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Dual study possibilities in selected EU countries

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Abstract: *Dual study possibilities in selected EU countries.* The idea of dual study courses is more and more common in the EU due to the raising problem of the lack of qualified employees. Although the dual studies are very similar in their form such as internships in companies, case studies etc., their scope differs significantly among the analyzed countries. It was observed that, on average, about 70% of students take part in the vocational education and training in Austria, Croatia, Czech Republic, Finland, Netherlands, Slovakia and Slovenia but only 20% in Cyprus and Hungary. In countries such as: Germany, Netherlands and Austria over 40% of companies employ vocational education and training participants while the average costs of continuing vocational training for the EU-28 is calculated at the level of around 1500 Purchasing Power Standard per participant. The research was based on the data obtained from the EUROSTAT.

Keywords: dual studies, wood technology, higher education, vocational education and training

INTRODUCTION

The European labor market suffers greatly from a rapidly growing shortage of leading personnel and skilled workers. The situation is especially visible in small and medium sized enterprises (SMEs) and it can have enormous impact on restriction of their growth. In 2017, the woodworking industry in the EU consisted of 430 000 companies (130 000 dealing with furniture production), with a relatively high number of small or medium-sized enterprises (EUROSTAT 2019). In Poland, there were 26 000 furniture manufacturing companies registered in 2016, 22 000 of them were micro companies. Thus the need for providing well prepared workforce is huge and already well recognized. However the vocational education and training (VET) is often not popular among young people who perceive it as a dead end of professional career, not giving much chances for further academic pathway. This has been observed for many years in various EU countries, including Poland, Latvia or Lithuania where the proportion of young people who decide for vocational training to those who chose studies is about 1/3 to 2/3. The situation looks different in e.g. Germany where a significant number of young entrepreneurs are attracted to vocational training, in particular to the master craftsman training. However, recent developments show that it has been changing to the detriment of VET.

Although the master craftsman qualification is classified at the same qualification level of the European Qualification Framework (EQF) as the academic Bachelor' degree, this does not have any practical effects. It can be observed that the permeability between VET systems and academic education is rather modest. First of all, in many cases the competences acquired in the master craftsman training are not recognized for study programs. Secondly, the master craftsman qualification has a limited international recognition. On the other hand, professionals with master craftsman qualification have practical and theoretical knowledge and skills, enriched with professional experience but they lack competences in business management and leadership to manage a company successfully.

In order to successfully run a SME, both practical experience and professional knowledge are essential. Consequently, competences in necessary professional practice and theory as well as professional knowledge should be included in the study programs to cope with the current and future situation on the labor market. In view of the above described conditions, Detyna (2016) wonders whether dual studies are the studies of the future. There is

no doubt they are enormously attractive nowadays, however they don't consist yet of the common form of integrated education.

The process of forming the studies into a dual system type aims to support and encourage the transfer of knowledge that is adjusted to the needs of the market. The target map covers the most important practical knowledge required from industrial partners, the methods of ensuring labor supply of each region, and to provide flexible, professional higher education training (Kovacs and Torok 2016).

METHODOLOGY

The research shows the characteristics of dual study systems in selected EU countries. The attitude to this kind of educational process, its costs and its meaning in various countries are presented. The selected case studies are described focusing on the range of possibilities and advantages of the systems. The analysis is based on the data obtained from the EUROSTAT.

RESULTS

The economy of skill formation shows a specific impact of the dual system of VET on the production model and the development of the welfare state model (Soskice 1999; Culpepper and Finegold 1999; Streeck 1991; Thelen 2004). The research by Busemeyer and Trampusch (2011) on the political economy of collective skill formation follows this approach. It also builds on their earlier research that emphasizes the link between VET and other political-economic institutions, especially labour market institutions.

