

HIGHER EDUCATION FOR HIGHER COMPETITIVENESS

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Highlights

- The higher education is criticized that does not match the needs of practice
- The economic study programs of Czech and German universities were analysed
- The analysis justified that German study programs are more focused on practice

Abstract

The current criticism of higher education is that the education offered does not match the needs of practice. In terms of competitiveness, Germany is about the forefront in Europe, and logically the question of whether higher education is the source from which leads to this result. The objective of this paper is to compare the corresponding study programs of Czech and German universities in the area of Economics by identifying the relevant differences and to confirm or dismiss the validity of the research hypothesis „Business Economics programs at German universities differ in ways that can boost competitiveness“. In order to compare the study programs between Czech and German universities, the eight faculties of Economics geared towards Business and Economics and Bachelor degree program were selected. As an introductory information, the structure of the programs was compared in terms of course load and which courses being compulsory, elective, and various forms of actual work practice and Bachelor thesis. The portfolio analysis of compulsory courses was organized into more general course groups and the percentage share of the total extent of compulsory courses was evaluated and the percentage of the active part. The analysis of Bachelor's degree programs justifies the validity of the research hypothesis such that German study programs are more focused on practical application in a work environment. To that, contribute significantly the German specific institutions, the universities of applied sciences, which are strongly geared towards the needs of actual practice. The reflection of findings may apply in the context of the forthcoming implementation of amendment to the Higher Education Act.

Keywords

Bachelor study program, competitiveness, Economics, Higher Education Act, managerial skills, practices

Article type

Full research paper

Article history

Received: February 2, 2017

Received in revised form: June 26, 2017

Accepted: June 27, 2017

Available on-line: July 17, 2017

Komárek J., Dočkal J., Markovič P., Novotná Březovská B., Rigel F. (2017) “Higher Education for Higher Competitiveness”, *Journal on Efficiency and Responsibility in Education and Science*, Vol. 10, No. 2, pp. 34-43, online ISSN 1803-1617, printed ISSN 2336-2375, doi: 10.7160/eriesj.2017.100201.

Introduction

The general impact of higher education on international competitiveness is accepted universally, it is included as the fifth pillar (Higher Education and Training) of the world-renowned international competitiveness assessment through Global Competitiveness Index (World Economic Forum, 2017), and a statistically significant correlation of the both ratings has been identified (Sekuloska, 2014). Similarly the International Institute for Management Development (IMD, 2017) uses four main criteria, which in turn include a number of sub criteria, one of them Education. World Economic Forum has provided the competitiveness ranking for nearly half century, but during the past decades, the international competitiveness environment has changed radically. ‘Throughout the 1990s, many countries recognized and began to imitate the U.S. model of economic growth by improving access to higher education, increasing government investment in R&D, and lowering barriers to trade and investment. At the same time, multinational corporations accelerated their globalization, both to gain access to the enormous and rapidly growing consumer markets in emerging economies and to tap into overseas talent pools. America’s unique advantage is no longer so unique. China has pulled ahead of the United States in high-technology exports, graduates nearly three times as many four-year degrees in engineering, computer science, and IT and it is projected to graduate more PhDs in science and engineering’ (Attis, 2007). The topic of competitiveness was found important also in the European

Union. Europe’s Heads of Governments met in Lisbon and signed a common declaration where they announced their intention to make the EU “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion” (Council of the European Union, 2000). Following its principle to measure competitiveness through a multicriteria index, the WEF has developed Lisbon Review Index for assessing the strategy followed by the EU. The measurement comprises eight distinct dimensions that capture the areas highlighted critical for reaching the goal of becoming the world’s most competitive economy, but the Lisbon Review Index does not have any distinctive HE aspects (Blanke and Geiger, 2008).

It is obvious that global indexes or policy challenges can be used only as a frame for to address the actual impact of higher education on competitiveness. Therefore, an attention has been drawn to the assessing importance of the higher education systematically. For example, R. H. Mattoon (2006) demonstrated that growth is more pronounced in countries where there are well-developed higher education systems. Other researchers have been concerned about the link between the various specializations offered by higher education and economic growth. T.S. Sequeira (2007) has shown that there is a direct link between the rate of enrollment to engineering, mathematics and computing studies and the economic growth. M.G. Colombo and L. Grilli (2005) have shown that in the case

of the growth of firms, the number of graduates of scientific and technical studies have a significant positive effect. C. L. Tsai, M. C Hung and K. Harriott (2010) have revealed that the percentage of graduates in science, engineering, mathematics, and computer science is an important indicator for determining the quality of the workforce. Such results confirm the influence of higher education still generally, but with very limited value for any qualitative changes in the content of higher education. The deeper insight could offer the analysis of study programs, which represent the starting knowledge for further professional development and potential contribution to the national competitiveness.

