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The European Dimensions of Vocational Training

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Abstract: The research examined the connection between vocational education, training and the world of work, and the social situation in Hungary in a European outlook. The accentual issues of the analysis disclosing the problem are: youth unemployment, the tendencies of secondary vocational education, proportions of enrollment and the features of training tendencies, the growing number of early dropouts, the effect of family background on student performance. This work tried to find the answer to the question: What variations have the changes in the regulations of vocational training, encouraging dual education brought on in the connection between trainers and work places? The research did not prove that the central vocational training system would be more effective than a varied, flexible, permeable, transparent decentralized operation with parts built on each other. The introduction of the complex exam overshadowed the evaluation of the competency areas, and fits less to the modularity of the framework curricula. With the legal regulation of vocational training in force the modular system has become a formality.
Taking prior knowledge into account has become more difficult. The efficiency of professional structural decisions is questionable, it has not triggered the extension of employment among career starters, and does not mean a guarantee of finding a job either. Creating the motivation of economic role players may bring on steps forward to take up bigger tasks in vocational training. The research has confirmed the importance of improving the basic competency areas when planning vocational training, of life-long learning, of practice orientation, and also of the continuous connection with the labor market.
Key words: life-long learning, dual vocational education, employment, competency evaluation, EU educational issues, CEDEFOP, ET 2020.

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1 Introduction

This study examines the performance, quality and appeal of vocational education and training in Hungary in the period after 2000, in comparison with other European countries (The Copenhagen Declaration of the European Ministers of Vocational Education and Traning and of the European Commission, 2002). The Copenhagen process means the beginning of a more direct, more emphatic European vocational training policy (Horn, 2009). It is based on common consent and is revised every other year. I examine four statements:

- The research starts from the fact that under political, economic and social effects the change of the regime took place in vocational training, employment and workforce management in Hungary. It shows several similarities to that of EU member countries.
- The second issue I examined is that the hierarchical build-up of secondary education with the composition of students rigidly replicates social differences, and conserves social inequalities by the differences in the level of education (Liskó, 2008).
- The third question is that, following the regulation of content of vocational training in 2010, short-term interests, supply and demand relationship, schoolwork-like accounting came to the fore. Modularity, interoperability, the foundation of life-long learning, competency-based education and accounting were neglected.
- I was trying to find the answer to the questions why in Hungary in the period discussed employers were not motivated enough, and why they didn't consider vocational training as their own.

The research is built on empirical examinations, on the analysis of Hungarian and European Union documents and statistics.

2 Qualification – employment – unemployment – poverty in the countries of the Union

I compared the connection between education and the world of work, the social situation with the average of the EU 28, with the characteristics of ten countries, including Hungary that I chose. My starting point was that "… in the European Union and in a broader international sense, the connection between education and work is characterized by problems just like in Hungary." (Halász, 1999).

Table 1
The rate of employment and unemployment in European countries in 2014 among those between 25 and 64. (%)

Country	Rate of employment	Target	Rate of unemployment	Unemployment of those under 25
EU28	69.2	75	9.0	22.2
Czech Republic	73.5	75	5.4	19.9
Denmark	75.5	80	5.5	-
Germany	77.7	77	4.7	7.7
Greece	53.3	70	24.8	52.4
Lithuania	71.8	72,8	9.9	19.3
Hungary	66.7	75	6.7	20.4
Austria	74.2	77	4.9	10.3
Poland	66.5	71	7.7	23.9
Slovakia	65.9	72	11.8	29.7
Sweden	80.0	80	5.7	22.9

Source: based on data of https://www.ksh.hu/docs/hun/eurostat_tablak/ index.html, own editing.

Note: There are employees here who worked at least one hour in the framework of a labor force survey.

In the Europe 2020 Strategy an emphasized objective is to achieve the 75% employment rate. Considering employment dispersion is little, 2014 data just slightly differ from the EU28 (69.2%). The spread of dispersion is between Greece, the smallest (53.3%) and Sweden, the biggest (80.0%). Slovakia (65.9%) and Hungary (66.7%) are under the average. The point in the case of Hungary is in the details, too, at the end of 2014 there were 4,149 thousand employees, which is positive. Altogether 800,000 new workplaces were created, out of which 610,000 were supported by the state, that is a significant number, and 190,000 were not supported, and this number is insignificant. The number of public workers was 158,000 on a monthly average (www.ksh.hu; www.nszf.munka.hu). The number of insecure, foreign and temporary workplaces is also significant. As far as the details are concerned, it can be seen that except for a few top companies of the private sector, the Hungarian economy is at the level before the 2008 crisis.

Youth unemployment

Youth unemployment is a major concern, because the situation in this field in Europe has not improved in spite of the different measures taken in the past 25 years. The indicators are permanently high in the EU28 (22.2%) member countries, the Hungarian average (20.4%) is better than this; it is 29.7% in Slovakia. It is 52.4% in Greece, which is more than six times higher than in Germany (7.7%). The crisis hit the youth more heavily. "In Hungary one of the main reasons for the low employment of the hardly trained the ones having elementary or vocational education can be found in the basic competencies which are rather insufficient in international comparison. It is worrying that the lag of youth in this area is not smaller than it was with the earlier generations." (Matheika, 2013).