Dual study systems are being introduced in various countries, taking into account varied educational systems, cultural backgrounds, the state of the development of the country's economy. Those impede educational transactions between developed countries, and are often the source of problems when developing countries try to borrow models, or when they have such models imposed upon them. However we need to be aware of the fact that attempts at borrowing models can fail, both for cultural as well as non-cultural reasons. It concerns also dual study systems. Borrowed models have a greater chance of taking hold if the conditions that forged them are understood, and if the conditions of the receiving country are likewise internalized. Limits imposed by those factors should be recognized (Lewis 2007). This should be an important step to take while preparing integrated European system for the dual studies.

Furthermore the study by Zhao (2017) suggests ways in which the dual networks influence various types of knowledge transfer. Both positive and negative effects of recipient and source networks on knowledge that flows into and out of the companies were recognized. The dual networks perspective is particularly relevant for emerging economies where the asymmetry between the knowledge, power and motivations of the recipient and source networks may significantly affect the knowledge transfer outcome. Important inspiration is delivered by Fyle, Moseley and Hayes (2012) through their case studies, illustrating different levels of instructional design in course development for distance learning in a dual-mode institution. It highlights how valuable instructional design can be in forming the future higher education landscape.

The German system of skills formation, in particular the dual system of VET, is considered in to be a pillar of the German model for two main reasons: firstly, the training of skilled workers was supported by the specific path of development of diversified quality production from its beginning, and secondly, the dual VET system represents one of the most important fields for the German corporatist governance system. The argumentation results in the following conclusion: the broad trend towards upskilling the German labor force will continue and the integration of low-qualified youth into VET and the labor market will

become more precarious than in the past (Baethge and Wolter 2015). For over a century, the development of the general education system was more or less neglected in discussions on VET, for three reasons. First, the Gymnasium track traditionally led to higher education programmes at universities, not to VET programmes (only a small number of students entered dual programmes after leaving the Gymnasium). Secondly, the social background of students in VET and higher education varied and, consequently, there was little competition for educational qualifications. Thirdly, until the second half of the 20th century, educational programmes for craftsmen and skilled workers seemed to focus on basic cognitive skills (reading, mathematics) only, rather than the wider range of cognitive skills emphasized at universities and other types of schools for general education. These conditions fundamentally changed during the second half of the 20th century. In addition, when the dual VET system was dominant and higher education played only a minor role, both sectors co-existed without any problems. However, since the beginning of the 21st century this situation has changed significantly.

The quantitative relationship between both sectors is demonstrated by the development in new entrants. Until the mid-1960s, higher education was reserved for a small group of students, in particular from the middle classes. By that time, vocational education was the main pathway into qualified employment for the majority of young people. Then, education reform and educational expansion created new dynamics: by the late 1960s entrants to university – and later to colleges of applied sciences (Fachhochschule) – started to continuously increase, whereas entrants to VET, with some temporary upward and downward turns, continuously decreased. The preliminary end of this development was reached in 2011/2012 when there was an equal number of entrants in both sectors. This quantitative shift in the relationship between the major educational sectors strengthened the discussion on the future of the German skill formation system as a whole: Will the system change towards higher education or will the traditional model of dual vocational education remain the backbone of German industry and the educational model for the majority of employees? A third option would be a new model of skill formation, integrating both systems into a new educational order.

The analysis of the share of the students in VET after secondary educational level in the EU counties gives a picture of a diversity of the educational systems. This value varies from about 20% in Cyprus and Hungary to about 70% in Austria, Croatia, Czech Republic, Finland, Netherlands, Slovakia and Slovenia (Figure 1).

The question of possible developments of the skill formation systems not only concerns employment and economic growth but also influence social structure and industrial relations. And this process is accompanied by some changes in class structures, especially by the emergence and extension of the social classes of higher – and lower-grade professionals (Erikson and Goldthorpe 1992).

While discussing the dual study systems it is also significant to mention the share of EU enterprises providing continuing vocational training (CVT). It gives the picture of the labor market needs in preparation and training of its employees. This value varies among the EU countries from about 20% in Greece and Romania to almost 100% in Sweden and Czech Republic (Figure 2). The importance of CVT is demonstrated by the fact that companies are often able to bear high costs associated with their organization. Analysis of the cost of CVT courses per percipient in different EU countries indicates that they can reach about 3 thousand PPS (Purchasing Power Standard) in countries such as Denmark or Belgium (Figure 3).