Concerning the higher education in the Czech Republic, there is a lot of criticism that the education offered does not match the needs when it comes to the job market (Co nejvíc trápí české manažery, 2013). This may be a limited, subjective opinion of employers; however, research has shown this to be a more objective view. For example, in the study, “Needs of Employers and Preparedness of School Graduates” (Úlovec, 2014) we see a result of thousands of questionnaires completed by employers in various sectors of the labour market. In the category of higher education the consensus was rather negative, claiming that universities inadequately develop the skills necessary for employment, focusing primarily more so on the areas of problem solving and decision-making.

Where the heart of the problem is, illustrates the following quote most aptly: “Transformation of higher education is especially needed when research and regular exchanges between practitioners and academicians are not commonplace and traditional education replicates outdated practices. Change and innovation in competitive products and production processes can easily outpace academics’ ability to update the content of their coursework. More importantly, many undergraduate and graduate programs do not provide opportunities to develop the process skills so urgently needed in today’s evolving economies and dynamic societies. The mismatch between what higher education provides and what is needed to grow the economy lies in part in outdated content knowledge but the wider and more urgent gap is in mastering the necessary process skills to effectively lead economic growth, such as reasoning, problem solving, team work, effective communication, creativity, and risk taking” (Hergnyan and Williams, 2017).

How then are university students prepared in the decisive areas for entrance into the work place, especially in facets of management functions or even for entrepreneurs are just starting out? Typically, the program of study would be a Bachelor degree study program in Economics and Management, in which the accredited course outline includes various fields of study in Business Economics. But this applies only to the practical implementation of the Higher Education Act no. 137/2016 Coll. (ČR, 2016a), which represents a fundamental change in the accreditation of higher education programs in the Czech Republic. A key change cannot be considered in the administrative areas of the accreditation process as a mandatory delimitation of the content in the study programs in what is defined as areas of education. Up to now, the content of what to be included in a study program has been assessed only by the vague provision of the Higher education act, and has been more specifically connected with the historically derived consensus of the Accreditation Commission. The defining areas of education should be a reflection on the actual development of educational disciplines and equally to the practical needs of a work place. Routine implementation of the accreditation of curricula

according to the amendment can still foresee a long road ahead and should be open to suggestions for further improvement. Bachelor’s programs in Business Administration are offered in Europe in thousands (BachelorsPortal.eu) and it would be counterproductive to compare them due to the different conditions and traditions. Therefore, focusing on one country for two reasons. Concerning competitiveness, Germany is about the forefront in Europe (World Economic Forum, 2017), and logically the question of whether higher education is one of the sources from which leads to this result. The second reason is some proximity of study programs due to the influence of Wöhe’s enterprise functions oriented approach (Wöhe, 1995). An answer to this question may be found by analysing and comparing the corresponding Bachelor degree programs from both German and Czech universities with a specific focus on scope, content and form. The objective of this research is to compare the study programs of Czech and German universities in the area of Economics by identifying the relevant differences and to confirm or dismiss the validity of the current research hypothesis that „Business Economics programs at German universities differ in ways that can boost competitiveness“. Corresponding recommendation for the study programs in Economics and Management to support the competitiveness of the Czech economy should follow.

Materials and methods

In order to compare the study programs between Czech and German universities, eight faculties of Economics geared towards Business and Economics with a relevant (according to the criteria of at least 2,000 students) impact on business practice and with corresponding Bachelor degree program were selected (Tab. 1, 2).

University or Institution	Study Program
The Faculty of Business Administration at the University of Economics Prague	Business Economics and Management (University of Economics Prague, 2016)
Faculty of Business and Economics, Mendel University in Brno	Managerial-economic program (Mendel University in Brno, 2016)
Faculty of Economics and Management, Czech University of Life Science in Prague	Operation and Economics (Czech University of Life Science in Prague, 2016)
Faculty of Management and Economics, Tomas Bata University in Zlin	Management and Economics (Tomas Bata University in Zlin, 2016)
Faculty of Economics and Administration, Masaryk University Brno	Business Economics and Management (Masaryk University Brno, 2016)
Faculty of Economics and Administration, University of Pardubice	Management in Business (University of Pardubice, 2016)
Faculty of Economics, VŠB - Technical University of Ostrava	Management (VŠB - Technical University of Ostrava, 2016)
Faculty of Entrepreneurship, Brno University of Technology	Business Economics (Brno University of Technology, 2016)

Table 1: Sample of Economic faculties from universities in the Czech Republic

The comparison of the study programs in relation to study courses such objects will be implemented through a non-hierarchical cluster analysis by one variable (proportional number of hours per course).

University or Institution	Study Program
Ludwig-Maximilian-Universität München	Business Economics (Ludwig-Maximilian-Universität München, 2016)
Rheinisch-Westfälischen Technischen Hochschule Aachen	Business Economics (RWTH, 2016)
Frankfurt School of Finance & Management	Business Economics (Frankfurt School of Finance & Management, 2016)
Technische Universität Berlin	Business Economics and Management (Technische Universität Berlin, 2016)
Technische Universität München	Business Economics, Technology and Management oriented (Technische Universität München, 2016)
Goethe-Universität Frankfurt am Main	Economics (Goethe-Universität Frankfurt am Main, 2016)
Universität zu Köln	Business Economics (Universität zu Köln, 2016)
Universität Mannheim	Business Economics (Universität Mannheim, 2016)

Table 2: Sample of Economic faculties from universities in Germany

Results

Analysis of curricula with the standard course model

As a starting point and an introductory information the structure of the programs was compared in terms of course load for the program and based on which courses were compulsory, elective, various forms of actual work practice (internships), and the final Bachelor thesis (tab. 3). The number of elective courses in the overall course load in the German sample of universities was more than double (2.31 times) and testified to the greater flexibility of study programs due to the differentiated needs in the workplace. The organization of elective courses into optional modules replaces the need for further division into accredited fields of study thus increasing the effectiveness of learning and even its administration.

