

ACADEMIC RANKING AND RATING AGENCY

**CLASSIFICATION OF HIGHER EDUCATION
INSTITUTIONS
2009**



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Bratislava

January 2010

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Classification of higher education institutions 2009
1st edition
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ISBN

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ACADEMIC RANKING AND RATING AGENCY

INTRODUCTION

The assessment of higher education institutions has a long tradition. This tradition runs into decades, primarily in the Anglo-Saxon world and particularly in the USA where, despite objections voiced from time to time, rankings and ratings continue to be used, attention being paid to the development of such methodological procedures that would enable using the results of such specific classification also for purposes other than informing the general public. One of such examples in the form of the Carnegie Classification[®] is included in this study.

The tradition of rankings and ratings outside of the Anglo-Saxon world is substantially younger. However, as suggested by current trends, this tradition is ever more vigorous in Europe and in Asia. Well-known ratings as THES¹ and ARWU² can presently be listed along with fast-developing activities within the EU such as the International Symposium on University Ranking organised by the Leiden University³, the projects “Classifying European Institutions for higher education (stage II)”, “U-MAP: European Classification of HEIs”, and “The CHE Ranking of European Universities” organised by the Centre for Higher Education Policy Studies (CHEPS) in Twent.

The most common arguments against rankings and ratings include those claiming that they are too simplifying and non-transparent but there are also voices suggesting that these classifications are a so-called soft power that is cheaper and more efficient than “war conflicts”. Even in official documents⁴, there are opinions that the importance of classifications is increasing and therefore they and their methodologies should be given increased attention.

Any methodology for the classification of higher education institutions should, above all, be reliable. To be reliable, it has to be correct and accurate. For a methodology (and, subsequently, the entire classification) to be correct, the given classification must have a clearly defined purpose or objective. Likewise, for the purpose of satisfying the condition of correctness, the methodology of the given classification must be transparent, having the form of comprehensibly presented indicators (parameters) and operations, through which it arrives at a result. The condition of methodology’s transparency is valid also from the viewpoint of satisfying the condition of accuracy. The condition of methodology’s accuracy must be

¹ Times Higher Education/QS World University Rankings

² ARWU = Academic Ranking of World Universities, Shanghai Jiao Tong University Ranking

³ International Symposiums on University Rankings, Leiden, 2004, 2007, 2009

⁴ HEFCE Report 2008

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complemented, in addition to the condition of transparency, with that of general availability of input data used in the framework of the given classification to conduct the classification itself. At the same time, the data used must be consistent and relevant, otherwise there is a risk of the entire classification being disqualified.

The present study is an overview of two present rating assessments of Slovak higher education institutions, namely the Comprehensive Accreditation carried out by the Accreditation Commission – a Counselling body of the Government of the Slovak Republic, and the ARRA Ratings. Both cases involve assessments of Slovak higher education institutions which are not common in Slovakia. For methodological reasons, the document is complemented with a classification of higher education institutions as carried out by the Carnegie Foundation in the USA.

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CARNEGIE CLASSIFICATION[®]

The most important classifications of higher education institutions include the classification that has been carried out since 1973 by the Carnegie Foundation as the Carnegie Classification[®]. The example given defines the classification of universities. Although the Carnegie Classification[®] divides universities in the USA into three classification groups, its authors disagree with this classification being referred to as a rating and doubt the possibility of using the results of the classification for ranking purposes. The Carnegie Classification[®] consists in defining only the research performance of a university in a two-dimensional classification space formed by an axis of the university's absolute performance and an axis of the university's research performance calculated per faculty member. The research performance parameter used by Carnegie Classification[®] is the amount of research expenditures regardless of its standard or the quality of its outputs. Although Carnegie Classification[®] is reluctant to accept the label of ranking or to use its results for rating, in fact, it does use the methods of these two assessments. It processes the collected statistical data using the Principal Component Analysis (PCA) which is a statistical method able to identify, in data sets, components or directions (vectors) defining the character of such sets (the main, i.e., "principal" characteristic components). Carnegie Classification[®] uses the PCA in two ways. In the first approximation, it directly uses the set of statistical data on research expenditures (absolute values versus expenditures per faculty member) in the PCA. The PCA centres the data against an arithmetic average and, using the corresponding mathematical apparatus, forms a simple data scale both right and left of the zero value which is the average. Subsequently, using a set of equations, it calculates the "distance" of individual points (institutions) in a two-dimensional matrix having the coordinates of absolute expenditures (X) and expenditures per faculty member (Y). The PCA of research expenditures (of absolute values as well as of expenditures per faculty member) can be considered to constitute ranking, as despite the use of a modern mathematical apparatus (PCA), the position of a specific institution in the matrix is given, directly proportionally, exclusively by both of the parameters monitored (the higher the data value (expenditures), the greater the "distance" of the institution on the respective axis). An advantage of the above-mentioned input data processing method is the mutual independence of both parameters, their equal weight and thereby the objectiveness of determining the "distance" of an institution in each of the directions. For the purposes of classification, limits were arbitrarily set for the "distances", separating thus three groups of universities. A "distance" >2.9 characterises "Research

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Universities (very high research activity)". A "distance" $>1.15 < 2.9$ characterises "Research Universities (high research activity)". A "distance" < 1.15 characterises "Doctoral/Research Universities". In other words, the final results of the classification is rating of higher education institutions. The result of a PCA thus processed is shown in Figure 1.

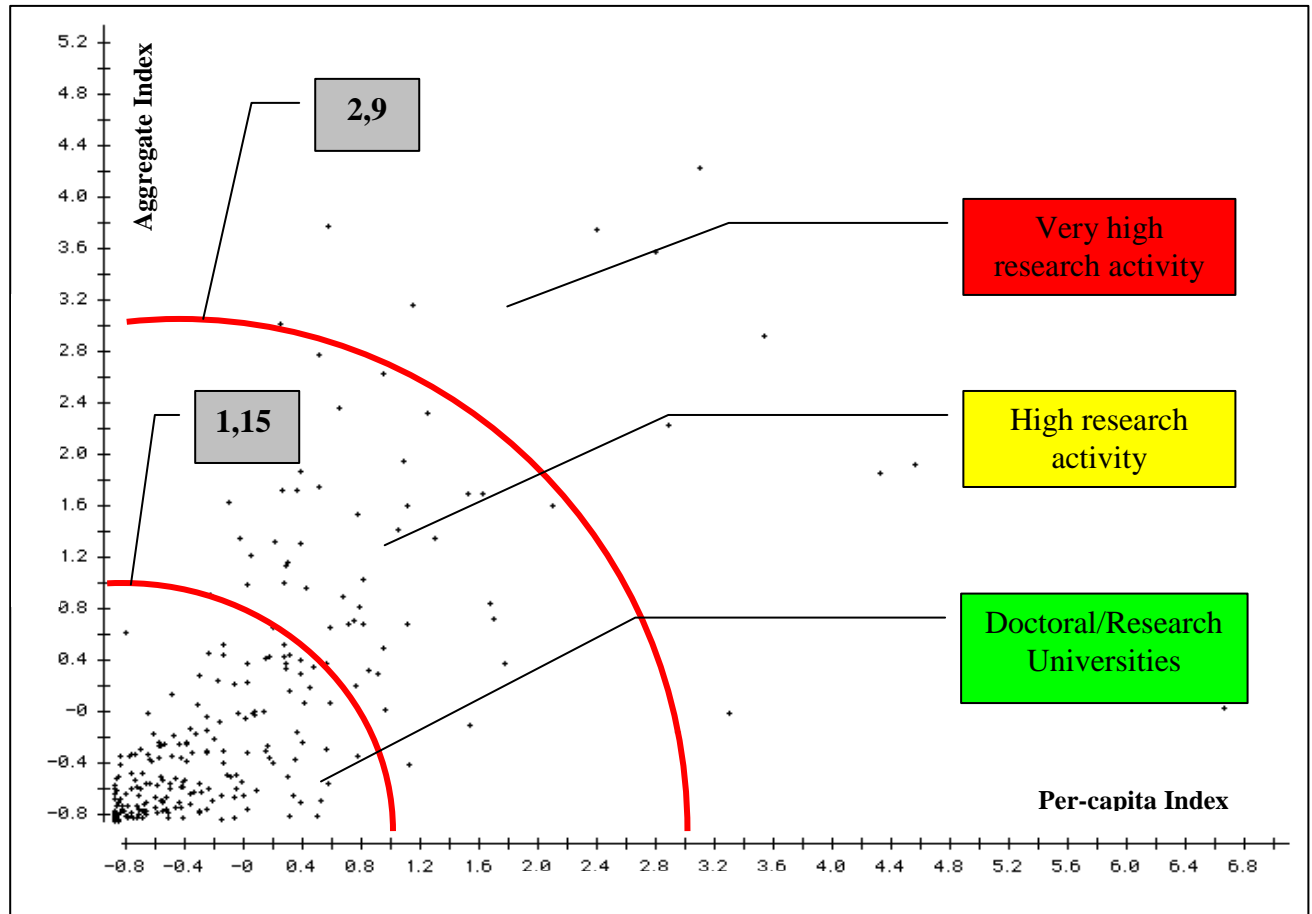


Figure 1. Carnegie Classification® PCA analysis of original data.

