significant proportion of those finding a job on the labor market outside Hungary.

More than a decade ago they were trying to find the reason for the high unemployment of young Hungarians in the training system. As the most important task of the employment policy, it was defined that they should create a closer connection between Hungarian institutions carrying out vocational training and the future employers, training should be better built on the demands of employers (Csehné Papp, 2008). Even today, they are encouraging the training of so called professions in demand, defined administratively, many times not justified in the economic respect (Mártonfi, 2013).

Most recently, it has been worded more and more powerfully, that we should not focus on the training of professions in demand, but on the development of skills in demand, since the professions in demand we have today will not exist later. Professions will cease, new ones will appear. Bod (2017) and Papp Szilimér (2015) stress that employees need basics, skills, knowledge, attitude that prepare them for their future tasks, so that they can easily adapt to the changes, since the world will change faster than before.

The role of human resources, human factors will be upgraded in the high level realization of applied technologies (Hajós – Magyari – Méhi, 1996). Expectably, in the period to come, less but more qualified labor force will be needed in the labor market. Technological changes will speed up, from the point of view of competitiveness, it is significant how the role players of the economy react. It means a problem when we try to find the capability of the country of keeping people in place and of creating work, that in many cases there are too few people who can meet the demands of the challenges created by new, modern production technologies. And those who can are left alone. Characterizing agriculture, Ferencz (2014) says farmers do not get practical information from the educational institutions that they could make their husbanding safer and more efficient with. Robotisation means a significant challenge for the role players of the labor market, global processes, digital changes require faster reactions from the training of professionals. The efficient management of human resources is becoming more significant, it is a necessity similarly to other economic resources (Hajós – Gősi, 2007).

Fülöp, et al (2017) say, in the forthcoming period we will need labor force which can readily and flexibly react to the employment demands of the new industries created due to the effect of robotization. The consequence of labor market changes is, in the case of trained labor force, that there is a lasting lack of workforce, showing up as a trauma, which can also be observed in Hungary now. As compensation we can consider the bigger scale involvement of the active age group in adult education, technological changes, mechanization, and also the import of labor force (Hajós – Ferencz, 1999).

In Hungary in Q2 of 2016 there was already a significant demand for workforce in certain fields. Calculating the proportion of vacancies, the lack of workforce was 2.7% in the manufacturing industry, 2.5% in the building industry, 2.9% in hotel and catering industry (Freid, 2016). At many places the number of vacancies has been high for a long time, which meant 73,000 vacant positions in Q3 of 2017 all over the country, and it shows a growing tendency, and the number of employed people in this period was 4,413,000 (KSH/Eurostat, 2017).

4. A SHORT PRESENTATION OF THE HUMAN DEVELOPMENT OF EUROPEAN COUNTRIES

In the annual report of the World Economic Forum (WET), located in Geneva, 130 countries were ranked on the basis of the human capital potential, most recently in 2017. The ranking was made according to the Global Human Capital Index, including several factors. During the survey of the human capacity, literacy, calculation skills and also school qualification are evaluated. After the research is done, on the basis of the ranking, employees' qualification, employment, the proportion of those taking part in training or retraining compared to the total number of the population are examined by the countries.

The aim of stating the human capital index yearly is that it can be used as tool to evaluate the development inside the country, and also it directs the attention to the cooperation between the countries in the field of human resources development. Today part of the employees live in the period "before industrialization", the other part live in "complex" societies, and also there is a segment who live in the "post-industrial societies. This latter one can be found in the service sector, in this area, as opposed to the manufacturing sector, the predominance of services is characteristic. In those countries with the growth of the technological accessibility the economy develops better. The low, medium and highly qualified labor force is divided unevenly on the labor market. The sub-index of the human capital is the know-how, on the basis of which employees on the

labor market can extend their skills based on their work. Know-how means competency, expertise, too. The availability of technological changes, its effect on the labor market significantly affects the development of different regions, the activity of human capital there, which influences social welfare, economic development. The educational systems in many cases today are not in direct connection with the skills required by the labor force market demands. And in many cases the training vocational structure is not suitable in the different regions (Juhász et al. 2009). Due to the exponential growth of the technological and economic changes, the gap between education and the labor force market is changing, growing to a different extent in the different regions.