There were significant differences in the assessment of the workload for actual work practice (internships) in several German institutions, and, it must be noted that these internships are also included as a graded part of the Bachelor thesis. The differences between the assessment of the Czech Bachelor thesis can be seen as problematic as there should be a set standard of quality and quantity for the criteria in the Bachelor thesis (are the requirements among the individual Czech universities so different?).

In the first stages, the analysis was examined from the content of the framework curricula in relation to the generally accepted “body of knowledge”, which was not exactly defined in the Czech higher education system, but was already established in practice by accreditation committee. The inspiration stemmed also from the practice of the Slovak Ministry of Education, which like the Czech one, administrates the system of study programs providing higher education (Ministerstvo školstva, 2016). The Accreditation Commission (educational advisory body to the Slovak Republic government), with the approval of the Ministry of Education, adopted detailed descriptions of revised programs, prepared and amended by experts at universities (Akreditačná komisia, 2016) as recommended material for school information and also for assessing applications. Each program is defined in terms of acquired competencies of the graduate and recommended courses categorized by each year of study, as well as, the subjects necessary for the culminating exams in the final year.

Country	Higher Institution (university)	School Code	Type of course			
			compulsory	elective	internship	Bachelor thesis
Czech Republic	The Faculty of Business Administration VŠE	CZ1	140	34	0	6
	Faculty of Business and Economics, Mendel University	CZ2	139	31	2	8
	Faculty of Economics and Management, ČZU	CZ3	135	20	5	20
	Faculty of Management and Economics UTB	CZ4	158	19	0	3
	Faculty of Economics and Administration MU	CZ5	148	24	0	8
	Faculty of Economics and Administration UP	CZ6	139	25	3	13
	Faculty of Economics, University of Ostrava	CZ7	134	26	0	20
	Faculty of Entrepreneurship BUT	CZ8	152	11	5	12
Federal Republic of Germany	LMU München	GE1	102	54	0	24
	RWTH Aachen	GE2	138	18	12	12
	School of Finance and Management	GE3	76	74	18	12
	TU Berlin	GE4	78	90	0	12
	TU München	GE5	114	54	0	12
	Uni Frankfurt am Main	GE6	120	40	0	20
	Uni Köln	GE7	108	60	0	12
	Uni Mannheim	GE8	131	37	0	12

Table 3: Overview of the study course workload (credits)

For comparing the study programs to “body of knowledge” (tab. 4, 5) has been adopted point of view, to what extent are the courses included in the study plans by content, not by name. If the content is in more courses, there is a summation of credits and hours, but objects extending or deepening “body of knowledge” are not included in the assessment. The analysis considered the samples in relation to the workload (tab. 4, 5) and to the total number of hours of the study program, shows the differences in the representation of the various courses only within their extreme value and overall, and, the content overlaps both samples in quality, but not in quantity.

The average share of “body of knowledge” has in the programs of German universities in comparison with Czech universities a greater result in the terms of workload (44.87/31.80), as well as the number of hours (50.47/33.91), and indicates a greater concentration on the focus of the study. Analysis of study programs in relation to the “body of knowledge” affected only part of the courses, focusing largely on theoretical preparation. Therefore, it was further deepened by including courses of applied nature assuming there to be a greater impact on preparation for actual practice in a work environment, and therefore, does influence competitiveness.

Course	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
Informatics	5.5	4.4	0.0	1.6	0.0	0.0	5.0	2.7
Macroeconomics	3.3	3.3	0.0	3.3	4.4	2.7	3.3	3.3
Management	3.3	2.7	2.7	2.7	4.4	2.7	2.2	2.7
Marketing	1.6	2.7	0.0	3.3	4.4	2.2	2.7	2.7
Mathematics	3.3	6.1	2.7	6.1	3.3	6.1	5.5	6.6
Microeconomics	3.3	3.3	0.0	3.3	4.4	2.7	3.3	3.3
Business Economics	3.3	2.7	2.7	6.6	4.4	2.7	2.7	3.3
Finance	3.3	2.7	0.0	3.3	0.0	0.0	0.0	3.3
Law	2.7	2.2	2.7	2.7	2.2	3.8	1.6	2.2
Statistics	3.3	3.3	5.5	2.7	5.5	2.7	2.7	3.3
Accounting	2.7	0.0	2.7	0.0	0.0	4.4	2.7	2.2
Total	36.11	33.89	19.44	32.77	33.33	30.56	32.22	36.11

Table 4: A breakdown of courses in proportion to the total work load (credits per course / 180) %.