Percentage of persons employed in enterprises providing CVT courses is very diverse among the EU countries and it ranges from about 30% of employees in Hungary and United Kingdom to 87% in Czech Republic (Figure 4).

Important results are obtained from the analysis of data concerning the number of enterprises employing the participants of VET. The share of them varies significantly among the EU countries. The greatest is in Germany (over 60% of companies) and the lowest in Lithuania (only 1.9%) (Figure 5).

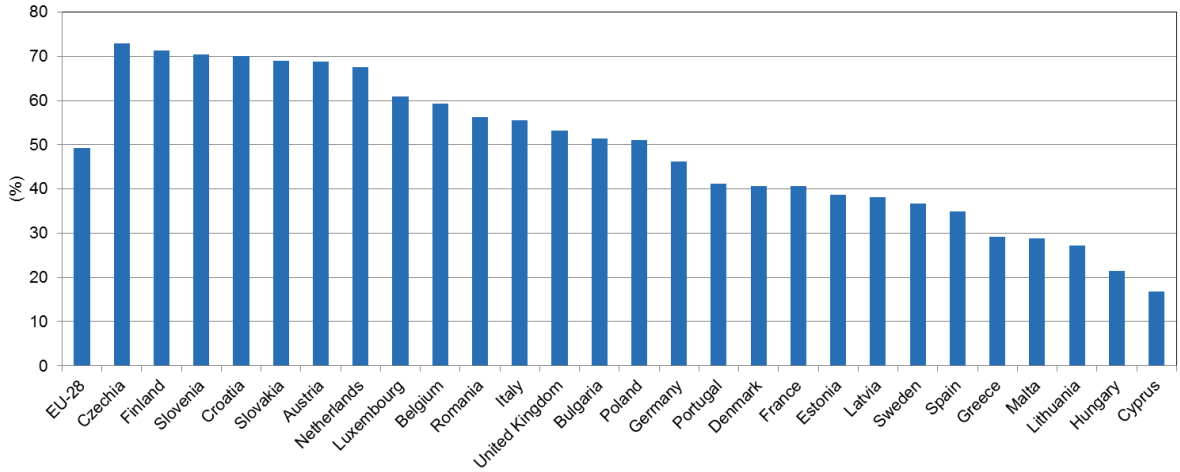

Figure 1. The share of students in vocational education programmes in 2016 (%) (Source: EUROSTAT 2019)