Table 2
Employment rate according to school qualification in Europe in 1992-2004 among the 25-64 year-old. (%)

Countries	**ISCED 0-2**		**ISCED 3-4**		**ISCED 5-8**	
	1992	2014	1992	2014	1992	2014
EU28	-	51.8	-	70.0	-	82.1
Czech Republic	-	41.6	-	74.2	-	82.2
Denmark	63.7	59.6	77.7	77.4	90.4	85.5
Germany	52.3	58.0	70.5	78.1	83.5	87.7
Greece	55.8	46.5	57.0	49.2	77.7	67.6
Lithuania	-	42.0	-	65.6	-	88.4
Hungary	-	44.3	-	67.8	-	80.8
Austria	-	53.1	-	75.1	-	83.6
Poland	-	38.2	-	63.7	-	83.9
Slovakia	-	31.6	-	67.6	-	75.6
Sweden	-	61.0	-	80.9	-	87.4

Source: based on data by https://www.ksh.hu/docs/hun/eurostat_tablak/ index.html, own editing

Note: Qualification level is listed according to the integrated international classification system (ISCED, 1997):

- ISCED 0-2 level: pre-school, basic education, the lower level of secondary education
- ISCED 3-4 level: the higher level of secondary education, post-secondary education (not higher education)
- ISCED 5-8 level: the first and second level of higher education

The tendencies are similar in the European countries. Based on data of 2014, the employment possibilities were potentially better for the more qualified workforce.

ISCED 0-2
The dispersion is moderate among the countries discussed. The average of the unqualified or low-qualified workforce is 51.1% in the EU28, which shows that every second person cannot find a job, and what is more, for the majority of them it only means temporary employment, not even for a whole year. Hungary (44.3%) is below the EU average, Slovakia has even a worse indicator (31.6%). Sweden is in the most favorable situation (80.9%).

ISCED 3-4
It is more certain to find a job with higher qualification, profession in the EU28 countries (70%), Sweden (80.9%), Germany (78.1%), whereas Greece plummeted in this field, too (49.2%). Slovakia (67.6%), Hungary (67.8%) near but stay under the union average.

ISCED 5-8
It is noticeable that with college or university degree one stands a lot better chance of getting a job. Among the countries discussed Lithuania (88.4%), Germany (87.7%), Sweden (87.4%) score highest.

Out of the Visegrad Four countries Poland (83.9%) and the Czech Republic (82.2%) score best. Hungary (80.8%) and Slovakia (75.6%) are under the EU28 average (82.1%). In the past decade the number of students in higher education has continuously grown. In 2001 in the EU countries 16.5 million people enrolled in higher education, in 2012 this number was 20.2 million. At the same time this number grew from 13.6 million to 21 million in the United States (https://www.ksh.hu/docs/hun/eurostat_tablak/index.html). Prior to the slowdown in the past few years, the proportion of those taking part in higher education has continuously grown in the period discussed.

About the Hungarian vocational education in a European outlook
In a given country the weight of (upper) secondary vocational education is partly shown by the proportion of youth enrolling in vocational education. In the period discussed, the circle of those participating in vocational education shows a decreasing tendency.

Table 3
The proportion of those enrolled in vocational education at the second level of secondary education by gender in the European Union (2001-2012)

Countries	**Male**		**Female**	
	2001	**2012**	**2001**	**2012**
EU28	-	55.7	-	45.0
Czech Republic	84.3	78.5	75.6	66.8
Denmark	60.1	51	48.8	41.2
Germany	68.8	55.6	57.3	39.6
Greece	40.1	39.6	30.3	26.1
Lithuania	39.1	35.8	25.7	20.8
Hungary	14.4	32.2	8.6	22.2
Austria	75.8	79.9	67.2	70.1
Poland	71.4	58.4	52.1	37.2
Slovakia	81.1	76.1	74.2	64.5
Sweden	52.4	51.6	51.2	47.5

Source: based on data by https://www.ksh.hu/docs/hun/eurostat_tablak/ index.html, own editing

The most favorable situation can be found in Austria with a dynamically rising tendency of 79.9% with men, and 70.1% with women. The proportion is low in Hungary, though there is a growing tendency of 32.2% with men, and 22.2% with women. With this, we are significantly below the average of the EU's 55.7% with men, and 45% with women. Out of the countries of the Visegrad Group, the Czech Republic and Slovakia well exceeds the European enrollment rate in the case of men and women alike.

It is noticeable that the proportion of women compared to that of men is smaller in each country, which also shows that the ladies can choose from fewer vocations.

Table 4
Educational data from Hungary from 1990 to 2014

	1990	**2000**	**2010**	**2014**
Secondary school students	142247	215500	241872	216373
Full-time secondary school students	123427	178500	198700	182233
Vocational school students	225356	126600	147340	109978
Full-time vocational school students	225356	125530	139237	100032
Students in adult education	-	1070	8103	9946
Students taking part in special education, in vocational education	3152	5200	10161	7643
Students who took part in vocational education	217287	294000	273596	221149
Full-time students taking part in secondary vocational education	168445	239300	240364	188762
Students studying in vocational school, in training year	7100	-	67943	48006

Source: based on data by www.ksh.hu, own editing

Secondary vocational education

After the change of the regime, the number of students increased in two types of secondary school, there were 216,000 students in the grammar schools, and 221,000 students in the vocational schools in 2014. In the technical schools, however, by 2014 the number of students dropped to its half, to 110,000 students, compared to the number in 1990. In the past 4 years, the number of those taking part in secondary day education has dropped by more than 100,000, from 578,000 to 471,000. Also the inner structure has changed, but not along with the regulation intensions appearing in the laws where the number of grammar school students was to be decreased, and the number of vocational school students was to be increased, but just the other way round. It also shows the popularity of school types with the public. As far as secondary education is concerned, the proportion of students studying in grammar schools was 34% in 2010, which increased to 38.7% by 2014. The proportion of vocational school students decreased from 42% to 40.07%. The number of those taking part in secondary vocational daily education was decreased by 40,000 in 4 years. In spite of the different measures, the appeal of vocational education decreased further, and to become a skilled worker means even a less attractive perspective.