Course	GE1	GE2	GE3	GE4	GE5	GE6	GE7	GE8
Informatics	3.3	3.3	3.3	6.6	0.0	6.1	3.3	6.6
Macroeconomics	3.3	3.3	3.3	2.2	6.6	10.0	5.0	4.4
Management	5.0	0.0	0.0	3.3	3.3	3.3	0.0	6.6
Marketing	1.6	0.0	3.3	3.3	3.3	2.7	5.0	6.6
Mathematics	1.6	6.6	3.3	6.6	3.3	5.5	3.3	0.0
Microeconomics	3.3	6.6	3.3	2.2	0.0	10.0	5.0	4.4
Business Economics	5.0	3.3	3.3	3.3	3.3	3.3	5.0	4.4
Finance	3.3	3.3	3.3	3.3	3.3	9.4	5.0	6.6
Law	3.3	5.0	3.3	3.3	6.6	2.7	3.3	7.7
Statistics	6.6	3.3	0.0	6.6	3.3	8.3	6.6	4.4
Accounting	5.0	6.6	3.3	3.3	3.3	6.1	10.0	3.3
Total	41.67	41.66	30.67	44.44	36.66	67.77	51.67	44.44

Table 5: A breakdown of courses in proportion to the total work load (credits per course / 180) %.

Analysis of courses portfolio

For the analysis of courses portfolio, it was necessary to limit the courses to compulsory courses because the elective courses pose too wide and heterogeneous spectrum. What is important to note is that elective courses in the sample of German universities are organized into specialized modules and the detailed data of courses are not publicly available. The portfolio analysis of compulsory courses was further organized into more general course groups (Humanities, Natural Sciences, Informatics, Economics, Management, and Law) so that the portfolio balance could be assessed. For courses occurring in at least half of the schools, the percentage share of the total extent of compulsory courses was evaluated and then its arithmetic mean and standard deviation for the sample of schools as a basis for comparison. Similarly, for each course the percentage of the active part (such as tutorials, seminars, and projects).

Humanities in the curricula in Czech and German universities

Analysis of the curricula of the Czech universities showed that social sciences were reflected in the curriculum in some capacity (through compulsory and elective subjects). Courses titles, their content and scope were not identical in any way and therefore we categorized them by theme. For example, Psychology encompassed courses titled, Psychology for Economics, Psychology of Personality Traits, Social Psychology, and Managerial Psychology. Course titles under the subject of Philosophy included, Basics of Philosophy, Social Sciences in Management, among others. The greater number of courses

in the curricula in comparison with other areas of Humanities subjects are Psychology and Foreign Languages (tab. 6). The question is whether the representation of these subjects affect the aforementioned competencies that employers feel they lack in the workforce in the Czech Republic.

Course	Sample of Czech schools				Sample of German schools			
	Share (%)		Active part %		Share (%)		Active part %	
	μ	σ	μ	σ	μ	σ	μ	σ
Psychology	3.07	1.62	36.24	15.50	0	0	0	0
Philosophy	1.10	1.45	28.33	14.42	0	0	0	0
Political Science	0.45	1.18	34.16	11.01	0	0	0	0
Sociology	0.75	1.33	28.33	14.42	0	0	0	0
Foreign Language	10.71	3.47	40.71	13.47	0	0	0	0

Table 6: Humanities courses in the study plans

The analysis of the curricula of German universities discovered only at one school a comparable course within the compulsory framework. A closer comparison with such a low manifestation did not seem useful. It also seems plausible to state that the German universities offer elective courses, which strengthen the soft skills of their students and do not consider these skills as the essential part of the curricula. Another factor may be the fact that the foundations of Humanities are already being taught in secondary schools to some degree, and these skills are only strengthened at the university level. The issue of soft skills is but often criticized in terms that German universities do not produce graduates with flexible profiles for employment. In 2007 the authors of “Abschied von Humboldt?: Reformprozesse an deutschen Hochschulen” pointed out that the curricula of university education will have to adapt to the Bologna Process in order to increase the employability skills of students (Behrens, 2007:21). However, no courses can be found within the curricula that strengthen and train soft skills. The same universities on the other end mention that, and it is often stated: ‘Soft skills are an essential success factor for the career; they are regarded as key qualifications in the working world. They include all skills that go beyond professional competences.’ (Absolventa, 2016). When it comes to languages, Germany has a natural advantage as German is considered a world language. Learning a foreign language in German universities is focused only on prerequisite course for elective semester abroad. It can be presumed that their secondary level knowledge of a foreign language is sufficient prior to entering the university setting. However, in Czech universities, the opposite is seen, as the education of a foreign language is lacking and Czech students need to be “reequipped” with the competencies which are standard to the framework of the foreign language requirement. A relatively high proportion of this education reduces the “core of knowledge” significantly and it should be replaced by partial teaching in English. However, after a strict assessment of the student’s pre-existing knowledge during the admissions process. Given the importance of language skills for international competitiveness, universities should also offer elective courses in other languages, as well.