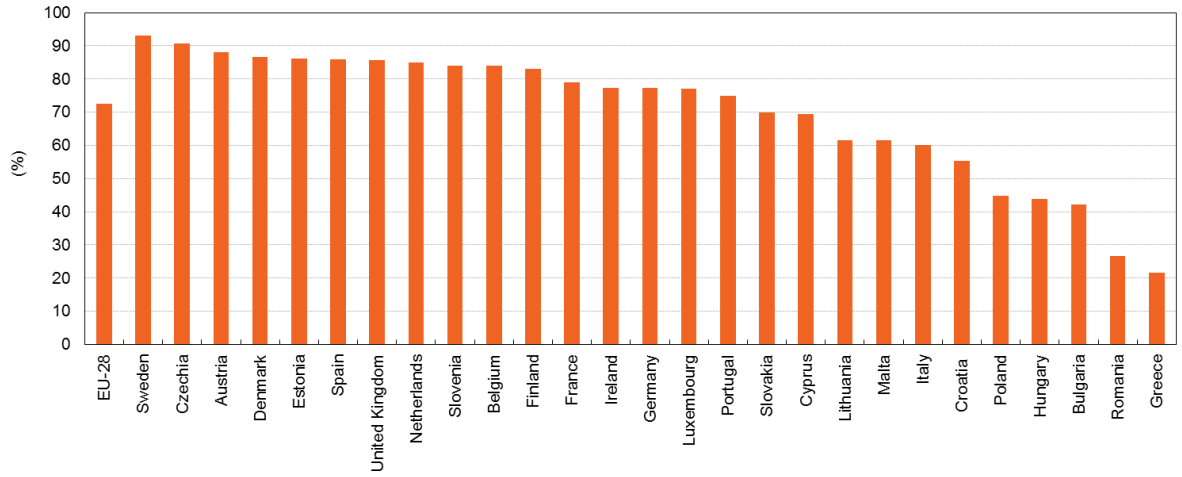

Figure 2. Enterprises providing CVT in 2015 (%) (Source: EUROSTAT 2019)

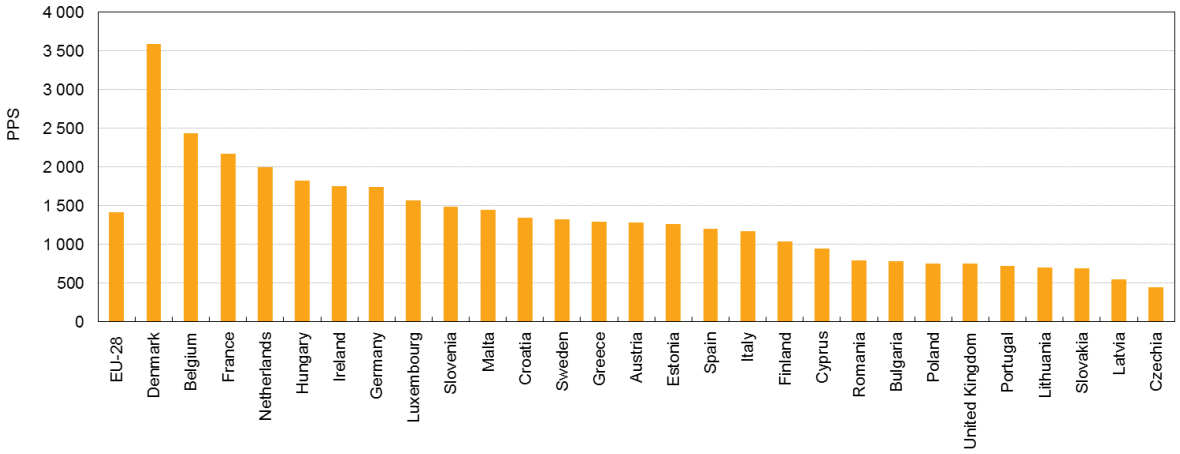

Figure 3. Cost of CVT courses per participant in 2015 in PPS (Source: EUROSTAT 2019)

Recent studies on new forms of digitalized work (smart factories, Industrie 4.0) confirm the trend towards highly cognitive skills in the field of industrial production work (Hirsch-Kreinsen 2014). Thus educational systems need to follow up to provide the range of necessary skills required by the labour market. Consequently, complementary to the shift in social demand for professional training from vocational to higher education, a new intersection or hybrid sector between both fields has evolved in recent years. The basic ideas behind this development is the implementation of new study models to combine or parallelize vocational training (or work) and studying. Three approaches are worth mentioning here: opening up access to higher education for non-traditional students, the establishment of procedures to recognize vocationally acquired competencies and the considerable extension of dual studies (Baethge and Wolter 2015).