The proportion of those learning at technical schools, 24% which is already considered low in Europe, decreased to 21.23%.

During the process of retailing the Hungarian vocational education, the rhythmicity of continuity and change was broken by a "philosophy change" in 2010, which also triggered a division between professionals. "The new vocational education structure which takes a shorter time and contains more practical training, does not give enough time to develop the key competencies." (CEDEFOP, 2011).

A short retrospect follows about the antecedents:
"… after the change of the regime, a vocational education of supplementary tpe, compensating labor force market demands and built on complete employment, was determinative. It was a specific dual system based on the co-operation between schools and companies." (Benedek, 2002).

Half of this age group studied in this type of school, the solution to the demographic peak was also found here in the 70s. The industrial, agricultural, trade, catering, health care and typing trainings were characteristic. "Together with the collapse of large industrial production, also the oversized, over-specialized vocational training systems of the region got into critical situation, since a large number of practice places at companies ceased." (Lannert, 1997). By the turn of the millennium, the traditional training system of vocational school was not viable any more, conscious and accidental structure change started. More and more school pilot projects were going on. "It is characteristic in Hungary that vocational training centers were made beside secondary vocational schools, built on maturity exam, and secondary technical schools. Training offers increased by leaps and bounds. Private schools were also set up. New fashion trades were formed, especially in the service sector. Characteristically in this period, economic and financial professions, language knowledge and the knowledge of IT tools were apprized." (Sós, 2006). We took part in many EU pre-joining programs, getting to know the vocational training systems of other countries. "There are different vocational training models in the European Union: day school education and practice together, dual education, which mostly spread in Germany, where the vocational training of the students is shared between the school system and the practice place of work, and also models of mixed type." (Fedor, 2001). In 1993 the vocational training law and the public education law were born, a year later the Vocational Qualification System and the National Training Register were introduced. The first National Core Curriculum (NCC) was accepted in 1995, but in the modification of 2003, and all the more so in the one of 2007, the emphasis was placed on the requirements, but the schools were consigned to make the local curriculum. It's also a significant issue, because "the curriculum on the one hand is a

pedagogical document, on the other hand it is also a document of educational control, educational policy." (Báthory, 2000).

In the case of the 2012 NCC a reverse process took place: learning material and knowledge-centeredness were primary. Curriculum frameworks are divided by school types, the basic target of NCC that the students have an integrated basic education, is made impossible to achieve. NCC was originally also important for vocational education because in it an integrated "national minimum", independently of the type of institution, the knowledge to be taught and learnt was expressed, it opened the way for the vocational training institutions to become a real secondary educational institution. It meant a guarantee for "interoperability", for acknowledging prior knowledge. "The traditional subject approach of the Hungarian school system was changed for the integrated approach of learning content." (Pőcze, 1995).

The "characteristic feature" of the 90s and of the turn of the millennium is the decreasing number of the school-age population, training time became longer and longer. The expansion of secondary schools, then of higher education was noticeable. In the market oriented education, the decline of vocational schools replacing technical schools was characteristic. The consolidation of vocational education was going on within a more and more detailed legal and financial framework, in the meantime, the market economy formulated its demands and expectations more and more explicitly. The shortcomings and dysfunctions of the half-new regulations and old routines became more and more obvious.

"We received significant application grants before joining the EU, too e.g. in the framework of a vocational school development program, they were realized with different efficiency." (Sós, 2006). The profession policy eventually responded to the challenge of the Copenhagen syllabus in the spring of 2005." (Horn, 2009). "The most important element of modernization is modularization." (Nagy, 2005). This quality education was helped by variegation, flexibility, transparency, interoperability, things that were built on one another, with which a modular system was created. The new National Training Register was approved in 2006. New vocational and exam requirements (VER) were set up. The vocational, social, personal and methodological competencies and exam requirements were defined. Some initial steps were taken to improve the efficiency of the fragmented vocational school system by the "Dutch model", to develop common training workshops. In analyses and at conferences of the time, issues which are still unsolved today were raised: the lack of teacher policy in vocational training, the problem of the underprivileged, the situation of Roma, dropouts, increasing the social prestige of vocational education and vocational training.

3 Vocational training and quality in international comparison

In my research, I build on the mathematical, reading comprehension and natural science measuring of OECD-PISA involving the most developed countries, which has taken place since 2000 every three years, and covers 15-year old students.

In the followings, through a characteristic example, I will compare the mathematical performance of several countries.