Another application of ranking in this classification was involved when the original statistical data on research expenditures was used to rank individual institutions (absolute expenditures separately from expenditures per faculty member). Subsequently, not the data itself but rather the ranking (rank scores) so obtained was used as input data for the PCA ("raw data were converted to rank scores to reduce the influence of outliers and to improve discrimination at the lower end of the distributions where many institutions were clustered"). As implied by the quotation, this approach was motivated by an effort to reduce the influence of outliers and to increase resolution where the values for groups of higher education institutions were too close to each other. Again, the same treatment of both parameter groups means that both axes of the classification space have the same scale, i.e., the weight of both groups is the same. In this case it was arbitrarily decided to set classification limits for three

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different groups of universities on scales ranging between -1.6 and 2.0. [“Research Universities (very high research activity)” (≥ 1.35), “Research Universities (high research activity)” (-0.4 – 1.35), “Doctoral/Research Universities” (-1.6 – -0.4)]. The results of a PCA thus processed is shown in Figure 2. As mentioned by the authors themselves, although a classification so compiled divides the group of classified institutions into approximately equal groups, such result means that

- there are significant differences among institutions within groups which differences are disregarded by the classification,
- the arbitrarily set limits fail to reflect the “natural” division of institutions.

In other words, such a classification is not a qualitative classification but an arbitrarily set distribution which uses the smallest possible differences among institutions for the distribution (the difference is given by the difference in institution ranking: then the minimum value is 1 for neighbouring institutions and the maximum value is the difference in ranking between the first and the last institution. That means, *inter alia*, that the distribution is not only regular but significantly depends on the number of institutions in the cohort analysed.).

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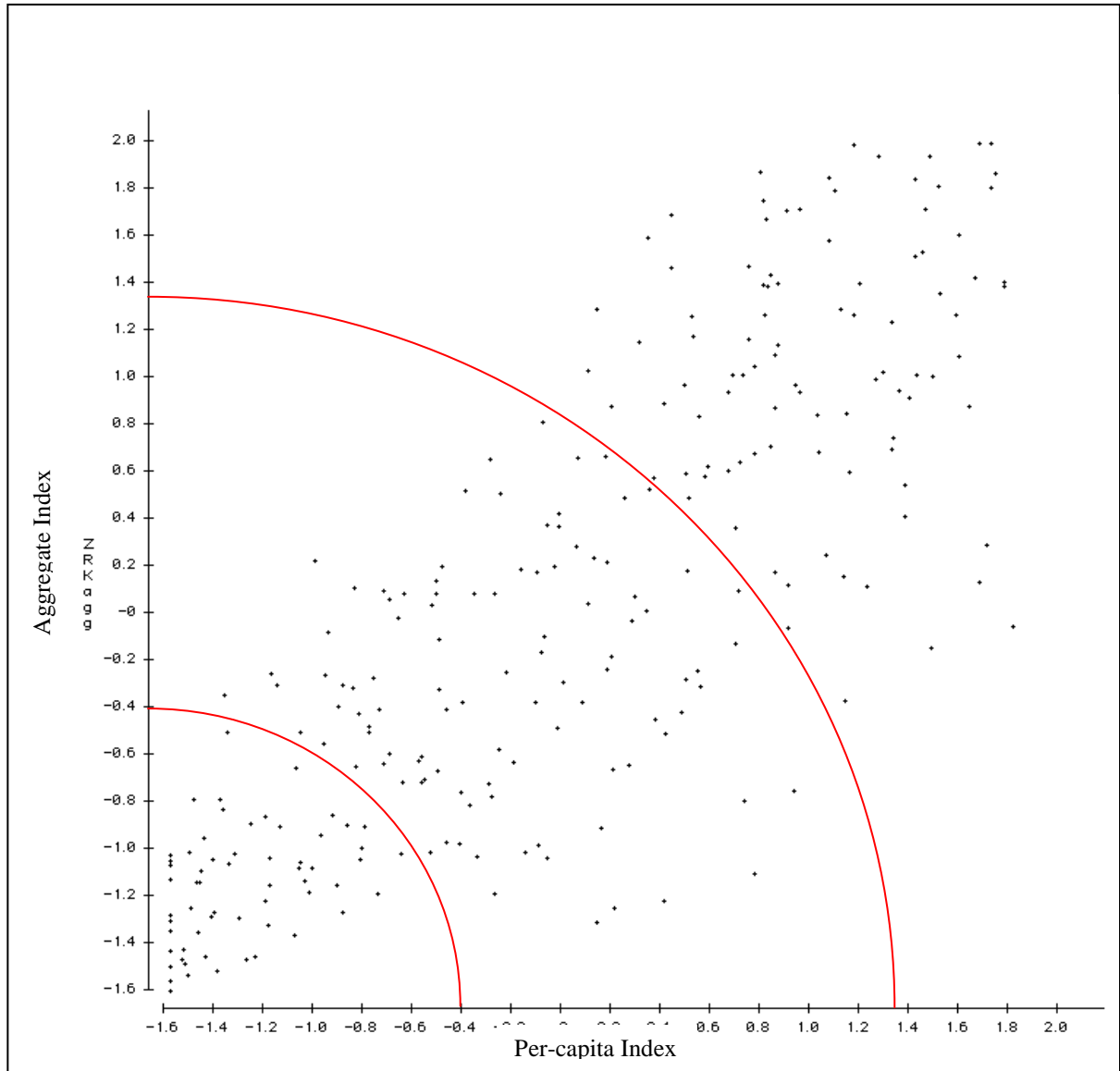


Figure 2. Carnegie Classification® PCA of rankings based on original data

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COMPREHENSIVE ACCREDITATION OF HIGHER EDUCATION INSTITUTIONS

INTRODUCTION

Comprehensive accreditation of higher education institutions is based on **Act No 175/2008 (full wording of the Higher Education Act**, amending and supplementing certain laws as implied by amendments and additions implemented by Act No 209/2002, Act No 401/2002, Act No 442, etc.), particularly on its Section 84 and other provisions of this Act, which provide for the activity of the Accreditation Commission – a Counselling body of the Government of the Slovak Republic, and for other accreditation processes and their impacts. The course and results of the Comprehensive Accreditation were significantly influenced by the relevant regulations of the Ministry of Education of the Slovak Republic (the “MoEdu SR”). Considering the results of the Comprehensive Accreditation, of importance is Section 2 of the Act referred to which states, *inter alia*:

Section 2

(13) *Higher education institutions, subject to satisfaction of the required criteria (Section 82(7)), can be classified as*

- (a) university-type higher education institutions or
- (b) special higher education institutions.

(14) *A university-type higher education institution provides education in study programmes of all three levels and conducts basic research in particular. It conducts its study programmes with reference to its activities in the field of science, technology, or art, and in accordance with the state of the art and with the development in these fields. The word “university” or words derived therefrom can be included in the names of university-type higher education institutions only.*

(15) *A special higher education institution provides higher education in first-level study programmes and conducts applied research in particular. The name of a special higher education institution shall include the words “special higher education institution”.*

(16) *A higher education institution that is not included among university-type higher education institutions or special higher education institutions provides higher education particularly in first-level and second-level study programmes and in study programmes under Section 53(3) and conducts basic research in particular. The name of a*

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higher education institution that is not included among university-type higher education institutions or special higher education institutions shall include the phrase “higher education institution”.