Natural Sciences in the curricula in Czech and German universities

The problem of this subchapter is the preparation of students in mathematics before entering university. The Czech secondary school system is comparable in terms of quantity (13 years), but in terms of quality in the subject teaching area of mathematics is very different (Walterová, 2016). The graduation requirements at a German Gymnasium (Abitur) is the only prerequisite for admission to all types of German universities. If graduates from

a secondary school in Germany (Realschule) want to study at university, they have to undertake a supplementary program. For other types of secondary educations (e.g. Hauptschule), there is no transition to Gymnasium or even studying at university. Generally, Mathematics is taught in the same format in both the Czech and German universities (tab. 7), the difference being quality and that in Germany there is more of a focus on practical exercise, done in smaller groups (Walterová, 2016).

Course	Sample of Czech schools (V ₁)				Sample of German schools (V ₂)				Ratio V ₂ /V ₁ (%)	
	Share (%)		Active part (%)		Share (%)		Active part (%)		Share	Active part
	μ	σ	μ	σ	μ	σ	μ	σ		
Mathematics	3.60	1.65	44.9	14.4	3.61	0.95	50	0	91.16	111.36
Statistics	3.47	1.52	52.1	5.51	4.10	1.63	50	0	118.15	95.96

Table 7: Mathematics and Statistics in the study plans

The course of Statistics in Germany is given an overall higher level of educational, which can be applied within the professional level of students' works; the difference in active teaching between Statistics and Mathematics is slightly lower.

Informatics in the curricula in Czech and German universities

When comparing the teaching of Informatics in the Czech Republic with Germany, Germany has a lower percentage (tab. 8). It is quite common that in Germany, the educational system is quite conservative, however when it comes to Applied Informatics, there are many purchasing options for software related to the field. Course Catalog „Betriebswirtschaftslehre“ at the University of Mannheim (Universität Mannheim, 2016) offers a numerous course details which include the term Software (e.g. Financial Accounting, Unternehmensbesteuerung, or Service Operations Management), which evidences that the Informatics is an integral part of the university education. Another difference can be noted in the context of the interpretation of Table 8 where we can see a higher proportion of practical teaching of classes. One can conclude that this is due to better teaching conditions such as fully equipped laboratories and a lower number of students working in those conditions.

Course	Sample of Czech schools (V ₁)				Sample of German schools (V ₂)				Ratio V ₂ /V ₁ (%)	
	Share (%)		Active part (%)		Share (%)		Active part (%)		Share	Active part
	μ	σ	μ	σ	μ	σ	μ	σ		
Informatics	4.58	2.29	40.6	18.8	2.81	1.44	50	0	61.35	123.00

Table 8: Informatics in the study plans

German universities from this point of view are ultra-conservative: all universities in this sample teach Informatics only, however one in particular (Technical University Berlin) offers moreover an additional course Databank Systems. Czech universities offer a more diverse range of additional IT courses (Database Systems, E-Technology, Introduction to the study of systems, and many others).

Economics in the curricula in Czech and German universities

Analysis of the economic courses (tab. 9) in the sample of universities did not show any principle differences within the content framework for Economics in terms of compulsory and even elective courses. In the terms of basic economic courses, it can be stated that, in German

Course	Sample of Czech schools (V ₁)				Sample of German schools (V ₂)				Ratio V ₂ /V ₁ (%)	
	Share (%)		Active part (%)		Share (%)		Active part (%)		Share	Active part
	μ	σ	μ	σ	μ	σ	μ	σ		
Macroeconomics	3.0	1.2	40.6	18.6	5.2	2.0	45.4	6.6	171.3	111.7
Marketing	2.6	1.2	35.4	16.5	3.4	2.2	42.3	18.3	131.9	119.6
Microeconomics	3.0	1.2	43.7	17.6	4.7	2.8	39.1	17.1	157.4	89.9
Business Economics	3.6	1.3	43.7	8.6	4.4	0.9	54.1	19.4	122.2	123.8
Business Finance	1.5	1.6	20.8	23.1	4.9	2.4	49.4	1.6	324.8	237.0
Accounting	2.0	1.8	27.1	23.4	5.8	2.0	47.2	10.7	277.5	174.4

Table 9: Economics in the study plans

universities, the evidence shows that there is a higher regard of more active forms of teaching, with more lectures offering a more interactive aspect, and students needing to resolve situations involving a problem-solving tasks actively, rather than through passive lectures. The absence of certain courses is not because they have been omitted, but rather from the system of study from the German institutions. It appears that there is an implementation of a course outline, or block of modules, clustered under categories, for example, Betriebswirtschaftslehre is the name of a module, whereas in Czech institutions courses are labelled under individual course names, such as Business Economics. The shift within the understanding of courses also takes place in German universities, which rather promotes managerial topics and a background to get the original Wöhe's (1960) enterprise administration approach. This trend can be justified by the fact that the sample of selected German schools are among the top schools in the field of Economics and the schools sampled are in the process of applying for international accreditation and certification (mostly from the USA) or are already accredited.