Table 5
The average result of European countries based on mathematical performance

Average result		
Countries	**2000**	**2012**
Czech Republic	498	499
Denmark	514	500
Germany	490	514
Greece	447	453
Lithuania	-	479
Hungary	488	477
Austria	515	506
Poland	470	518
Slovakia	-	482
Sweden	510	478

Source: based on the database of www.oecd.org/pisa OECD-PISA 2000-2012, own editing

Out of the countries discussed, Austria, Denmark and Sweden produced the best indicators in 2000. The emersion of Poland in 2012 deserves attention. Behind the numbers you can observe this: "Poland introduced an educational reform in 1999, they created the National Core Curriculum, increased the independence of schools, developed an external evaluation system, made their elementary schools uniformly 9 years long. The performance clearly improved in education, in vocational schools, as well, but at the same time it did not get any worse in secondary grammar schools. The difference between students decreased." (Ostorics, 2015). In Hungary an adversary process is going on, with significant state centralization. The different regulation changes do not show noticeable

improvement in the different measuring indicators of education. Hungary can be found lagging behind the other countries in the comparison. Slovakia, with better indicators, is still in the second half of the evaluated groups. The comparison between The Hungarian vocational training and that of western European, Danish or German, is difficult to make, because the students of those countries take part in dual education starting from different basics. In the countries mentioned, usually they created a school structure which makes 9 or 10-year long elementary education possible. "The students gain more knowledge in the elementary education, e.g.: 65% of the Danish students speak English, in Hungary that is 0.8%." (Köllő, 2011).

Table 6
Average results of OECD-PISA surveys (2000-2012)

Competency	2000	2003	2006	2009	2012
Mathematics	488	490	491	490	477
Worst and best results by countries	334-557	359-550	311-549	331-600	368-613
Reading	480	482	482	494	488
Worst and best results by countries	-	375-543	482-551	314-556	384-570
Science	496	503	504	503	494
Worst and best results by countries	375-552	357-548	322-562	330-575	373-580
Computer based mathematics	-	-	-	-	470
Worst and best results by countries	-	-	-	-	387-566
Digital reading	-	-	-	-	450
Worst and best results by countries	-	-	-	-	396-567

Source: based on the database of www.oecd.org/pisa OECD-PISA 2000-2012, own editing

Hungary usually achieved an average result during the 12 years (Radó, 2013). However, in the case of the survey taken 3 years ago a setback occurred in all three areas, mathematics, reading and science. The biggest fallback came in mathematics. It is also worrying that digital reading lags behind the international average. Trying to find the reasons, I can highlight the decline of developing

competencies on the one hand, and on the other the family background which is continuously getting worse due to the long-continued crisis, especially technical school students drop behind significantly. In an international overview, in most of the cases China, Japan, Korea, Singapore, far-eastern countries are at the top of the list, from Europe Finland is there. Among the last ones Kyrgyzstan, Azerbaijan, Tunisia, Argentina and Colombia can be found (www.oecd.org/pisa OECD-PISA 2000-2012).

Competency surveys in Hungary between 2000 and 2014

Table 7
Competency survey according to performance and educational forms in the 10th year in 2014

	Mathematics	**Reading**
All students	1660	1627
8 year grammar school	1842	1802
6 year grammar school	1825	1781
4 year grammar school	1734	1715
Vocational school	1627	1592
Technical school	1450	1397

Source: www.oktatas.hu National competency survey 2014, based on the National report, own editing

I would like to highlight the measuring considering the 15-year old students, especially from the point of view of technical schools. In the last years, competency based education has declined in Hungary, the learning material centered pedagogical work got into the foreground, the National Core Curriculum was extended with encyclopedic knowledge. The performances clearly show that the Hungarian secondary education is still hierarchized, the situation has not improved recently either, moreover, it is showing a worsening tendency. In both surveys, the results of the technical school students significantly lag behind the average of their age group.

The number of early drop-outs in Hungary is increasing

Table 8
The proportion of early drop-outs in Europe between 2010 and 2012

Countries	2010	2011	2012	2020 target
EU 28	14.0	13.5	12.8	10
Czech Republic	4.9	4.9	5.5	5.5
Denmark	11.0	5.6	9.1	10
Germany	11.9	11.7	10.5	10
Greece	13.7	13.1	11.4	9.7
Lithuania	8.1	7.2	6.5	9
Hungary	10.5	11.2	11.5	10
Austria	8.3	8.3	7.6	9.5
Poland	5.4	5.6	5.7	4.5
Slovakia	4.7	6.0	5.3	6
Sweden	6.5	6.6	7.5	10

Source: www.ksh.hu, Eurostat data, EU labor force survey (EU LFS)

Note: Early drop-outs: the proportion of those among the 18-24-year old who only have the maximum of elementary education and in the 4 weeks prior to the survey they didn't take part either in school education or in adult training.

Dispersion is big between the countries discussed, and the EU average is quite high with early drop-outs, it was 12.8% in 2012, and the target is 10% for 2020. In the Visegrad Four countries Slovakia (5.3%), the Czech Republic (5.5%) and Poland (5.7%) can boast with extremely good results, at the same time Hungary's index number is 11.5%, twice as much as that of the others. Moreover, there is a big difference between the Hungarian regions. This number was 8.5% in central Hungary in 2012, and it was 15.5% in northern Hungary, so the difference is 7%. In 2013 in northern Hungary the proportion of early drop-outs was 18.8%, and it was only 7.7% in central Hungary. The difference is 11.1%, which shows a growing tendency (Mártonfi, 2013). Considering education, employment, unemployment and poverty the country presents two areas of different development.

There is a significant difference in average results by the types of settlement as well the conditions of accessing education are not equal.