Table 1 shows the human index values in percentages in the past three years, the tendencies, and how the human development proportions changed between the more developed Western-European countries and the developing Eastern – Central European countries, and to what extent the individual countries utilized the human capital potential.

Table 1: The human capital index ranking of certain European countries between 2015 and 2017

Country	2015		2016		2017	
	Index	Ranking	Index	Ranking	Index	Ranking
Germany	78.55	22	81.55	11	74.30	6
Sweden	82.73	6	83.29	5	73.95	8
Slovenia	79.95	15	80.33	16	73.33	9
Austria	81.02	11	81.52	12	73.29	10
Czech Republic	77.60	25	78.45	25	71.41	22
Lithuania	79.33	18	79.34	21	70.81	25
Poland	77.06	28	77.34	30	69.61	31
Bulgaria	72.81	42	73.66	43	68.49	32
Slovakia	75.48	34	74.4	40	67.14	36
Hungary	75.82	32	76.36	33	66.40	39
Romania	73.94	39	74.99	38	66.12	42

Source: based on Richard et al. (2017), own editing

The Global Human Capital index, the average human capital index of the 130 countries which took part in the original research, was 62% in 2017, which means the human capital potential was utilized at this rate. It is also true the other way round, as the research shows, the human capital potential was not utilized at the rate of 38%. All the European countries in the Table 1 have achieved a better result than that in the past three years despite the fact that in 2017 the human capital index values show a decrease in the countries in the research. Germany also in 2017 has an outstanding index: 74.30%, Sweden: 73.95%, Austria: 73.29%. They are followed by Slovenia: 73.33%, the Czech Republic: 71.41%, Lithuania: 70.81%, Poland: 69.71%. At the end you can find Bulgaria: 68.49%, Slovakia: 67.14%, Hungary: 66.40%, and finally Romania: 66.12%. In the ranking that includes 130 countries Hungary was on the 39th place in 2017, back 6-7 places compared to the previous years.

5. EMPLOYMENT, UNEMPLOYMENT

When calculating the employment rate, we divide the number of employed persons aged 15-64 with the number people belonging to the same age group. Table 2 (KSH/Eurostat tables – Employment research corrected data, 1993-2016) was made based on the EU labor force survey in private households.

Table 2: Unemployment and employment rate, highlighting the values of the 15-64year-old in 2016, in the countries of Europe between 2004 and 2016

Country	National employment rate %			National objective %	National unemployment rate %			in the circle of the 15-24-year-old, %
	2004	2010	2016	2020	2004	2010	2016	2016
Poland	57.3	64.3	69.3	71.0	NDA	7.3	6.4	15.4
Slovakia	63.7	64.6	69.8	72.0	NDA	7.9	6.5	19.8
Czech Republic	70.1	70.4	76.7	75.0	8.9	6.4	6.7	10.5
Slovenia	70.4	70.3	70.1	75.0	NDA	7.0	7.4	14.0
Austria	69.5	73.9	74.8	77.0	7.3	7.8	8.1	10.3
Hungary	62.1	59.9	71.5	75.0	NDA	11.9	8.2	11.4
Romania	63.5	64.8	66.3	75.0	NDA	7.7	8.2	20.4
Sweden	77.4	80.0	81.2	80.0	8.7	6.0	8.5	19.1
Lithuania	69.3	64.3	75.2	72.8	NDA	9.5	10.2	15.4
Bulgaria	60.1	64.7	67.7	76.0	NDA	8.0	11.9	14.4
Germany	68.2	75.0	78.6	77.0	NDA	11.2	NDA	6.8

Source: KSH/Eurostat: Based on employment research – Employment ratio corrected data (1993-2016), own editing

The European employment rate in 2016 was 71.1%, nearing by 3.9% the 75% objective for 2020. Among the highlighted countries Sweden set the highest objective, 80% in the field of employment for 2020, but they had

already achieved it by 2010. In Hungary the expected number, corresponding to the objectives of the EU 28, is 75% for 2020. According to a recent measurement this index is 71.5% in Hungary.