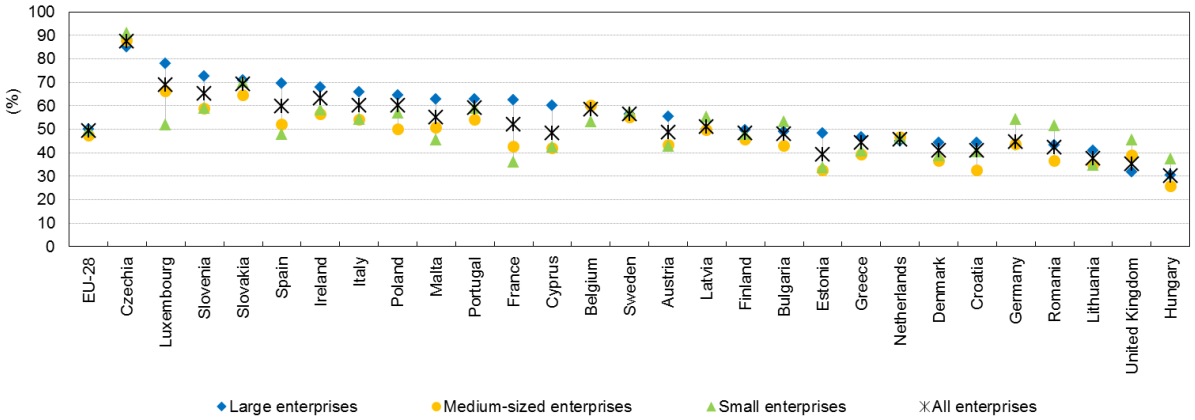

Figure 4. Percentage of persons employed in enterprises providing CVT courses (Source: EUROSTAT 2019)

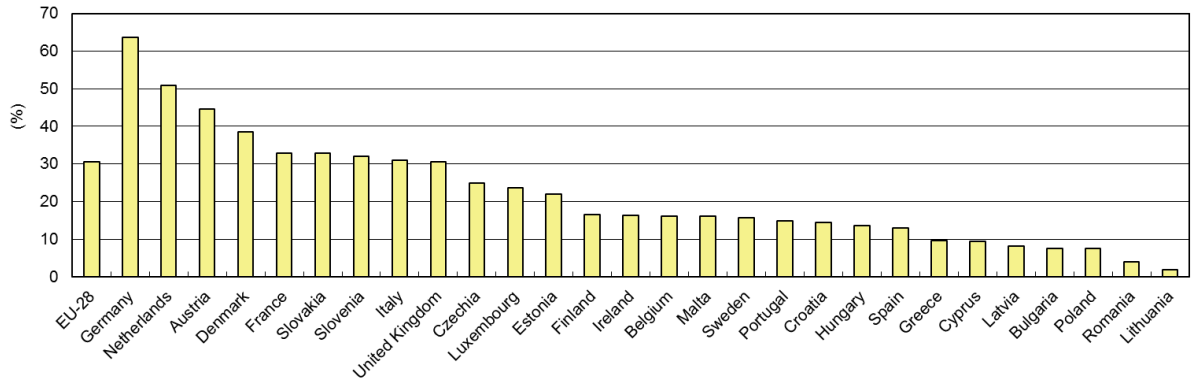

Figure 5. Enterprises employing VET participants in 2015 (%) (Source: EUROSTAT 2019)

In analyzing the situation of dual study courses in the EU countries it is also crucial to recognize the reasons behind not providing CVT by enterprises (Table 1). In most countries enterprises were indicating the lack of suitable courses in the market and difficulties in assessing enterprise training needs as well as high costs of CVT courses. It's interesting to note that the reasons – i.e. existing qualifications, skills and competences corresponding to the current needs of the enterprise – reached highest values for France and Slovenia and were indicated by 33.5% and 30% of enterprises, respectively, although they are still at a quite low level. This shows the need for comprehensive and innovative changes in educational systems.
In the Hungarian system of higher education, the cooperation between the industry stakeholders and the academic sector is foremost limited to research or performing works based on industry orders. It can have a form of, for example, carrying out investigations in the accredited laboratories owned by universities. Nevertheless, an interesting example and a

quite frequent type of cooperation involves company experts in the college final exams. One of the most important reasons encouraging and motivating companies to the long-term investments in higher education institutions is the interest in receiving a steady workforce well prepared for the industry challenges and the needs of the given company. Another issue is also connected to the management of human resources and is about ensuring loyal professionals. During the training, students and business partners are assessed every six months in order to make the training more efficient and target-oriented (Kovacs and Torok 2016).