The text of the law apparently defines a curious or rather confusing classification of higher education institutions. On the one hand, higher education institutions are classified as “university-type” or “special higher education institutions” (paragraph 13) while on the other hand, a “third” (in fact, second) classification level of “higher education institutions” is added to this two-level classification (paragraph 16). The confusion to otherwise logical classification to “universities”, “special higher education institutions” and “higher education institutions” is introduced by the definitions of activities for individual types of higher education institutions in paragraphs 14 – 16 which disrupt the terminological logic for the second and third classification level. Indeed, logically, a “special higher education institution” should provide *“higher education particularly in first-level and second-level study programmes and in study programmes under Section 53(3) and conduct basic research in particular”*, which, however, is an activity reserved by the law for “unclassified higher education institutions”. And, conversely, the activity logically belonging to unclassified higher education institutions (*...higher education institution provides higher education in first-level study programmes and conducts applied research in particular*) is reserved for “special higher education institutions”.

As implied by the results of the Comprehensive Accreditation, this classification was applied by the Accreditation Commission using only two of the three possible classification levels – the first one and the “additional” second one. This is the first systematic error occurring in the Comprehensive Accreditation. In its essence, this is an error of strategic importance with respect to impacts of the Comprehensive Accreditation.

The Comprehensive Accreditation was based on a set of research fields and the corresponding study fields⁵, detailed rules of research assessment at the level of faculties in the corresponding fields of research⁶ and on the criteria used for statements concerning the classification of higher education institutions⁷. These rules were based on criteria for the

⁵ List of research fields evaluated as part of the Comprehensive Accreditation and the corresponding study fields of the Ministry of Education of the Slovak Republic of 27 October 2006

⁶ Detailed **assessment rules** to be adhered to when conducting assessments in the corresponding research fields, Appendix to Resolution No 36.7.6 AK, 28 February 2006, complemented with Resolution 38.6.1 AK, 27 October 2006

⁷ Criteria used for statements concerning the classification of higher education institutions, MoEdu SR 2007, CD-2007-16256/50355-5:071

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assessment of the standard of research, development, artistic and other activities within the Comprehensive Accreditation of activities of higher education institutions⁸. These criteria were designed using certain principles of the British system of Research Assessment Exercise used to assess research at higher education institutions in Great Britain since 1992.

METHODOLOGY

The Criteria for the assessment of the standard of research, development, artistic and other activities within the Comprehensive Accreditation of activities of higher education institutions (Appendix 2) are the original basis for the methodology of the Comprehensive Accreditation as designed since 2004. They are based on the British system of the Research Assessment Exercise. These criteria are directly followed up by the Detailed Criteria for the Assessment of the Relevant Research Fields prepared later.

Detailed Criteria for the Assessment of the Relevant Research Fields (faculty level) (Appendix 3)

The Detailed Criteria for the Assessment of the Relevant Research Fields (hereinafter the “Detailed Rules”), as presented in Appendix 3, represent a set of detailed indicators of research performance. The Detailed Rules represent an example of a so-called absolute, arbitrarily defined assessment scale. In such a case, the parameters/indicators and their measure are typically (and primarily) determined with respect to the objective or goal of the assessment. What is less significant is the data, history, previous development, and actual state of the assessed. The basic idea of the rules is the thesis “the more high-quality results/outputs, the higher the quality of the research” which is not only a fair but also achievable approach to fulfil the set objective (differentiation of higher education institutions). The Detailed Rules were created with a contribution from an informal discussion among members of the Accreditation Commission working groups and members of faculties representing the relevant fields of research. This informal consensus concerned definitions of individual parameters as well as their quantification. The advantage of the approach where the assessed participates in the development of the assessment rules is the fact that assuming that rules so agreed are strictly adhered to by the assessors, the assessed has virtually no grounds for objecting against the result. For the classification of creative activity itself (research,

⁸ Criteria for the assessment of the standard of research, development, artistic and other activities within the Comprehensive Accreditation of activities of higher education institutions, MoEdu SR, 28 February 2006

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artistic activity, etc.), the Detailed Rules include both a character-based as well as a numerical way of expressing the standard, i.e., the quality, of creative activity. Another basic idea of the Rules is the thesis of measuring quality on the basis of arbitrarily set threshold values (quality as a threshold). Most of the Detailed Rules were therefore quantified in the form of minimum mandatory values and/or levels necessary for the respective assessment on the character-based scale of A, B, C, D. Table 1 shows the classification scale used in the Comprehensive Accreditation to assess the standard of creative activity.

Table 1. Classification scale for the creative performance of the fields of science

AC				
CLASSIFICATION [character-based]	SCALE [numerical]	DIFFERENCE	SCALE [%]	REDUCED CLASSIFICATION [character-based]
A	4.00-3.75	0.25	93.8%	A
A-	3.74-3.50	0.24	87.5%	A
B+	3.49-3.25	0.24	81.3%	A
B	3.24-2.75	0.49	68.8%	B
B-	2.74-2.50	0.24	62.5%	B
C+	2.49-2.25	0.24	56.3%	C
C	2.24-1.75	0.49	43.8%	C
C-	1.74-1.50	0.24	37.5%	D
D+	1.49-1.25	0.24	31.3%	D
D	1.24-1.00	0.24	25.0%	D

The table implies that although the Accreditation Commission (the “AC”) chose a classical four-character classification scale, individual grades were split to finer “intermediate levels” using the “+” and “-” signs. The AC proceeded similarly when defining the numerical scale which was defined by the scope of 1 to 4 but this was subdivided so as to allow assigning to each of them a specific range of values within which the given classification is valid. It is interesting to look at the mathematical differences between individual classification grades. These show that the scale is not regular but containing greater differences for the basic classification grades B and C (value of 0.49) while for other grades this value is the same (0.24). For the purposes of this study, the AC classification scale was converted to percentage. This allowed defining a reduced classification scale which is identical in both the character-based as well as the percentage representation with the scale in the ARRA Rating⁹.

⁹ See ARRA Ratings at www.arra.sk

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The Detailed Criteria for the Assessment of the Relevant Research Fields have indicators grouped into three so-called attributes. The attribute of outputs contains research output indicators from individual areas. The environmental attribute includes indicators of PhD studies and research grants and the appraisal attribute includes indicators characteristic for professional and social success.

ATTRIBUTES

Attributes were consensually assigned weights used to multiply these attributes when putting together the final assessment of research. Table 2 shows the prevailing weights of attributes used in 17 of 24 fields of research

Table 2. Weights of attributes

Attribute of	Weight of the attribute
outputs	50%
environment	30% - 35%
appraisal	20% - 15%

What should be seen as a positive feature is the fact that **19** fields assigned the attribute of outputs at least a **50%** weight with **3 fields** assigning outputs more than a **50%** weight and only two fields assigned outputs less than a **50%** weight. What should be seen as a negative feature is the fact that none of the fields used the minimum weight for the attribute of appraisal, which was **5%**, although this attribute was the most diffusely defined one.

ATTRIBUTE OF OUTPUTS

The attribute of outputs was represented primarily by publication outputs as recognised by Directive of the MoEdu SR No 13/2005-R which can be considered to be a significant positive feature with a strong qualitative element. However, the Accreditation Commission adopted a rule under which “In accordance with Paragraphs 10 and 13 of the Criteria, an institution can submit a different output, for example, an *engineering project*, as provided for by Directive of the MoEdu SR No 13/2005-R. The number of such outputs must not exceed 10.” Each of the fields of research could define their own classification of publication outputs so that an assessment of this attribute at individual faculties could be carried out unambiguously. The following list of indicators was used as the “standard” level “A” assessment (used for 16 of 24 fields):

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A	<ul style="list-style-type: none">• A scientific study in a journal registered in an international professional database.• A study in scientific proceedings of a global congress/conference issued by a renowned foreign publisher.• A monograph published by a renowned or important foreign publisher.• A study in a journal or proceedings having the nature of a scientific monograph published by a renowned or important foreign publisher.
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Technical fields extended this list with patents and medical fields moved monographs to the first position. Other fields (6 of 24) did not differ much from the above-mentioned “standard” in the parameters of their outputs. What can be seen as departing from the standard is the decision by the fields of “Physics, and Earth and Universe Sciences” and “Chemistry, Chemical Technologies, and Biotechnologies” that used the only indicator – 90% median impact factor for publications in Current Contents. These fields found no other parameter of publication outputs relevant. There are also other relevant scientometric indicators¹⁰ of research performance quality currently available.