Certain countries have already achieved, or have exceeded the EU objectives for 2020, the 75% employment. Countries that belong to them are Sweden (80.0%), Germany (78.6), the Czech Republic (76.7), Lithuania (75.2), whereas Hungary got very close (71.5) to the set objective. Hungary has "gone a long journey" in the area of increasing employment since our membership started in 2004, when employment was only 62.1% as opposed to the present 71.5%. In the years passed since then, the investments realized with European Union funds and Hungarian sources resulted in a significant increase in employment, in 2016 we reached 71.5%. Following the fall in employment caused by the 2008 economic crisis, there came another growth period. It adds to the picture that within the active age group there is a growing number of those who cannot find a job in Hungary, so they are working now in other countries, and also, there is a steady high number of communal workers financed by the state. The Hungarian Central Statistical Office estimated the number of Hungarian employees working abroad temporarily or permanently to 260,000 in H1 of 2016. Characteristically, three countries employ a significant number of Hungarian workers, Austria, Germany and the UK. In the first two countries mainly male workers with secondary education and vocational qualification are employed, in Austria mainly in the field of catering and the building industry, in Germany they work mainly in the industry, within this most Hungarian workers are employed in the building industry. Research about labor force made with Hungarians working in the UK shows that there better qualified, younger people find a job, many of them with their families (Freid, 2016).

In Hungary the number of those employed in the framework of municipal communal employment was continuously over 200,000 every month in 2016, with the biggest number in August – 246,449 persons (BM, 2017). The basis of the "work based society" approach is that as many as possible of the Hungarian citizensin their working age could work, would be employed. As opposed to this, in the era of robotization, many say that it is not only number of those who work is important but also what they do, how and in what quality they can do their work. All these require a different approach, raising the issue if during the new developments to what extent should assembly activity or robotics put into the foreground.

The unemployment rate, showing mainly a decreasing tendency, got below 10% in the European countries. In a few countries in the examined period unemployment increased, e.g. in Lithuania it increased to 10.2% from 9.5%. Out of the countries presented, the Czech Republic (6.7%), Slovenia (7.4%), Poland (6.4%) have the most favorable unemployment index. In Hungary this rate is 8.2%. The harmonized unemployment rate of the 15-24 year-old in the EU28 is high, 18%. Romania has even worse figures 20.4%, Slovakia 19.8%, Sweden 19.1%. In this field Germany has the best index 6.8%, whereas Hungary with its 11.4% index belongs to the countries in a relatively more favorable situation in the European Union, which means an advance compared to the situation earlier.

6. EMPLOYMENT RATE ACCORDING TO SCHOOL QUALIFICATION IN SOME EUROPEAN COUNTRIES

The level of qualification was defined on the basis of the unified international standard classification of education (ISCED). Table 3 shows to what extent obtaining the highest school qualification effects the possibilities of workers to find a job. The index shows the proportion of those achieving a definite qualification level as compared to the complete population belonging to the same age group (KSH/Eurostat – Labor force survey data 1992-2016).

Table 3: Employment rate according to the highest school qualification in the circle of 25-64 year-old in certain countries of Europe between 2004 and 2016