Table 1. Enterprises not providing CVT by reason for non-provision in 2015 (%)

Country	Proportion of enterprises not providing CVT	Proportion of non-training enterprises citing selected reasons for not providing CVT							
		High costs of CVT courses	Major CVT efforts made in recent years	Existing qualifications, skills and competences corresponded to the current needs of the enterprise	Lack of suitable CVT courses in the market	People recruited with the skills needed	Difficult to assess enterprise's training needs	High workload and limited / no time available for staff to participate in CVT	Other reasons
Austria	11.9	32.0	12.2	1.6	88.2	10.8	50.0	10.9	44.0
Belgium	16.1	10.7	3.2	2.0	75.5	6.4	28.3	2.5	19.0
Bulgaria	57.8	42.7	21.7	9.5	81.2	21.5	82.8	15.0	39.5
Cyprus	30.5	19.8	7.4	8.7	78.2	13.8	59.7	3.8	34.2
Czech Republic	9.4	5.6	1.0	1.4	69.1	2.3	4.3	.	5.6
Denmark	13.4	22.0	44.0	4.5	73.9	19.5	65.3	38.1	41.9
Estonia	13.9	8.8	1.0	.	43.9	2.3	15.8	.	10.7
Finland	16.9	39.9	36.1	5.1	89.3	14.4	66.2	17.5	48.7
France	21.1	48.3	58.3	33.5	88.5	21.0	63.4	36.8	72.6
Greece	78.3	28.8	16.4	2.7	65.7	13.8	55.5	9.2	42.2
Spain	14.0	38.3	4,2	22.0	84.4	31.2	61.4	20.3	47.7
Netherlands	15.0	14.1	5.9	2.2	73.1	4.4	53.5	3.1	9.5
Croatia	44.6	14.1	4.2	2.2	79.2	7.0	34.5	6.2	12.1
Ireland	22.6	14.8	7.0	3.5	78.6	9.3	51.3	10.3	27.3
Lithuania	38.4	63.7	15.8	12.2	87.4	26.1	85.2	45.5	40.3
Luxembourg	22.9	6.0	4,2	.	70.1	3.5	22.3	.	16.1
Malta	38.4	20.7	6.9	3.8	79.9	8.2	60.9	11.5	39.6
Germany	22.7	23.3	47,1	13.9	87.7	12.2	53.2	23.3	32.4
Poland	55.3	33.7	38.3	16.1	85.2	11.4	70.4	12.1	24.9
Portugal	25.0	46.3	22.3	7.9	76.5	30.3	64.4	30.6	40.5
Romania	73.3	34.0	5.4	5.6	83.5	8.0	78.3	6.7	26.1
Slovakia	30.0	30.6	22.9	15.0	74.2	8.9	48.1	7.9	30.2
Slovenia	15.9	31.3	11.9	30.0	92.0	10.1	64.1	5.5	20.8
Sweden	6.9	.	.	.	.	.	.	.	.
Hungary	56.2	30.6	14,2	5.0	85.2	13.4	63.5	10.5	22.7
United Kingdom	14.3	19.1	23.3	13.6	88.7	19.4	73.2	30.8	35.7
Italy	39.8	13.3	8.5	12.1	74.3	6.0	15.4	4.9	14.5
EU-28	27.4	28.2	24.6	13.0	81.8	13.4	54.9	16.2	32.0

Source: Own studies based on the EUROSTAT 2019.

Vocational trainings tend to be understood as a career-focused education that one might traditionally find in a technical college or polytechnic. A very advantageous issue that is incorporated in the dual study courses in various forms – either as semester work or as Engineering Thesis, finalizing the whole educational process at the first level of the higher education studies is the final long-term industry project. During this task, students are expected to deal with the industry based challenge and solve a problem that would add value

to the functioning of the company focusing on real conditions and limitations. Students are supervised by experts from the industry and professionals working in academic institutions. Following a professional project management methodology, students undertake an agreed-upon problem and deliver a specific pre-agreed output. Industry partners that hosted these students have said they added significant value to their organizations. In addition, they benefited from the expertise of industry-experienced teaching staff (Lawrence 2017).