Table 9
The average results of students in their 10th year by settlement types

	Mathematics	**Reading**
Village	1509	1425
Town	1599	1565
County capital	1653	1619
Budapest	1672	1640

Source: based on www.oktatas.hu OKM 2014 national report, own editing

Students in small settlement schools or ones in big town schools do not have equal access possibilities to good quality, majority education. Both surveys support the tendency that the capital city is in the most favorable situation, afterwards come the county capitals, followed by towns, and the villages come last. The Hungarian school system selects on the basis of who lives where, too. For the vast majority of youth living in villages the technical school is offered as a possibility.

Family background greatly influences the performance of students

Table 10
Hungarian average results depending on what kind of family background the student has (10th year, 2014)

Cumulatively underprivileged	**Proportion of families**	**Mathematics**	**Reading**
YES	4.6	1447	1398
NO	95.4	1640	1607

These figures highlight that the result of the cumulatively underprivileged young people having bad living conditions significantly lags behind the others. The educational system on its own cannot lessen the social handicaps of students, it segregates. It is a significant problem in the case of the cumulatively underprivileged youth, first of all the young Roma.

4 Vocational training frameworks, enrollment directions and proportions

Today “permanent” changes are going on in the field of vocational training. Since 2011 uniformly a 3-year training has been created, in this period the age limit for compulsory education decreased from 18 to 16 years of age, thus it is not connected to any completed school qualification. This may boost early dropping-out, and it also limits the access possibilities to training. The time to be

spent for key competencies has significantly been decreased. The time available for mother tongue communication education and mathematics competency development has been reduced to its half. In the case of scientific and technical competencies, two thirds of the lessons have been taken away. Digital competency development and IT education have lost ground; they have been put into the freely usable lesson framework. In the 9th year the weekly number of general knowledge subjects is 18, the number of vocational theory and practice lessons is 17 a week. In the 10th year these figures are 11 and 25, whereas in the 11th year they are 9.5 and 21.5 lessons for the good of practice. In all years the time framework is 33%, as defined in the National Core Curriculum. In the technical school training the vocational training curriculum framework is provided as qualification for vocational theory, or for vocational practice training going on in the school workshops, or at business organizations. In the secondary vocational schools in the 9th-12th years in each study field the regulation applies to vocational theory and practice. As qualification, in the vocational training year following graduation it covers vocational theory and practice (Act CLXXX VII. of 2011 law about vocational training).

Following the change of the regime, the National Training Register of professions has been comprehensively changed 3 times; the integrated system was created in 1993, after a two-year preparation work a modern, modular NTR was approved in 2006. It was followed by a new modification in 2012, when the number of professions was halved (150/2012 (VII.6.) Government Decree about the National Training Register, and the rules of procedure about the modification of the National Training Register). The circle of adult training and school training was reduced by the forms of training, since there are professions which can exclusively be trained in the course of adult training or just in school type education. With this the access possibility to vocational training got limited. 489 vocational trainings, 149 partial vocational trainings, and the follow-up vocational trainings were specified. I will highlight two characteristic fields from them, the carpenter N°34 secondary qualification, and the advanced electronic technician N°54 (27/2012 (VIII.27.) Decree of the Ministry for National Economy about the exam requirements of qualifications falling within the competence of the Minister for National Economy). N°34 carpenter profession is a secondary qualification, which is built on elementary school qualification, or on vocational and input competencies defined in the exam requirements, and can typically be achieved in vocational school training. It belongs to the architectural vocational group; the general exam activity of the other professions is similar, apart from some specifications. In the framework of the career mirror 12 jobs which can be done with this qualification were defined. The system of requirements is defined in 45 paragraphs, which are given in modules. The advanced electronic technician N°54 belongs to the electronic vocational group; the career mirror gives 8 jobs which can be done with this qualification, from the

energy distribution technician to the lighting technician. 21 paragraphs define what people who get this qualification can do. Qualifications N°35 and N°55 are the so called follow-ups.

"Almost all essential regulators of vocational training were significantly modified, including, beyond the National Training Register, the curriculum framework and the vocational exam requirements." (Tóth, 2014).

The condition of letting someone take the complex vocational exam is a successful exam at the end of a module. In fact, this has become a formality by the verification of accomplishing the different years. According to the new regulations, there is no possibility for acquittance, for taking prior knowledge into account, or for the training to be shortened. Actually, the modular system has become a formality. There is a contradiction, too, that in principle the competencies are worded in the documents regulating vocational training, however, in practice at the exam questioning is carried out according to the subjects. The vocational school branch has been defined in 37 fields, from health care to sports (NMH, 2014). In the new secondary vocational school form one can get prepared for obtaining a secondary vocational school certificate in two different ways. As it is defined in the NTR, one way is that the vocational training is carried out by the preparation for the complex vocational exam. The other possibility is open for those who do not have a vocational final exam of the vocational branch, but they do have a regular final exam. The new form mostly raises problems similar to one in vocational training, with vocational school students. Among others, in many cases, the professional practice close to the actual labor market is not solved either.

The characteristics of the special vocational school (NMH, 2014): According to the law about vocational training, the student cannot be part-trained in a vocational training school, unless the training is carried out in the framework of the Public Education Bridge Program, regulated in the law about public education, or also in a special vocational training school, or in a special skills development school, to obtain part-qualification. This kind of training is for the hearing or seeing impaired, for the disabled and for those having learning difficulties. These students are helped to get prepared by the adaptations of curriculum framework, whereas in the BRIDGE II program there is no need for such specialization. "The most important reform of the past few years was probably the introduction of the vocational training for the students with special educational needs in 2006." (Mártonfi, 2011).