Country	ISCED 0-2			ISCED 3-4			ISCED 5-8		
	2004	2010	2016	2004	2010	2016	2004	2010	2016
Lithuania	49.7	29.6	42.3	68.3	58.8	68.5	84.3	85.3	90.4
Sweden	65.6	62.8	61.0	78.5	78.9	82.1	85.3	86.3	88.1
Germany	49.2	56.1	58.9	68.3	74.9	79.3	82.6	86.8	87.9
Romania	52.2	55.3	52.3	67.2	64.8	66.2	85.2	83.4	86.2
Poland	35.6	39.2	39.5	57.2	62.7	66.3	80.2	82.5	85.8
Hungary	36.4	36.1	50.7	66.9	61.8	72.5	82.2	77.5	84.4
Austria	50.1	54.9	53.9	70.7	76.1	75.1	81.0	82.7	84.3
Bulgaria	40.3	39.8	39.2	65.5	66.7	68.9	79.2	82.7	84.2
Slovenia	55.1	50.5	45.5	71.7	69.7	68.3	86.8	86.6	84.0
Czech Republic	40.7	41.6	43.7	71.9	71.2	77.9	85.6	81.0	83.4
Slovakia	25.6	28.6	35.9	67.0	65.9	71.5	82.3	78.8	77.3

Source: KSH/Eurostat: Employment rate according to the highest school qualification – Based on employment research data (1992-2016) own editing

The level of qualification is ranked on the basis of the unified international standard classification of education, the ISCED 0-2 level is the preschool, elementary school and secondary lower level of education. The unqualified, and the low qualified people belong to this group, their average in the EU28 countries was 53.6% in 2016. Practically it shows, that almost every other active person in the EU28 countries, from among the low qualified, could not find a job in that year. A further labor market tension is that for a significant part of the employed the work possibility in many cases only means a temporary job, and not a possibility for the whole year. Sweden is in the most favorable situation, where the number of job finders is constantly over 60%. Slovakia has the least favorable index, where the employment rate is 35.9%. Hungary is also under the EU28 average with its 50.7% employment rate.

The ISCED 3-4 level is the higher level of secondary education and of the post-secondary education, not high education, which provides a 71.6% employment possibility in Europe. Sweden is again at the top with 82.1%. Romania with 66.2% and Poland with 66.3% are at the bottom considering employment possibilities. Hungary with its 72.5% shows a little development in the circle of those with secondary qualification.

For those coming from the first and second level of higher education at the ISCED 5-8 level the EU28 average shows 83.6% employment possibility. Lithuania has by far the best index with 90.4% employment rate. At the end of the line, in Slovakia 77.3%, three quarters of the qualified ones can find a job. In this category the Hungarian index 84.4% shows a better employment rate than the European average.

7. PROPORTION OF THOSE TAKING PART IN VOCATIONAL TRAINING BASICALLY STAGNATES IN EUROPE

Table 4 shows that the proportion of those taking part in vocational training shows a big dispersion by the countries. In Hungary vocational training lags behind the European average, despite the intentions and several initiatives.

Table 4: Number of youth registering for vocational training by gender in European countries between 2004 and 2012

Country	Male			Female		
	2004	2010	2012	2004	2010	2012
Austria	82.9	81.1	79.9	73.6	71.9	70.1
Bulgaria	66.1	30.7	58.5	43.7	42.9	42.1
Czech Republic	84.3	78.8	78.5	74.6	67.3	66.8
Poland	58.2	58.5	58.4	39.9	36.9	37.2
Lithuania	30.1	34.9	35.8	19.5	20.0	20.8
Hungary	28.9	31.0	32.2	18.5	20.4	22.2
Germany	66.9	58.6	55.6	54.9	43.1	39.6
Romania	72.5	71.1	69.9	57.1	56.0	53.5
Sweden	50.5	59.5	51.6	55.7	53.0	47.5
Slovakia	78.9	76.8	76.1	69.3	65.9	64.6
Slovenia	74.7	71.8	73.1	62.2	56.8	58.8

Source: KSH/Eurostat: Based on the number of those registering for vocational training at the second level (2001-2012) own editing

The analysis was influenced by the fact that about the period after 2012 as for the interconnection in the table there are no data available. The weight of vocational training in the countries is shown by the proportion of the given age group. In the studied period, between 2004 and 2012, the number of those taking part in vocational training stagnates at the European level. In all the countries the proportion of male students is bigger among vocational training students. It is also shown by the fewer number of professions female students can opt for. The results of the last year in the table, 2012, show that the EU28 average with males is 55.7%, they took part in vocational training, with females it is 45%. With both genders Austria and the Czech Republic are the most popular, in this order, in the field of vocational training. This index is 79.9% with males in Austria, with females it is 70.1%. In the Czech Republic it is 78.5% with males, and 66.8% with females. Among these countries, Hungary was the last with 32.2% with males, and last but one with 22.2% with females in 2012.