The necessity of introducing this form of studies in the field of wood technology is demonstrated by the fact that already two initiatives have been organized in this field. The faculty of Wood Technology (at the Poznan University of Life Sciences) introduced this kind of novel study programme implementing the idea of dual studies and a Woodual project which is conducted by the Polish Chamber of Commerce of Furniture Manufacturers. For the Poznan University of Life Sciences it covers the field of mechanical wood technology and chemical wood technology, and the first academic year will start in 2019. Dual studies have numerous advantages: students not only acquire practical experience and skills but also learn about the industry, build their own database of contacts, learn how to solve practical, industry-based problems. Communication skills and the ability to solve actual problems are the values of the future and will be enormously essential when searching for career opportunities. Moreover, students gain the experience not from a single company but rather, during the study process, they may visit and get to know a few of them representing various specializations. This will surely broaden their knowledge and recognition of the industry.

The preparation of the dual studies was co-financed by the EU within European Social Fund and carried out under the supervision of the Polish National Centre for Research and Development. During the 3.5 year study course, students will participate in 4 long-term internships in different companies. During the first, third and fifth semester, they will attend classes at the university and acquire the theoretical knowledge, both general academic and specialized. During the second, fourth, sixth and seventh semester, they will perform tasks in the companies and spend much less time having theoretical classes at the university. Furthermore at the last semester of the study course students will prepare an engineering thesis that will be based on a practical, industry-specfic problem. The thesis will be developed with the guidance of a supervisor from the University and a tutor form a company. During the whole study course, there will be study visits organized in the participating companies for all the students (Orlikowska 2018a,b).

Similar initiatives are being taken in various EU countries. A valuable example of such activities is the Bachelor & Meister project that aims at developing dual bachelor study courses which combine two degrees – the academic bachelor's and the vocational master's degree. This can result in increasing the relevance and quality as well as improving competencies and knowledge in the parts of the vocational master's program and in the parts of the Bachelor's degree, transfer the relevant professional skills and practical experience through the dual study approach and realize important contributions to overcoming the shortage of entrepreneurs in SMEs. It can also increase the attractiveness of vocational education and training.

The above described initiatives contain important steps towards the contribution to the EU agenda for the modernization of Europe's higher education systems.

CONCLUSIONS

The dual studies in some EU countries have a very long tradition and a wide scope, while in others, they are only at the begging of the road to their popularity. Nonetheless, they are all very similar, indeed. In the examined countries, there is a common practice to do a part of the education process at the universities and the other part in external institutions or companies. Yet, there is still no common regulation indicating and integrating the process of

dual studies. In some countries, the practical part of the dual studies is conducted in the form of internships in companies and in the form of case studies to solve industry oriented problems, while in others, it is an advisory system of collaboration between educational and business partners. The analysis of successful stories and further activities towards the development of common system of dual studies should be introduced on the EU level to secure young entrepreneurs in SMEs through innovative educational pathways.

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Streszczenie: *Możliwości studiów dualnych w wybranych krajach UE.* Idea studiów dualnych staje się obecnie coraz bardziej popularna przede wszystkim ze względu na problem braku wykwalifikowanych pracowników. Studia dualne są bardzo podobne w swojej formie, uwzględniającej m.in. praktyki w przedsiębiorstwach, studia przypadków itp., jednak ich zakres różni się znacznie w analizowanych krajach. Przeprowadzona analiza wykazała, że średnio około 70% uczniów bierze udział w kształceniu i szkoleniu zawodowym w Austrii, Chorwacji, Czechach, Finlandii, Holandii, Słowacji i Słowenii, ale tylko 20% na Cyprze i Węgrzech. W krajach takich jak: Niemcy, Holandia i Austria ponad 40% firm zatrudnia uczestników kształcenia i szkolenia zawodowego, podczas gdy średnie koszty ustawicznego szkolenia zawodowego dla krajów UE-28 kształtują się na poziomie około 1500 PPS na uczestnika. Analizę przeprowadzono na danych uzyskanych z bazy EUROSTAT.

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