Considering the generally accepted weight of this attribute at 50% (minimum 40%, mean 50%, maximum 60%) and its significantly qualitative character, this attribute was (probably) assumed to most significantly contribute to different classification of higher education institutions in the assessment of their research. What can be seen as a shortcoming of this attribute is the absence of at least one additional indicator of a clearly qualitative nature such as, for example, the citation index.

ENVIRONMENTAL ATTRIBUTE

Four parameters of PhD studies and two parameters of grant success were assessed as part of the “Environment”, the particular values corresponding to suggestions from the respective higher education institutions or faculties:

¹⁰ A principal component analysis of 39 scientific impact measures.

Johan Bollen¹;_, Herbert Van de Sompel¹, Aric Hagberg²;, and Ryan Chute¹,

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PLoS ONE 4(6): e6022.doi:10.1371/journal.pone.0006022

URL <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0006022>

arXiv:0902.2183v2, 29 Jun 2009

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- (a) average number of PhD students admitted per faculty member and year, one supervisor being able to have no more than 5 PhD students including the external ones,
- (b) number of PhD students graduating relative to the total number admitted per year,
- (c) participation of PhD students in project work,
- (d) publication outputs of PhD students,
- (e) share of foreign grants in all grants,
- (f) grant funding per faculty member.

What could be seen as surprising is the fact that the AC did not consider this list to be obligatory and some fields could obtain the “A” grade even if they “used” only a small portion of this list. No field is known to get a negative assessment for ignoring one or several of the above-mentioned indicators. It is definitely a surprise that such fields as chemistry or physics used only half of these parameters and some other (4 in total) used only two of the six parameters, i.e., 1/3!

An overview of achievement of individual indicators is given in Table 3. It shows that most fields consider research performance to be at the “A” level when:

- (a) at least 30% of supervisors have at least one PhD student (10 of 24), other 7 fields setting this level at 20%. The remaining 5 fields defined no level for this parameter,
- (b) at least 50% of PhD students completes their PhD studies (18 of 24 fields),
- (c) the participation of PhD students in project work is at least 10 – 30% (15 of 24).

What should be seen as a positive feature is that this participation is linked to international projects. A fourth of the fields (6 of 24) did not use this parameter at all, including chemistry, physics and other Earth sciences, information sciences and engineering and technologies!

- (d) it was generally agreed to be sufficient for the “A” level if 1/3 of PhD students have at least one publication abroad (22 of 24 fields). This was also the only parameter that was used by all fields,
- (e) half (12 of 24) fields agreed a 10% share of international projects in all projects to be sufficient for the “A” level. Five fields used a difficult-to-apply statement under which for an “A” assessment, “data for the faculty in the relevant field per faculty member has the standard of the best 10 – 15% in Slovakia”. It is not apparent who and how determines “the best 10 – 15% in Slovakia”.

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Table 3. Indicators of the environmental attribute and their levels for an A assessment.

FIELD	INDICATOR					
	<i>Average number of PhD students admitted per faculty member and year, one supervisor being able to have no more than 5 PhD students including the external ones</i>	<i>Number of PhD students graduating relative to the total number admitted per year</i>	<i>Participation of PhD students in project work</i>	<i>Publication outputs of PhD students</i>	<i>Number of international grants in the total number of grants of at least</i>	<i>Grant funding per faculty member in SKK</i>
1 Pedagogical sciences	A – 20% have 1 PhD	A – 50%	10% in intl. projects	A – 33% intl. publ.	A – 10%	A – 40,000
2 Humanities	A – 20% have 1 PhD	A – 50%	10% in intl. projects	A – 33% intl. publ.	A – 10%	A – 40,000
3 Historical sciences and ethnology	A – 20% have 1 PhD	A – 50%	10% in intl. projects	A – 33% intl. publ.	A – 10%	A – 40,000
4 Arts	A – 30% have 1 PhD	A – 50%	30 % in intl. projects	A – 33% intl. publ.	A – 10%	A – 50,000
5 Design, engineering and technology, water management	0	0	0	A – 33% intl. publ.	A – top 10 – 15% in the SR	0
6 Social and behavioural sciences	A – 20% have 1 PhD	A – 50%	10% in intl. projects	A – 33% intl. publ.	A – 10%	A – 40,000
7 Law and international relations	A – 20% have 1 PhD	A – 40%	10% in intl. projects	A – 20% intl. publ.	A – 10%	A – 30,000
8 Economics and management	A – 30% have 1 PhD	A – 30%	30% in intl. projects	A – 33% CC publ.	A – 5%	A – 50,000
9 Physics, and earth and universe sciences	0	A – 50%	0	A – 33% CC publ.	0	A – 75,000
10 Environmentalistics and ecology	0	0	0	A – 33% intl. publ.	A – top 10 – 15% in the SR	0
11 Metallurgical and mountain sciences	0	0	0	A – 33% intl. publ.	A – top 10 – 15% in the SR	0
12 Chemistry, chemical technology and biotechnology	0	A – 50%	0	A – 33% intl. publ.	0	A – 75,000
13 Life sciences	A – 30% have 1 PhD	A – 50%	30% in intl. projects	A – 33% intl. publ.	A – top 10 – 15% in the SR	
14 Engineering	A – 30% have 1 PhD	A – 50%	30% in intl. projects	A – 33% intl. publ.	A – 10%	A – 80,000
15 Electrical engineering and power engineering	A – 30% have 1 PhD	A – 50%	30% in intl. projects	A – 33% intl. publ.	A – 10%	A – 80,000
16 Information sciences, automation and telecommunications	0	0	0	A – 33% intl. publ.	A – top 10 – 15% in the SR	0
17 Engineering and technologies	A – 30% have 1 PhD	A – 50%	30% in intl. projects	A – 33% intl. publ.	A – 10%	A – 80,000
18 Medical and pharmaceutical sciences	A – 30% have 1 PhD	A – 50%	60% participation	A – 33% intl. publ.	3 foreign grants	A – 50,000
19 Agricultural and forestry sciences	A – 30% have 1 PhD	A – 50%	30% in intl. projects	A – 33% intl. publ.	A – 10%	A – 50,001

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20 Veterinary sciences	A – 30% have 1 PhD	A – 50%	60% participation	A – 33% intl. publ.	3 foreign grants	A – 50,000
21 Sports sciences	A – 20% have 1 PhD	A – 50%	10% in intl. projects	A – 33% intl. publ.	A – 10%	A – 40,000
22 Transportation services	A – 30% have 1 PhD	A – 50%	30% in intl. projects	A – 33% intl. publ.	A – 10%	A – 80,000
23 Security services	A – 20% have 1 PhD	A – 50%	10% in intl. projects	A – 33% intl. publ.	A – 10%	A – 40,000
24 Mathematics and statistics	0	A – 50%	90% participation	A – 3 publications	0	0

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- (f) The exact sum per faculty member was determined by a total of 18 of 24 fields between SKK 30,000 and 80,000.

It can be concluded in summary that the environmental attribute represents a mixture of ad hoc agreed and quantified, non-obligatory indicators/parameters of a rather quantitative nature with a certain qualitative element. The parameter of PhD student publications can also be considered a qualitative parameter which was correctly used by all fields. These indicators are a disappointment in the group of fields that used only part of them, this concerning particularly the fields like chemistry and physics inherently involving PhD studies as well as work in grant research. The indicators for the attribute were used as the minimum threshold for the assessment of the faculty in this attribute. For this purpose, their choice was sufficient.

APPRAISAL ATTRIBUTE

The appraisal attribute was mostly assigned weights between 15% and 20%. This is a relatively significant weight with respect to the fact that this attribute was assessed in the manner of a peer review. This is corroborated by quotations from the Detailed Rules which were chronically repeated:

Quality of research infrastructure

“A working group will verify the situation at the respective institution and decide on the category ad hoc.”

Other aspects

“A working group will verify the situation at the institution and decide on the category ad hoc.”

“A description of instrumental, informational and computing equipment for research purposes is submitted. The working group will make the assessment on the spot.”