8. CONCLUSIONS

The research is to show the challenges in vocational training in Hungary in European comparison. During the research it was processed how certain European countries utilize their human resources. We paid attention to studying the decrease of unemployment and the increase of employment, characteristic in the recent period, in Hungary and in Europe. We received an obvious feedback that, as a general tendency, employment possibilities are better for the more qualified labor force. The number of those taking part in vocational training, considering both genders, in Hungary lags behind the European average. All these require a new approach in the fields of human resources development, vocational training and adult education. Automation, robotization, the spread of AI probably mean that significantly less but more qualified labor force will be needed in the future. The change is visible now since professions cease, newer ones are created, and you can experience the acceleration of this process.

— Labor force supply and demand have gone through significant changes recently due to the technological changes, yet, training institutions are encouraged to deal with missing professions, which is not justified by economic reasons, but is regulated by law. Some of the professional literature highlights the demand for changes in this area, too, today many insist that instead of training missing professions, the training of missing skills should be preferred, a bigger emphasis should be put on training missing competencies.

A change in the concept is needed, developing competency should be put in the foreground, and accordingly, the regulations should be modernized. In the field of training professionals it could bring upon a development with career starters if they can acquire a comprehensive basic knowledge, and knowledge that can be converted and used in different fields. The rapid changes of the labor market require an operation of complementary character, built on one another better, in the fields of school system vocational training, adult education, retraining, and this can help a more efficient compliance with the labor market.

— From the point of view of human resources development it has great significance how a country can utilize its human resources significantly influencing the economic development. Based on the World Economic Forum annual reports it was justified that the countries do not utilize the significant amount of their human potential, human capital index. According to a research carried out in 130 countries of the world in 2017, despite the recession, our country achieved 66.40%, a more favorable rate than the average 62%. Compared to the previous two years, this means a sudden stop. The most recent survey shows that at national level with 33.60% we did not utilize the human capital potential, which means newer tasks in the fields of education, training, human resources development.

The prestige of school vocational training is low in Hungary, it is also shown by the rate of participants, male 32.2%, female 22%, which is the lowest within secondary education. It seems suitable to rethink the current encouraging, orienting mechanisms for the sake of increasing the popularity of vocational training. A recurring research topic of professional literature is that student grants based on performance should be extended to all students, in the future not only the students learning a missing profession should be given this kind of help, but based on their performance all the students should get it.

In the framework of dual education, it is justified to make SMEs, smallholders, besides multinational companies, a lot more interested in taking part student training, currently there are hardly any among them who deal with vocational training.

— The Hungarian employment rate exceeded the European average by 0.4% in 2016, yet it still lags behind the 75% objective. In the quantitative increase, probably, the high number of communal workers played a role, beyond the primary labor force market developments, and also the switch to the shortened, 3-year vocational training, which has become general, and which has been carried out in the past five years. For the economy, the decrease of the high inactivity may mean a labor force reserve, together with labor force import. If this tendency continues, our country can achieve the 75% employment objective by 2020.

— The survey according to the international classification standard (ISCED) demonstrates that the employment rate of the active age group is influenced by school qualification. The survey showed that those with higher qualification stand a better chance of finding a job. In Hungary, the employment possibility of those having secondary vocational qualification is 72.5%, which is 20% better than that of those with lower qualification. 84.4% of those finishing higher education have a further 10% more possibilities to find work than those with secondary qualification. It is a favorable fact, that most recently the rate of those learning a profession after graduating from secondary school has increased, their proportion among trainings supported by a grant was 25%, the demand for more qualified skilled workers is growing on the long run.

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