Management in the curricula in Czech and German universities

From the analysis of study plans in the research sample of universities in the area of Management, it was revealed that a broad spectrum of management courses are offered in both Czech and German institutions. Relative to the traditional enterprise administration approach (control functions as a part of enterprise functions), an anticipated absence of the term of management in German Economic universities was not evident. When comparing the content and scope of courses in the sample (tab. 10), it is evident that the course, Management, which is a general introduction to the study of management (General Management) is essential for all Czech schools as well as, six of the German schools.

Another result was the evidence of the course, Human Resources Management, although in German institutions, it was seen in combination with Organization. Important is as well the course Operational Management (along with its analogs Production, Logistic or Supply Chain Management) and various courses characteristic as Managerial Competencies with a higher proportion of active teaching in the sample of Czech universities. In the half of the Czech universities sampled, a course of Quality Management was evidenced, which was absent in the German sample. Representation of Strategic management in both samples was very sporadic, with more to be expected in a Master's program. The reliability of the results is adversely affected by various occurrence of courses within the sample,

where the coefficient of variation does not exceed 50% only in the generally accepted course of Management.

Course	Sample of Czech schools (V ₁)				Sample of German schools (V ₂)				Ratio V ₂ /V ₁ (%)	
	Share (%)		Active part %		Share (%)		Active part %		Share	Active part
	μ	σ	μ	σ	μ	σ	μ	σ		
General Management	3.21	0.9	33.1	14.4	3.59	2.9	50	0	111.8	151.5
Operational (Production, SCM) Management	1.65	1.6	37.2	7.36	3.45	2.8	50	0	209.1	134.4
HR Management	2.57	1.7	43.2	8.33	-	-	-	-	135.0	115.7
Organizing and HR	-	-	-	-	3.47	2.8	50	0		
Managerial Competences	1.49	1.5	49.7	11.6	2.80	3.7	50	0	187.9	100.6

Table 10: Management in the study plans

In relation to the given hypothesis (“Business Economics programs at German universities differ in ways that can boost competitiveness”), the analysis shows that in German universities there is a higher proportion of compulsory courses related to managerial processes and with a higher concentration on active learning. The difference is particularly evident among courses with a direct connection to management of production processes and interacting with subordinates, which thus leads to the inference of having a greater impact on competitiveness. That was less evident by the courses with more factographic content, such as General Management or Human Resource Management, which do not have a direct link to actual business processes. It can be assumed, they have a smaller impact on competitiveness. The inability to access information about the content of elective subjects in the sample of German schools has emerged as a major limitation for further enhancing the analysis.

Law in the curricula in Czech and German universities

Czech universities only offer courses generally aimed at law under a diverse listing of course titles such as (Law, Basics of Legal Systems, Basics of Law, Law for Economists, etc.). As far as other legal courses are concerned, it is more often the case that courses available are aimed at Business Law, respectively its sector - business corporations’ law. Commercial law is considered marginal in the overall number of course hours (tab. 11). Elective legal courses are offered sporadically and in most cases, are geared towards Labour Law, in most cases, EU Labour Law. During the course, there is more of an emphasis on lectures and seminars and overall, are offered to a lesser extent, if at all. For these reasons, legal courses were itemized into one single column in the framework of examined subjects.

Course	Sample of Czech schools (V ₁)				Sample of German schools (V ₂)				Ratio V ₂ /V ₁ (%)	
	Share (%)		Active part%		Share (%)		Active part %		Share	Active part
	μ	σ	μ	σ	μ	σ	μ	σ		
Courses with a legal basis	2.27	0.67	25.21	17.98	6.77	2.3	50	0	298.24	198.33

Table 11: Law in the study plans

For the legal courses at German universities, it is evident that law is given more magnitude in the area of courses, lectures and practical exercises. The ratio of seminars to lectures is 1:1, whereas in the Czech Republic it was significantly less, if at all.

The courses at the German institutions are geared less towards the Theory of Law and Jurisprudence and courses on Public Law are not evident in the framework. Courses appear to be focused solely on Private Law, more concretely, Business Law for Corporations and Civil Law. On the other hand, however, Labour Law was not evident in the sampled framework, nor was EU Law.

In terms of the focus of this article, we assume that the cooperation between universities and practice, as one of the soft indicators of competitiveness (Klvačová 2005: 31), is perhaps where there are programs linked with practice. Such links naturally excludes too theoretically oriented teaching that we are much more experienced by the programs realized by Czech universities. Conversely, greater specialization, which manifests itself at German universities, allows specific connection with practice.