“On the basis of documents submitted, complemented with findings in place where necessary, the working group will make the assessment on the spot.”

At the same time, as suggested by the contents of this attribute in the form of the so-called indicators, this attribute as a whole has a low informative value, the lowest among other attributes. The selected “indicators” imply rather the position or quality of individuals rather than the quality of the institution.

With respect to the procedure used it should be said that this attribute was not only subjective in its nature as such but also subjectively evaluated! As the working groups that evaluated and verified the achievements in this attribute on the spot were different, the final

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assessment of this attribute was exclusively a measure of their impressions of what they saw and experienced on the spot complemented with the “name”, i.e., traditional social “evaluation” of the faculty for which the attribute was being assessed.

With respect to the nature of the attribute, it could subjectively affect the entire assessment of the faculty, including to a significant extent, and thereby contribute to the general classification of the higher education institution.

Conclusion

In general, the Detailed Rules can be considered a consensually prepared but inhomogeneous set of rules which the AC adhered to when assessing research. The Detailed Rules put a relatively strong emphasis on the specific features agreed ad hoc, including ad hoc defined weights of individual attributes. The Detailed Rules include a peer review element in the form of a subjective “on the spot” assessment with a very high weight of such an assessment (at least 15%). Although this ensured the “closeness” of the rules to the expectations of the assessed and such an “accommodating attitude” offers less reasons for criticism, it makes the Detailed Rules less objective.

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Criteria used for statements concerning the classification of higher education institutions (Appendix 4)

The Ministry of Education of the Slovak Republic, in accordance with Section 82(7) of Act No. 131/2002 on Higher Education amending and supplementing certain laws, having heard the opinions of the Accreditation Commission and representation bodies of higher education institutions, approved, with effect as of 1 January 2009 and under the reference CD-2007-16256/50355-5:071, the Criteria Used for Statements Concerning the Classification of Higher Education Institutions (Hereinafter the “Criteria”). These are included as Appendix 4 hereto. It should be noted that the General Prosecutor objected against these classifications but the Slovak Government rejected his protest. This decision cancelled the Criteria for the Inclusion of University-Type Higher Education Institutions among Research Universities issued by the Ministry on 8 March 2006 and the Criteria for the Inclusion of Higher Education Institutions among University-Type Higher Education Institutions issued by the Ministry on 8 March 2006.

The criteria represent a set of rules summarising the results of assessment of research in individual fields by faculties and higher education institutions completed with rules for the assessment of educational activities at higher education institutions. Such a simple set of (6 or 3) criteria enabled differentiating the previously homogeneous group of higher education institutions, most of which carry the name “university”, into three separate groups of higher education institutions. The first group will include **“University-Type Higher Education Institutions” (6 criteria)**, the second group will include **“Higher Education Institutions Not Included among University-Type Higher Education Institutions or Special Higher Education Institutions” (3 criteria)**, and the third group will include **“Special Higher Education Institutions” (3 criteria)**. All criteria have the nature of a minimum threshold. The criteria were defined arbitrarily by the Ministry of Education, without participation by the assessed, and agglomerated into attributes. For statements concerning the classification of higher education institutions, the following attributes (agglomerated criteria) were used:

“University-Type Higher Education Institutions”

- (a) Results of the higher education institution in the field of research,
- (b) Results of the higher education institution in conducting third-level study programmes,

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- (c) Conditions of the higher education institution for conducting first- and second-level study programmes and their personnel capacities.

“Higher Education Institutions Not Included among University-Type Higher Education Institutions or Special Higher Education Institutions”

- (a) Results of the higher education institution in the field of research,
- (b) Conditions of the higher education institution for conducting first- and second-level study programmes and their personnel capacities.

“Special Higher Education Institutions”

- (a) The standard of activities in the field of science, technology, or art, which is the basis for conducting the study programmes, and the extent to which the study programmes are in accordance with the state of the art and with the development in the field of science, technology, or art;
- (b) Conditions of the higher education institution for conducting study programmes and their personnel capacities.

An analysis of the Criteria attributes implies a somewhat surprising observation, namely that those intended for the assessment of research are not fully consistent with the Detailed Rules for the assessment of the corresponding field of research. The consistency of the Criteria and the Detailed Rules consists in compiling the entire assessment of the relevant fields of research by means of the Rules and using this result by the Criteria as the first criterion. The inconsistency of the Criteria with the Rules consists in the fact that the Criteria use individual indicators of individual parts of individual attributes from the Rules as additional parameters/criteria. Thus from 6 indicators of the environmental attribute of the Rules, the Criteria use the indicator “funding through research grants and projects relative to the registered adjusted number of associate professors, professors, and creative research workers” as a separate “criterion” within the attribute “results of the higher education institution in the field of research”. This criterion was also used for **“Special Higher Education Institutions”**, although for this group the assessment did not cover the results of the higher education institution in the field of research but rather *“the standard of activities in the field of science, technology, or art, which is the basis for conducting the study programmes, and the extent to which the study programmes are in accordance with the state of the art and with the development in the field of science, technology, or art”*. That means

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that this parameter, affecting the result of the overall assessment in the field of research, thereby also the result of the faculty and thereby that of the higher education institution, was used repeatedly as a separate criterion.

Likewise, the Criteria defined the **“results of the higher education institution in conducting third-level study programmes”** as a separate attribute for the classification of higher education institutions, albeit applicable only to “University-Type Higher Education Institutions”. The inconsistency of the Criteria with the Rules consists in the fact that the authors of the Criteria took two indicators from the Rules’ environmental attribute as separate criteria, namely the indicator *“publication outputs of PhD students”*, although with a moderately adjusted text of *“outputs of the research by students and PhD graduates”* and the indicator *“average number of PhD students admitted per faculty member and year, one supervisor being able to have no more than 5 PhD students including the external ones”* also with a modified text – *“number of full-time PhD students relative to the adjusted registered number of associate processors and professors (positions)”*, which is certainly a more accurate and correct definition than the original one in the Rules. Even these criteria mean nothing else but a repeated use of indicators already applied, namely in the criterion **“results of the higher education institution in the field of research”**.

In addition to the above-mentioned duplicity, this criterion was innovated, adding the parameter *„number of PhD graduates per professor position“* instead of the parameter *“number of PhD students graduating relative to the total number admitted per year”* used in the Rules. This innovation certainly includes a stronger qualitative element than the original parameter from the Rules. This attribute is not used for classification into the other two groups of higher education institutions which is essentially a confirmation of the assumption that only university-type higher education institutions will be eligible for accreditation for third-level studies.

The above implies that the original parameters of the environmental attribute of the Rules were divided into two groups (grants and PhD studies) and used as separate criteria (in the attribute of research) and as a separate attribute of the Criteria. This means duplicity in the use of not an insignificant part of the Rules’ indicators and thereby an influence on the classification of higher education institutions by this very duplicity.

For a higher education institution to be included among the **“Higher Education Institutions Not Included among University-Type Higher Education Institutions or Special Higher Education Institutions”** or among the **“Special Higher Education Institutions”**, it was sufficient to satisfy the attribute *“results of the higher education*

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institution in the field of research” or “the standard of activities in the field of science, technology, or art, which is the basis for conducting the study programmes, and the extent to which the study programmes are in accordance with the state of the art and with the development in the field of science, technology, or art” in its adequately reduced criteria for research outputs and grants, without the criteria of the PhD studies.

The attribute **“conditions of the higher education institution for conducting first- and second-level study programmes and their personnel capacities”**, was used universally for the classification to any of the groups, quantifying the individualisation or massification of education. The attribute had the only criterion – **“number of students in first- and second-level study programmes relative to a calculated number of registered higher education teachers”**. The criterion carries a strong element of quality. Its quantification could bring the possibility of distinguishing forms of study and programmes involving experimentation and individual approach from programmes that do not require or that neglect experimental or individual forms of teaching (laboratory exercises, bedside teaching, etc.). It is to the detriment of the Criteria that out of several criteria characteristic of the quality of the study offered, only one was used. However, it is true that even this one significantly (perhaps in a decisive manner) contributed to differentiation of higher education institutions.