5 Decisions concerning the vocational structure

An important tool in the short run is the system of vocational structure decisions, in the series of measures influencing vocational training, operating since 2008. Vocational training directions, training proportions broken down by counties, were defined in government decrees. The definition of vocational trainings supported by vocational school scholarships is done on the basis of this. There is no guaranteed employment possibility for those who learn, based on government support, a profession badly sought-for. In the case of decisions concerning the vocational structure the emphasis was primarily placed on employability, one important instrument of which is the NTR, which through building on one another, interoperability, acknowledging prior knowledge contributes to lifelong learning, and to employer mobility. The realization of these principles is limited by the operation of vocational structure decisions in the form of the present decree (Sós, 2015). The scholarship programs connected to trainings for the sought-for professions distort the relationships of offer and demand on the labor market. With this the state assists to beat down wages which are low anyway in Hungary.

Table 11
Number of students participating in practical training with student contract in Hungary between 2003 and 2013 (in thousand persons)

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Persons	14	16.4	21.3	35	37	44	46	48	49	49	50

Source: Based on data supplied by the Hungarian Chamber of Commerce and Industry, 2015, own editing

"In the vocational training year the student is trained at a business organization under a written training contract concluded between the student and the organization for the practical training." (Kajdy, 2015). In the past 10 years, the number of students in a contract has grown by 36,000 persons. In the past few years, this early dynamic growth has slowed down. The target is to achieve, due to the effect of various incentives, the number of 70,000 youth supported by student contract within a reasonable time.

About the vocational training contribution

In 2011, in the field of vocational training and contribution, an essential modification was realized (Act CLV of 2011 about the vocational training contribution and about the support of the development of training). In 2015 the modification of the law highlighted the support of SMEs in this respect (Act .LXVI.of 2015 about the modification of Act CLXXXVII of 2011 about

vocational traning, of Act LXVII of 2013 about adult education, and of acts connected to them). For 2012, a basic norm of HUF 440,000/person/year was fixed (280/2011. (XII.20.) government decree). In the years after this, the basic norm is fixed in the Budget Act. In 2014 it was HUF 453,000/person/year (Act CCXXX.of 2013 Budget Act). This sum has to be determined on the basis of the weight multiplier product of the vocational group belonging to the vocational qualification named in the student contract. The weight multipliers vary by vocational groups in the National Trade Register. In 2012 the lowest weight multiplier was 0.6160 in environment protection – water management; the highest one was 1.2882 in mechanical engineering. Bigger companies have further possibilities, from 2013 further on again, where there are at least 45 students with contract, companies can decrease their gross expenditure with the training costs, but not more than by 15.6%. Nowadays newer changes are in process.

The modification of the vocational training law of 2011 and of the adult education law of 2013 in 2015 (Act .LXVI.of 2015 about the modification of Act CLXXXVII of 2011 about vocational traning, of Act LXVII of 2013 about adult education, and of acts connected to them)

The modification was founded in "Vocational training in the service of the economy", a government concept (13/2015.II.10.). A few significant modifications: not one, but two vocational qualifications are available for free. Obtaining the second qualification, supported by the state, can only be realized in the framework of adult education. Today, not at the age of 21, but only at the age of 25 a young person can start training in adult education. In vocational training schools maintained by the state an educational leader of practice has to be employed. To decrease the number of drop-outs, new vocational training bridge programs will be introduced. The role of the Hungarian Chamber of Commerce and Industry has increased, e.g.: in the qualification and control of practical training places. The vocational training schools getting into the maintenance of the Ministry for National Economy (MNE) is organized into centers, they take over the role of the Regional Integrated Vocational Training Centers (RIVTC); the system of institutions is also modified. Starting from the educational year of 2015/2016, the vocational training schools will be special vocational training schools. Their new name is secondary vocational school, which will last for 3+2 years, if the students opt for this possibility, they can get prepared for a secondary school graduation. The secondary vocational schools will become vocational high schools, lasting for 4+1 years. Starting from the educational year of 2019/2020, the vocational graduation will not only entitle the students to fill in a job, but it will be qualified as a NTR qualification, too (www.csmkik.hu). Those who organize practical training based on student contracts will have an opportunity to deduct a certain amount of their cost of investment necessary for pursuing practical training.

6 The perspectives of state engagement – dual vocational education – skilled workers

In the period discussed, state engagement considering education has significantly decreased in GDP proportions and in nominal value, too.

Table 12
State educational investments in Hungary (2003 – 2012)

Index	2003	2012
Educational expenditure total in GDP percentage	5.69	4.08
By the level of education		
Kindergarten	0.84	0.66
Elementary education	-	1.40
Secondary education	3.28	0.80
Tertiary education	1.10	0.88
Other	0.47	0.35

Source: www.ksh.hu Educational expenditure in the percentage of GDP 2003-2012, own editing

Note: Educational expenditure in the percentage of GDP shows the total educational expenditure of the state in the percentage of GDP. The index of input character measures the changes of investments invested in human capital.
Between 2003 and 2012 the educational expenditure taken by the state decreased from 5.69% to 4.08% in the percentage of GDP. In the case of secondary education, the change is dramatic, the sum spent on this field shrunk to its quarter, it negatively affects the system of conditions of secondary grammar schools, secondary vocational schools and secondary vocational training schools. After 2010, the modifications implied source withdrawal, e.g. decreasing the age limit for obligatory education, making vocational training 3-year long generally, central control. All this means a competitive disadvantage in international outlook in the period of knowledge based society, and asset intensive pedagogical work.