Comparison with the study program of the University of Applied Sciences

The source of a quality workforce for German economy are not only universities, but also the universities of applied sciences (Fachhochschule) primarily oriented to practical requirements. In 2014 there were 108 662 university Bachelor degree graduates but the university of applied sciences graduated 113 523 (HRK, 2016). The study programs of the universities of applied sciences are more focused on practice. Similar in content as the Czech universities, but with more of an emphasis on the practical application of a theoretical background including training in managerial skills. As an example can be noted the three-year Bachelor program, Business Administration (with the focus on management positions in small and middle level enterprises) offered by the Business School Berlin Potsdam (Business, 2014). If it is compared with the program of Business Economics and Management offered by the Prague University of Economics, Faculty of Business Administration (Fakulta podnikohospodářská, 2014), significant differences are evident (Komárek, 2015). The structure of these programs as a whole is not easily comparable (e.g. foreign languages, projects), but it is obvious there exists a greater workload for theoretical courses in the Prague program (141 credits / 110 credits). The program from Berlin includes courses focused in more detail on practical application and especially on two projects (30 credits!) for real contracting authority, solved partially in the workplace of contractor and thereafter realized. Predominantly there is more of a theoretical focus in the Prague program and this is even more apparent with how the courses are being taught. The courses overall, such as Management, Marketing, Consumer Behaviour, and Psychology and Sociology are in lecture form only and taught without any practical exercises (Fakulta podnikohospodářská, 2014).

Study programs for the Applied Management

Competitiveness of the economy do not affect only the study programs of Business Economics, but as well production oriented study programs, which graduates are in just about the same numbers (MŠMT, 2016b). Within these programs, it is possible to divide them further for creative and service-oriented positions, for which it is necessary as a prerequisite to have a certain level of economic and managerial competence provided just in the fields of Applied Management. In this context, it would be necessary to emphasize that every managerial personal position needs in most cases to be filled with someone who has a university degree (more often required in the public administration) and even professional staff needs to have some

skills necessary to plan and organize as well as communicate effectively.

The reasoning behind study programs of Applied Management illustrates its current state. If we apply Cluster Analysis on a study program such as Economics and Management, we come to the interesting result that the term, Economics can be seen in the database of accredited study programs (MŠMT, 2016a) 145 times and the term Management occurs 339 times. What is the cause of this significant difference indicates further analysis - only 152 fields containing the name of “management” belong to the economic programs, majority of other notably to the engineering programs. Because Management is considered in enterprise administration approach as a part of Economic Science, study programs such as Economics and Management include an obligatory quota of mainly theoretical economic courses. To make this approach more consistently applied, the Accreditation Commission (Akreditační komise, 2014) approved standards for study programs in the field of Applied Management in the interpretation: *‘Applied management means degree studies that combine specific professional disciplines (Engineering, Agriculture, Arts etc.) with the education of experts in the (Economics and) Management. In addition to Management on a certain theoretical level supplemented with methods and techniques of management, Human Resources Management, Management skills and the Basics of Psychology and Sociology must also be included as well as other economic sources - Principles of Economics, Marketing, Law (as the Basics of Law) or Statistics’*. Nevertheless, Law and Statistics are not Economics subjects and Principles of Economics are Microeconomics and Macroeconomics. The question is, how is memorizing dozens of macroeconomic graphs going to contribute to the success of the business? But if in all non-economic fields of study there existed the inclusion of Basics of Business Economics, it would most likely, contribute to an increase in international competitiveness more than ten thousand partial projects of the Operational Program Education for Competitiveness (MŠMT, 2016c).

Analysis of non-economics related study programs corresponding to Applied Management exceeds the extent of this paper, however a preliminary analysis of a sample of 120 Bachelor degree programs offered in Germany aimed at Engineering and Technology (Bachelorsportal, 2016) resulted in the following findings:

- All of the study programs include compulsory courses of Management or Business Economics;
- A small portion of study programs shares an interdisciplinary trait (e.g. Engineering and Management, Industrial Engineering) and they include compulsory courses namely Fundamentals of Economics (or Business Economics), Accounting and Financing;
- Focus on operation (corresponding to the concept of Applied Management) is addressed in the study program curriculum through elective specialized modules (for example, Production-, Quality-, Project-, SCM Management), but no further expansion in Economics.

Study programs, which do not contain economic courses, are reflective influences from overseas concepts of Management outside the framework of Economics and are typical for modern universities of applied sciences. Both Business Economics and Management have undergone divergent evolution over the last fifty years. Business Economics as a description of the enterprise functions has remained essentially unchanged (Wöhe and Döring, 2013), and Management has developed from ambiguously defined conceptions into independent teaching

with the number of separate disciplines. The new status as a higher education course and even as a study program include Strategic, Human Resources, Crisis, Risk, Change, Knowledge, Project, Information, Business Process, Operational, Safety, Environmental, Quality and of course Business Management. An economic foundation may have, in addition to Business Management, also Strategic, Crisis, and Risk Managements (if oriented on business) courses, whereas others are based largely on the Humanities, Systems and Technical Sciences.

In this context, it is interesting that in the System of study programs of the Slovak Ministry of Education the study program Management is listed separately from the program of Business Economics and Management with the following explanation. *‘The current study courses are not engaged exclusively in management with the aim of educating the general manager primarily for a line management position. They combine the profession of manager with the enterprise economist’s profession. They gear graduation on the values of business processes and suppress comprehensive and integrated perception of an enterprise. A universal manager such as integrator and coordinator is a separate control profession by itself’* (Akreditačná komisia, 2016). It should be noted that the basic condition of existence of humankind is material production and its distribution. In them has decisive share the mass production and worldwide distribution, which require a mass of line managers, not entrepreneurs.