Conclusion

The criteria used by the MoEdu SR for classification of higher education institutions in three qualitatively differing types of higher education institutions represent a simplified model of a very specific rating. Compared to the Rules, they carry more significant elements of quality. The emphasis on the criteria of research performance enabled the assessors to differentiate higher education institutions using a dimension that separates universities from higher education institutions also in other countries. However, the low-set threshold values of individual indicators but also entire attributes, which represented values close to the Slovak average, meant that the resulting differentiation is not sufficiently vigorous and well established. In other words, it does not completely separate the “university” grain from “non-university” crops.

RESULTS (original)¹¹ 100

The Accreditation Commission (hereinafter the AC) conducted a Comprehensive Accreditation of a total of 27 higher education institutions of the Slovak Republic in all three

¹¹ Results of the Comprehensive Accreditation according to AC assessment reports as at 23 October 2009

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categories, i.e., public, state, and private ones. With respect to the legislation in force, Comprehensive Accreditation of branches of foreign higher education institutions operating in the Slovak Republic was not carried out. The results are available in the form of minutes of AC meetings published at www.akredkom.sk. The minutes of AC meetings contain the results of Comprehensive Accreditation of higher education institutions and proposals for their classification. Most of the proposals include an introduction, the contents structured into five chapters, and a conclusion. The contents are structured into the following typical chapters:

1. *Assessment of the achievement of the mission and tasks of the XY university/higher education institution/academy;*
2. *Statement of the Accreditation Commission concerning the ability of the XY university/higher education institution/academy to conduct the study programmes whose accreditation the higher education institution applied for;*
3. *Statement of the Accreditation Commission concerning the ability of the XY university/higher education institution/academy to conduct habilitation procedures and professor appointment procedures whose accreditation the higher education institution applied for;*
4. *Assessment of the research, development, artistic and other creative activity of the XY university/higher education institution/academy;*
5. *Statement of the Accreditation Commission concerning the classification of the XY university/higher education institution/academy under Section 2(13) of the Higher Education Act.*

There are exceptions from this “standard” in some minutes that do not have a conclusion or have more or fewer chapters. For example, the minutes of the results of the Comprehensive Accreditation of the Academy of Arts in Banská Bystrica do not include the chapter on the statement of the Accreditation Commission concerning the ability of the Academy to conduct habilitation procedures and professor appointment procedures, while the minutes of the results of the Comprehensive Accreditation of the Slovak University of Technology in Bratislava has as many as six chapters, not having a conclusion but chapter 6. Likewise, the contents of individual chapters, particularly chapter 4 – *Assessment of the research, development, artistic and other creative activity* – does not have a completely standard form in all minutes. Sometimes, the contents are not structured clearly and the resulting assessment of individual fields of research is not sufficiently highlighted and has to be searched for in the text. However, as far as the design of the minutes is concerned, the AC cannot be accused of lack of effort to find an appropriate standard.

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Classification of higher education institutions

The classification of higher education institutions (which are systematically ranked by ARRA – 20 public and 1 private higher education institution) is shown in Table 4 according to the results of the Comprehensive Accreditation included in the minutes of the Accreditation Commission. The table implies that all higher education institutions were classified either as university-type higher education institutions (classification A) or as non-university-type higher education institutions (classification B). None of the higher education institutions in this set was classified as a special higher education institution (classification C). This indicates the low resolution of the Comprehensive Accreditation, also affected by the apparent measure of subjectivity (“on the spot” classification, assessing the “quality” of research infrastructure as a qualitative element, etc.). The Accreditation Commission proceeded correctly and consequently when making statements on the classification of higher education institutions until 23 October 2009, classifying as university-type higher education institutions only those that satisfied (although to different extents) all Criteria for Classification as a University (the “CCU”) at least at the minimum required level. The AC was less consequent in its own comprehensive assessment and/or statements on classification of those higher education institutions that were classified B. In this group, four different methodical approaches of the AC can be identified. The first group includes those higher education institutions that failed to meet at least one of the CCU criteria (7 higher education institutions in total). The AC then “automatically” classified them B without stating in the minutes to what an extent they meet the Criteria for Classification as a Higher Education Institution (the “CCHEI”)¹². It proceeded similarly “automatically” in the case of two other higher education institutions (Prešov University and Trenčín University) that failed to meet more than one CCU criterion but the AC makes no statements to what an extent they satisfied the CCHEI criteria. It may be obvious from the level of non-satisfaction of the CCU criteria, however, there is no mention of that. On the other hand, in the case of the next two higher education institutions (the Catholic University and the University of SS. Cyril and Methodius in Trnava), the AC was consequent. The minutes of the Comprehensive Accreditation of these higher education institutions include a clear statement by the AC on the failure to satisfy the CCU criteria and on the satisfaction (including the extent of satisfaction) of the CCHEI criteria. As for the remaining group of higher education institutions, the AC states without

¹² After 23 October 2009, the AC treated part of higher education institutions in this group in a special manner which is commented in chapter RESULTS 2

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explanation in the minutes that these were assessed exclusively on the basis of satisfaction of the CCHEI criteria.

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Table 4. Classification of higher education institutions according to Comprehensive Accreditation assessment reports until 23 October 2009

Higher Education Institution	CCU 1	CCU 2	CCU 3	CCU 4	CCU 5	CCU 6	Classification	CCHEI 1	CCHEI 2	CCHEI 3	Classification
University of Veterinary Medicine	+	+	+	+	+	+	A				
Comenius University	+	+	+	+	+	+	A				
Pavol Jozef Šafárik University	+	+	+	+	+	+	A				
St. Elizabeth University	+	+	+	+	+	+	A				
Technical University in Zvolen	+	+	+	+	+	+	A				
Slovak University of Technology	+	+	+	+	+	+	A				
Technical University of Košice	+	+	+	+	+	+	A				
University of Economics	+	+	+	+	+	-	B				
Slovak University of Agriculture	+	+	+	+	+	-	B				
Matej Bel University	+	+	+	+	+	-	B				
University of Žilina	+	+	+	+	+	-	B				
Constantine the Philosopher University	+	+	+	+	+	-	B				
Academy of Music and Performing Arts	+	-	+	+	+	+	B				
Academy of Fine Arts and Design	+	+	-	+	-	+	B				
University of Prešov	+	-	+	+	-	-	B				
Trnava University	+	-	-	-	+	-	B				
Catholic University	-	+	-	+	-	-		+	+	+	B
University of SS. Cyril and Methodius			-		-	-		+	+	+	B
Academy of Arts								+	+	+	B
J. Selye University								+	+	+	B
Alexander Dubček University in Trenčín								+	+	+	B

+ means a criterion met
 - means a criterion not met
 "A" means a university-type higher education institution
 "B" means an unclassified higher education institution

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Classification of faculties

For the Comprehensive Accreditation, similarly as for any other assessment, it is valid that the higher (more general) the organisational level at which higher education institutions are classified, the less accurate is the result. Therefore the attention was subsequently focused on the classification of individual faculties which provides a better idea of the quality of the corresponding activity. For principal reasons but also to reach the objective of the Comprehensive Accreditation which was the classification of higher education institutions depending on the quality of research and other creative activity including the third-level higher education, the classification of research and other creative activity of faculties as made by the AC was analysed as part of the Comprehensive Accreditation. Table 5 shows the classification of creative activity by fields of research at individual faculties of higher education institutions. In total, 24 fields of research (hereinafter the “FoR”) were classified 252 times (Appendix 1). The distribution of character-based classification along with the distribution of the reduced classification is shown in Figure 3. The distribution of classification shows a nearly perfect spread of classification characters throughout the scale, the AC using 9 or 10 grades in the classification. The classification grade D+ was used only once (for Comenius University’s Faculty of Education, FoR 13, Life Sciences). In the case of the reduced classification which defines the separation line between university-type and other higher education institutions (the A classification includes also FoR’s with the original classification B+), the distribution of character-based classification is clearly shifted towards the A classification. This is the basis of the indistinctly differentiated general classification of higher education institutions. A summary view of the FoR classification shows certain interesting situations where although some FoR classification grade prevails, it is not essential for the classification of a higher education institution. For example, the Technical University in Košice has 6 FoR’s in the A classification and 14 FoR’s in the B classification, which is typical of unclassified higher education institutions, but is still classified A as a university-type higher education institution (A). Likewise, the Technical University in Zvolen having only two A-classified FoR’s, 5 more FoR’s classified B and even 4 FoR’s classified C still has the general classification of a university-type higher education institution (A). On the other hand, the Slovak University of Agriculture in Nitra has 6 A-classified FoR’s, 3 B-classified FoR’s, but as such was classified as a non-university-type higher education institution (B). In other words, the quality of individual fields of research or their summary were not the critical factors in the classification of higher education institutions. This is an indication of the Comprehensive Accreditation methodology being purpose-oriented rather

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than principally focused on characteristics typical of the differentiation between universities and non-universities which characteristics include primarily and above all the standard of research measured by its outputs.