Dual vocational training and economic role players
The primary objective in the transformation process of vocational education after 2010 was to make young people to get in direct touch with the world of work as soon as possible. 8,000 enterprises deal with vocational education in Hungary in 2015. About 4% of the business organizations take part in educating students. The objective to achieve in the next 4 years is that the number of companies in this field is 20,000 (based on data supplied by the Hungarian Chamber of Commerce and Industry, 2015). Basically, even today, vocational

training is carried out in school education, in workshops. Only an insignificant number of entrepreneurs carry out vocational training. "Companies are not committed enough to vocational training at companies, and company strategies are made for shorter terms, rather than for longer terms." (Horn, 2014). It's true about the Hungarian SMEs, but also about a big proportion of bigger companies, that they spend their daily energy on helping technology, and not on long-range development. After 2015 the incentives change, by which the direction of these factors is indirectly acknowledged. Companies join in vocational education in the course of practical training, which is done on the basis of a cooperative agreement, or of a student contract. In the framework of dual training, the education of theory is done at the school, and practical training is carried out at the companies. A division of labor was formed between the state and business life in vocational education. This has got antecedents in Hungary. Today, besides governmental factors, ministries, also the Hungarian Chamber of Commerce and Industry has possibilities and significant responsibility in the field of vocational education. The Chamber gradually takes over governmental tasks based on government agreements, e.g. the supervision of conditions of vocational education and of student contracts, the operation of the county development and training committees. The German dual education is considered a model.

At the same time, it can be seen that dual education is not all-powerful, especially not so, since proportionately few companies take part in it. "No one has been able to point out a tight causality between dual education and the success of youth in the labor market." (Horn, 2014). What is more, in the past few years, also the shortcomings of the German system have been manifested. "Due to the lack of interest and the shortcomings of practice places, similarly to Hungary, considering dual education an all-powerful tool contradicts to our traditions and to the present development level of the economy operated by the private sector, and to its ability for cooperation." (Benedek, 2015).

Table 13
Labor cost – Total hourly labor cost in Euros in Europe between 2000 and 2014

Countries	**2000**	**2014**
EU28	16.7	24.6
Czech Republic	-	9.4
Denmark	27.0	40.3
Germany	24.6	31.4
Greece	11.7	14.6
Lithuania	2.6	6.5
Hungary	3.6	7.3

Austria	-	31.5
Poland	4.2	8.4
Slovakia	2.8	9.7
Sweden	-	37.4

Source: based on data by https://www.ksh.hu/docs/hun/eurostat_tablak/index.html, own editing

Note: The average hourly labor cost is the cost which is defined as the quotient of the total labor cost and of the number of working hours worked according to it.

In 2014, the total labor cost was 24.6 euro/hour as the average of the EU28 countries. This was three times as much as the Hungarian average (7.3 euro/hour). In Slovakia the situation is more favorable. For the same work they pay the most in Denmark (40.3euro/hour) among the countries discussed. EUR 31.4 is paid in Germany, and the least (EUR 6.5) is paid in Lithuania. This situation significantly influences the willingness of Hungarian job seekers taking up a job abroad. Dispersion is big, it can be seen well that the former socialist countries lag significantly behind.

In Hungary, the employment perspectives of good skilled workers are not favorable either. In Hungary the gross average salary in the economy is HUF 242,700 in February, 2015. It's HUF 323,583 gross with white-collar workers and HUF 157,617 with blue-collar workers (www.ksh.hu/beradatok). Probably, these salary conditions also influence the different professional fields, for which sometimes it's impossible to find a good skilled worker. What's more, the income and promotion perspectives are not favorable either.

It is necessary to increase the prestige of teachers-trainers in vocational education

In the case of young people coming from an impoverished environment the shortcomings of the family background also have to be made up for, this is a serious pedagogical challenge, it's difficult to find a good professional for the education carried out here, and the teachers and students are not appreciated. Also in this field, the conditions are imperfect.

7 Conclusion

Based on a research built on the document and statistical analysis, in connection with the examined statements, the following major statements can be made.

7.1

A lot of similarities can be observed in the European Union member countries in

the fields of vocational education, employment and social activity. Vocational education has lost some of its appeal. The proportion of participants in vocational education, and the number of career-starters have continuously been decreasing in the countries discussed. A general tendency in Europe is that the demographic factors are unfavorable, in most of the countries there is little skilled labor force, which may adversely affect the economic growth, too. In its vocational education policy the European Union sets aims, it respects the specialties of the member states in its contents and organizational build-up. In Hungary, in the past 4 years, the different new regulations concerning vocational education have not resulted in positive changes; in fact, the proportion in secondary education has changed to the injury of vocational training. Companies, employers, customers complain about the missing skills with skilled workers. The crisis, in connection with the employment of youth, is even more noticeable. With higher school qualification the employment possibilities are more favorable.

7.2

The hierarchy of secondary education, its social replication, where vocational education is at the end of the line, will lead to the shortcomings of quality of vocational education. The changes of regulations haven't brought on the improvement of performance. All this can be seen in the OECD-PISA surveys in international comparisons, and also in the Hungarian competency surveys. Almost in every field, a decline has occurred. The reasons can basically be led back to the unfavorable changes of the circumstances, to the increase of social disadvantages, to the deterioration of the condition systems of training. Most recently, under these conditions, the difference between students has increased. Vocational education and adult education may have a significant role in bringing back early drop-outs into education, and in giving them a profession within a reasonable time. But for all these, we need to strengthen key competencies, to develop basic knowledge, and also to improve the systems of conditions.