Discussion

The analysis of Bachelor’s degree programs selected for the sample of Economics faculties in Czech and German universities resulted in fundamental knowledge in relation to the impact on competitiveness:

- The proportion of elective courses in the overall study workload in the sample of German universities was more than double (2.31 times) and testifies to the greater flexibility of study programs due to the differentiated needs of the workplace; organizing elective courses into elective modules replaces dividing program into separately accredited fields and increases the effectiveness of learning and even, its administration;
- The “core of knowledge” of the compared study programs Economics and Management (Czech) and Business Economics (German) in compulsory courses does not differ substantively, after all, both programs are based on the same methodological basis - Wöhe’s approach to the enterprise functions; at German universities but manifests itself approaching the overseas conception of Management outside the Doctrine of Business Economics;
- A greater proportion of “core knowledge” in the overall study workload in a sample of German universities shows a greater concentration on the essence of the subject of study, especially absent Humanities, but for example Physical Education;
- The fundamental difference is significantly higher proportion of active forms of teaching in a sample of German universities, both in the courses (always 50%) and the inclusion of practice (part of the Bachelor thesis, internship in a workplace);
- A detailed analysis of study programs according to the fundamental teachings (Humanities, Science, Informatics, Economics, Management, and Law) shows that in a sample of German universities are more applied application oriented courses. The reliability of the results is adversely affected by various occurrence of courses

within the sample, where the coefficient of variation exceeds 50% in the most cases.

- Study programs in German universities do not include compulsory foreign language courses and it can be assumed that the level of foreign language attained in secondary schools is already sufficient. However, programs in Czech universities include at least one compulsory foreign language. The high proportion of language instruction reduces the course load of “core of knowledge” and that should be replaced by teaching courses in English. Given the importance of language skills for international competitiveness, Czech universities would benefit from offering elective studies in other languages.
- Czech universities are unlike German forced to focus more on teaching Mathematics and Informatics to catch up shortages of secondary schools and reducing differences in input assumptions.
- Completion of studies in German universities is associated to the delivery of a Bachelor thesis, whereas the Czech model is linked with a defence of a thesis before a state examination board, the major difference being the absence of oral exam in German universities, long-term knowledge and skills are favoured over one-time performance.

The related data justifies the validity of the hypothesis “Business Economics programs at German universities differ in ways that can boost competitiveness” such that German study programs are more focused on practical application in a work environment. It is important to note that in this context we can consider only the possible effect (tendencies) on competitiveness of the economy, among many other relevant factors. However, even in Germany the preparation of graduates for practice is not always considered as satisfactory (Behrens, 2007: 21).

A specific factor of tertiary education in Germany is equal representation for Bachelor’s and Master’s degrees at the universities of applied sciences, which are strongly geared towards the needs of actual practice. In this context, it is necessary to consider the current marginal status of higher vocational schools (tertiary professional schools) in the Czech Republic as a missed opportunity (originally expected also orientation on the Bachelor study). An indicative analysis of non-economic Bachelor study programs in Germany illustrates the problematic concept of standards by Accreditation Commission for study programs in Applied Management and warns of the possible threat it may pose by being taken over by a National Accreditation Office.

Conclusion

Reflection of the findings from a comparison of curricula Czech and German universities may apply especially in the context of the forthcoming implementation of the amendment to the Higher Education Act. The current state of Regulation No. 275 (ČR, 2016b), particularly regarding the Areas of Education cannot be considered as satisfactory. The skills of graduates described in the Area of Education “Economics” correspond more to the position of the macroeconomist of central bank but in the examples of positions for graduates, an entrepreneur is absent. Furthermore, there are not differentiated requirements for professionally oriented or academic study programs. The content of each Area of Education is not formally unified, even though its structure (educational descriptors), was unambiguously defined in the research project Q-Ram (Černíkovský, Hnilica and Pasáčková, 2012). When from the practice point of view are paramount importance given the “soft skills”, so that the content of Areas

of Education is completely unresponsive. Practically in each of the 37 Areas of Education is stated (or can be assumed) the ability to obtain a leadership position, but nowhere is mentioned the requirement of adequate managerial skills. The problem is not so much in search of “soft skills” in the individual Areas of Education, but the lack of general managerial requirements for graduates at all.

However, what is most alarming that in every Area of Education is first mentioned in the example of graduate employment “in academia.” It may be an unintentional misunderstanding of priorities, but also a reflection of existing development. Higher study for the current practice requires a corresponding knowledge, of that is still less in the domestic academic environment, because the results achieved in practice are not counted due to the “hunt for impacts”. As a result, there is an increasing share of academic staff with qualification obtained exclusively within the continuous studies Bachelor-Master-Doctor. It seems that still a long way can be expected to increasing the efficiency of higher education for to support competitiveness of the current and especially future Czech economy.

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