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Table 5. Classification of creative activity by fields of research at individual faculties of higher education institutions

FACULTY	HIGHER EDUCATION INSTITUTION	Classification of creative activity	Classification of creative activity	Reduced classification	Comprehensive Accreditation
		FACULTIES	FACULTIES	FACULTIES	INSTITUTION
		[FoR rating]	[average FoR points]	[reduced FoR rating]	[rating]
	AU	2B/1C	2B/1C		B
Faculty of Music	Academy of Arts	B+	81,3	A	
Faculty of Fine Arts	Academy of Arts	B+	81,3	A	
Faculty of Dramatic Arts	Academy of Arts	C+	56,3	C	
	EU	2A/4B/1C	2A/4B/1C		B
Faculty of National Economy	University of Economics	A-	87,5	A	
Faculty of Business	University of Economics	A-	87,5	A	
Faculty of Business Management	University of Economics	B	68,8	B	
Faculty of Business Economics	University of Economics	B	68,8	B	
Faculty of Economic Informatics	University of Economics	B/B-	65,7	B	
Faculty of International Relations	University of Economics	C+	56,3	C	
	KU	7B/8C	7B/8C		B
Faculty of Theology	Catholic University	B/B/C+	64,6	B	
Faculty of Education	Catholic University	B-/B/B-/C-/C/C/C+/C/B+	56,9	C	
Faculty of Healthcare	Catholic University	C+	56,3	C	
Faculty of Philosophy	Catholic University	C/B+	62,55	B	
	PU	1A/12B/3C	1A/12B/3C		B
Greek Catholic Faculty of Theology	University of Prešov	B+	81,3	A	
Faculty of Philosophy	University of Prešov	C+/A-/B+/B+/B+	77,5	B	
Faculty of Humanities and Natural Sciences	University of Prešov	B-/B+/B/B+/B	71,9	B	
Faculty of Education	University of Prešov	B	68,8	B	

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Faculty of Orthodox Theology	University of Prešov	B+/C+	68,8	B	
Faculty of Healthcare	University of Prešov	C	43,8	C	
Faculty of Management	University of Prešov	/	/	/	
Faculty of Sports	University of Prešov	/	/	/	
	SPU	5A/3B	5A/3B		B
Faculty of Horticulture and Landscape Engineering	Slovak University of Agriculture	A	93,8	A	
Faculty of Engineering	Slovak University of Agriculture	A	93,8	A	
Faculty of Economics and Management	Slovak University of Agriculture	A-	87,5	A	
Faculty of Biotechnology and Food Sciences	Slovak University of Agriculture	B+/B+/A-	83,4	A	
Faculty of Agrobiolgy and Food Resources	Slovak University of Agriculture	B/A	81,3	A	
Faculty of European Studies and Regional Development	Slovak University of Agriculture	/	/	/	
	STU	13A/13B/1C	13A/13B/1C		A
Faculty of Architecture	Slovak University of Technology	A-/A/A	91,7	A	
Faculty of Chemical and Food Technology	Slovak University of Technology	A/A/B+/	89,6	A	
Faculty of Civil Engineering	Slovak University of Technology	A/A/B+	89,6	A	
Faculty of Informatics and Information Technologies	Slovak University of Technology	A-	87,5	A	
Faculty of Electrical Engineering and Informatics	Slovak University of Technology	B+/A/A/B+/B+	86,3	A	
University workplaces	Slovak University of Technology	A/B	81,3	A	
Faculty of Material Sciences and Technology	Slovak University of Technology	B-/A/A/B/B+	80,0	A	
Faculty of Mechanical Engineering	Slovak University of Technology	B/C+/B+/B/B	68,8	B	
	TUKE	6A/14B	6A/14B		A
Faculty of Electrical Engineering and Informatics	Technical University of Košice	A	93,8	A	
Faculty of Manufacturing Technologies	Technical University of Košice	A-	87,5	A	
Faculty of Economics	Technical University of Košice	B+	81,3	A	
Faculty of Mining, Ecology, Process Control and Geotechnology	Technical University of Košice	B/A/B/A-	79,7	B	
Faculty of Metallurgy	Technical University of Košice	B+/A/B/B	78,2	B	
Faculty of Mechanical Engineering	Technical University of Košice	B/B+/B/A-/B/B+/B	75,0	B	
Faculty of Arts	Technical University of Košice	B	68,8	B	
Faculty of Civil Engineering	Technical University of Košice	B	68,8	B	

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Faculty of Aeronautics	Technical University of Košice	/	/	/	
	TUZVO	2A/5B/4C	2A/5B/4C		A
Faculty of Ecology and Environmental Sciences	Technical University in Zvolen	B	68,8	B	
Faculty of Wood Sciences and Technology	Technical University in Zvolen	C+/B-/A-/B-	67,2	B	
Faculty of Forestry	Technical University in Zvolen	B-/C/A-	64,6	B	
Faculty of Environmental and Manufacturing Technology	Technical University in Zvolen	B-/C-/C	47,9	C	
	TUAD	3B/2C	3B/2C		B
Faculty of Industrial Technologies	Alexander Dubček University in Trenčín	B+	81,3	A	
University workplaces	Alexander Dubček University in Trenčín	B+	81,3	A	
Faculty of Special Technology	Alexander Dubček University in Trenčín	B	68,8	B	
Faculty of Mechatronics	Alexander Dubček University in Trenčín	C+	56,3	C	
Faculty of Social and Economic Relations	Alexander Dubček University in Trenčín	C	43,8	C	
	TU	1A/5B/10C	1A/5B/10C		B
Faculty of Law	Trnava University	B+	81,3	A	
Faculty of Theology	Trnava University	B	68,8	B	
Faculty of Philosophy	Trnava University	B-/A-/C+/B	68,8	B	
Faculty of Education	Trnava University	B/C/C+/C/C/C/C/ C+	50,1	C	
Faculty of Healthcare and Social Work	Trnava University	C/C	43,8	C	
	UJS	3B/4C	3B/4C		B
Faculty of Reformed Theology	J. Selye University	B-	62,5	B	
Faculty of Education	J. Selye University	C+/B/B-/C/C+	57,5	C	
Faculty of Economics	J. Selye University	C+	56,3	C	
	UK	10A/15B/4C/1D	10A/15B/4C/1D		A

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Faculty of Mathematics, Physics, and Informatics	Comenius University	A/A/A	93,8	A	
Faculty of Pharmacy	Comenius University	A	93,8	A	
Jessenius Faculty of Medicine	Comenius University	A	93,8	A	
Faculty of Medicine	Comenius University	A	93,8	A	
Faculty of Natural Sciences	Comenius University	B/A/A/A/A	88,8	A	
Faculty of Law	Comenius University	B+	81,3	A	
Faculty of Philosophy	Comenius University	B/B+/B/A-	76,6	B	
Evangelical Theological Faculty	Comenius University	B	68,8	B	
Faculty of Management	Comenius University	B	68,8	B	
Faculty of Social and Economic Sciences	Comenius University	B+/C+	68,8	B	
Roman Catholic Faculty of Theology of Cyril and Methodius	Comenius University	B/B	68,8	B	
Faculty of Physical Education and Sports	Comenius University	B-/C/B	58,4	C	
Faculty of Education	Comenius University	B-/C/B-/C/B-/D+	51,1	C	
	UKF	2A/11B/5C	2A/11B/5C		B
Faculty of Philosophy	Constantine the Philosopher University	A/B+/A-	87,5	A	
Faculty of Education	Constantine the Philosopher University	B/C+/B/B-	64,1	B	
Faculty of Social Sciences and Healthcare	Constantine the Philosopher University	B+/C	62,6	B	
Faculty of Natural Sciences	Constantine the Philosopher University	B-/B/C/B+/B-/C	60,5	C	
Faculty of Central European Studies	Constantine the Philosopher University	B-/B-/C	56,3	C	
	UMB	3A/7B/6C	3A/7B/6C		B
Faculty of Political Sciences	Matej Bel University	A/A-	90,7	A	
Faculty of Economics	Matej Bel University	A-	87,5	A	
Faculty of Humanities	Matej Bel University	B/B+	75,1	B	
Faculty of Law	Matej Bel University	B	68,8	B	
Faculty of Education	Matej Bel University	B+/C/B/B-	64,1	B	
Faculty of Natural Sciences	Matej Bel University	C/C+/B/C- /C+/C+/A	59,0	C	
	UPJŠ	8A/1B/1C	8A/1B/1C		A
Faculty of Medicine	Pavol Jozef Šafárik University	A	93,8	A	
Faculty of Natural Sciences	Pavol Jozef Šafárik University	B-/A/A-/A/A-/A	87,5	A	