7.3

Analyzing the National Training Register, the Vocational Exam Requirements, the curriculum framework, one can clearly see that the competency principle is defined at theoretical level, but at the exams questioning is done by the subjects taught. The evaluation of the vocational exam according to the NTR in 2006 rather built on the evaluation of the vocational, social and method competencies. On the other hand, the vocational requirements of the complex exam involve these competencies, only one mark is given, thus the evaluation of these fields is not taken into account, though the requirement level prefers this. The introduction of the complex exam de-emphasizes the evaluation of competency fields, and fits less to the modularity of the curriculum framework. The modular system has become a formality by the vocational education's legal regulation in

force. Interoperability between qualifications has ceased, or become more difficult. Thus in practice it doesn't make it possible to take prior knowledge into account. The central, content control of vocational training schools resulted in the teachers' possibilities of 10% scope of action in teaching learning materials, which is not enough. The shortened, 3-year long vocational training has been made universal, and the emphasis was laid on the demand-supply training. The efficiency of the vocational structural decisions made annually by means of regulations is questionable. It has not brought on expansion among career starters, and does not mean a guarantee for employment either.

7.4
The frequent changes of regulators have not brought on a "breakthrough", so far the motivation of the economic role players to take part in vocational education has been missing. The incentives have not become substantial, the financial engagement of the state in education has continuously been decreasing; the formerly successful German dual vocational training has become antiquated, too. It is not useful to one-sidedly force dual training, it can only be realized where its conditions are created. So far it has not been proved that the centralized system is more efficient than a decentralized, many-colored, flexible, interoperable, cascading system.

The European Council defines the following objectives considering vocational education until 2020: lifelong learning, mobility, improvement of quality and efficiency in the field of education, equity, social cohesion, active citizen engagement, creativity, innovation, entrepreneurial activity (Education and Training 2020).

References

Act CLXXX VII. of 2011 law about vocational training. Retrieved from www.net.jogtar.hu

Báthory, Z. (2000). *Students, schools, differences. The outlines of a refined learning theory*. Budapest: OKKER Oktatási Kiadó.

Benedek, A. (2002). Regime change in vocational education. In *Vocational education at the turn of the Millennium* (pp. 43-63).

Benedek, A. (2015). So, how is dual? *Labor review* (2), 3-5.

Education and Training 2020. Retrieved from www.europe.eu

European Center for the Development of Vocational Training (CEDEFOP). (2011). A short historical overview of the Hungarian vocational training. Retrieved from www.cedefop.europa.eu

Fedor, M. (2001): EU dimensions in the Hungarian vocational education. *New Pedagogical Review, 42*(2), 153-155.

Halász, G. (1999). European public education and the world of work. *New Pedagogical Review 42*(2), 47-55.
Horn, D. (2009). *Making vocational training and vocational education attractive, improving their quality.* Retrieved from www.ofi.hu/tudattar
Horn, D. (2014) *Do we unnecessarily force dual vocational training at home?* Retrieved from www.portfolio.hu
Kajdy, J. (2015). *With student contract and co-operation in the world of work.* MKIK.
Köllő, J. (2011). *From the so called shortage of skilled workers to dual training.* Retrieved from www.tarki-tudok.hu
Lannert, J. (1997). Vocational training at crossroads. *Educatio*, (3), 603-606.
Liskó, I. (2008). Vocational education and dropping-out. In *Green Book. For the reform of the Hungarian public education* (pp. 95-119).
Matheika, Z. (2013). *The characteristics of youth unemployment in Hungary*. Retrieved from www.fesbp.hu/tanulmany/tarki
Mártonfi, G. (2011). Way to the labor market – from special vocational schools.
Mártonfi, G. (2013). Early dropping-out in the Hungarian vocational education. In *CEDEFOP REFERNET Hungary* (pp. 1-22).
Nagy, L. (2005). The competency based modular vocational training structure. *Vocational Training Review, 21*(4), 337-344.
NMH (2014) Regulation of vocational training. Information for the preparation of vocational training experts for the changes in vocational training.
Ostorics, L. (2015). *The lessons of the PISA and the national competency surveys*. Retrieved from www.oktatas.hu/kozneveles/meresek
Pőcze, G. (1995). NCC and practice: the implementation of the National Core Curriculum. *New Pedagogical Review, 45*(4), 12-35.
Radó, P. (2013). About the causes of declension of PISA results 2012. Retrieved from www.oktpolcafe.hu
Sós, T. (2006). Strategic turn in vocational education. *Vocational Education Review*, 22(2), 179-194.
Sós, T. (2015). *The transforming vocational education and the demand-supply processes of the labor market in Northern Hungary* (Manuscript).
The Copenhagen Declaration of the European Ministers of Vocational Education and Traning and of the European Commission (2002). Retrieved from eur-lex.europa.eu
Tóth, P. (2014). Changing vocational training, changing pedagogical environment. *Opus et Educatio, 1*(1), 32-47.
www.csmkik.hu
www.ksh.hu
www.nive.hu
www.nszf.munka.hu
www.oecd.org/pisa OECD-PISA 2000-2012