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Faculty of Law	Pavol Jozef Šafárik University	A-	87,5	A	
Faculty of Public Administration	Pavol Jozef Šafárik University	C+	56,3	C	
	UCM	3B/5C	3B/5C		B
Faculty of Mass Media Communication	University of SS. Cyril and Methodius	B	68,8	B	
Faculty of Natural Sciences	University of SS. Cyril and Methodius	B/C-/C+	54,2	C	
Faculty of Philosophy	University of SS. Cyril and Methodius	C/C+/B-/C	51,6	C	
	UVL	2A/1B	2A/1B		A
University of Veterinary Medicine	University of Veterinary Medicine	B/A/A	85,5	A	
	VŠMU	2A/1B	2A/1B		B
Film and Television Faculty	Academy of Music and Performing Arts	A-	87,5	A	
Faculty of Music and Dance	Academy of Music and Performing Arts	A-	87,5	A	
Theatre Faculty	Academy of Music and Performing Arts	B+	81,3	A	
	VŠSA	1A/1B	1A/1B		A
St. Elizabeth University	St. Elizabeth University	A/B+	87,6	A	
	VŠVU	1A/1B	1A/1B		B
Academy of Fine Arts and Design	Academy of Fine Arts and Design	A/B-	78,2	B	
	ŽU	5A/9B/3C	5A/9B/3C		B
Faculty of Management Science & Informatics	University of Žilina	A-/B+	84,4	A	
Faculty of Civil Engineering	University of Žilina	B+/A-	84,4	A	
Faculty of Mechanical Engineering	University of Žilina	B/B+/A-	79,2	B	
Faculty of Operation and Economics of Transport and Communications	University of Žilina	B/A-	78,2	B	
Faculty of Electrical Engineering	University of Žilina	A-/B+/C	70,9	B	
Faculty of Special Engineering	University of Žilina	C+/B	62,6	B	
Faculty of Natural Sciences	University of Žilina	C/B-/B	58,4	C	

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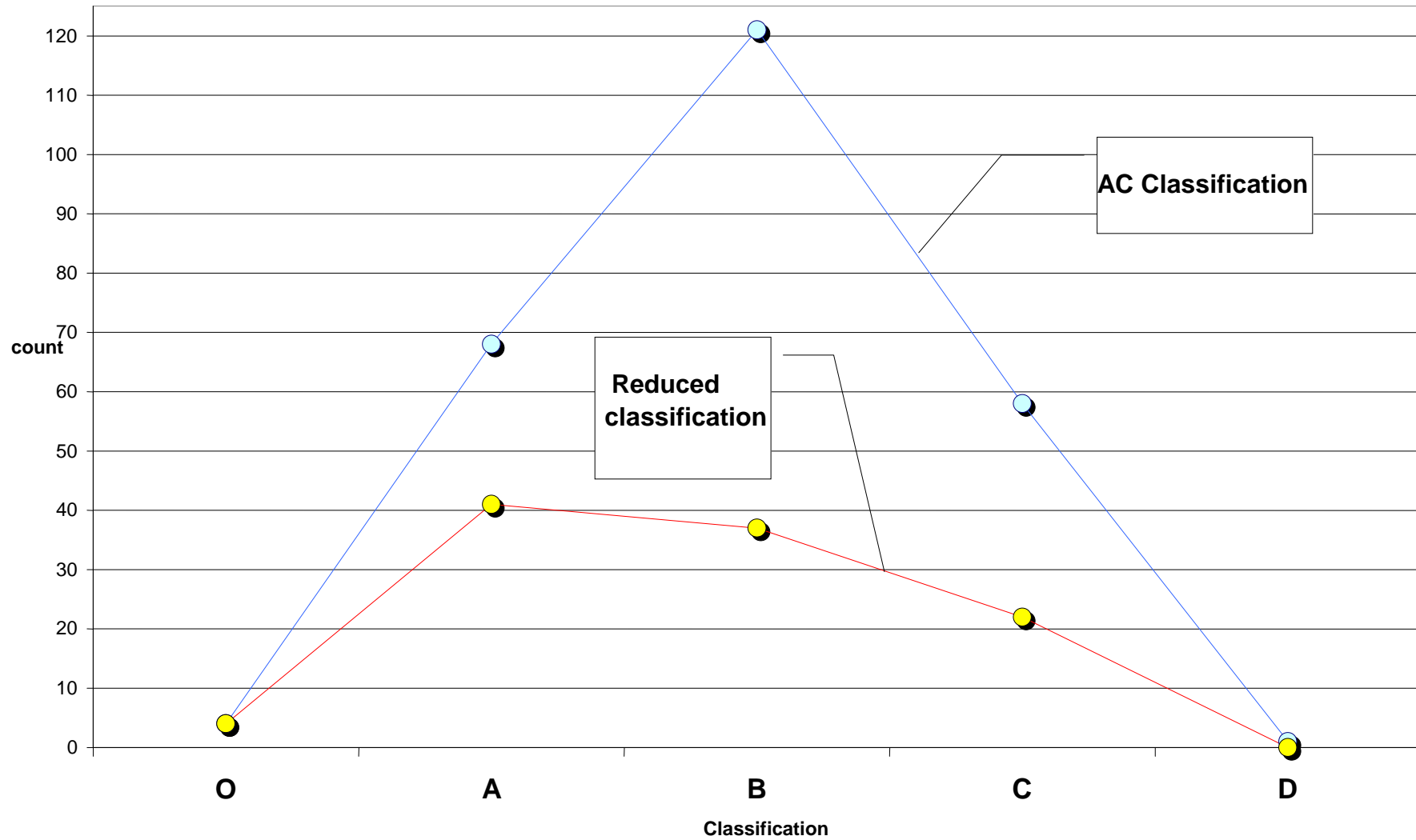


Figure 3. Distribution of the classification of fields of research in the Comprehensive Accreditation

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*RESULTS (final)*¹³ 100

The conclusion of the Comprehensive Accreditation process, the formation of the final decisions on the results, primarily on the classification of higher education institutions, and the transparency of this process and its results are apparently among Slovak peculiarities. The Comprehensive Accreditation of higher education institutions has not been completed even on 31 December 2009. There still are processes underway that rely on the provisions of Section 85 of Act No 175/2008 defining the conditions for “reclassification” of a higher education institution. Although the wording of the above-mentioned Section 85 clearly stipulates that a “reclassification” can be carried out for those higher education institutions that were already classified, all the indications are that it is being applied already as part of the primary (!) classification of higher education institutions, i.e., within the first Comprehensive Accreditation which constitutes a condition for such classification. Due to non-transparency in the conclusion of the Comprehensive Accreditation where the Ministry of Education failed to publish an official list of its decisions concerning the classification of higher education institutions, on the basis of publicly available data as presented below, doubts can be expressed as to the correctness of application of Section 85 in the conclusion of the Comprehensive Accreditation. Yet the impacts of these closing processes on the final classification are not negligible, as they significantly expand (almost doubling it) and will expand even further the group of “university-type higher education institutions”. This substantially reduces the objective weight of the Comprehensive Accreditation.

First of all, the website of the Ministry of Education of the Slovak Republic¹⁴ shows Decisions of the Ministry of Education provided to higher education institutions concerning the completion of the Comprehensive Accreditation of the institutions’ activities. Links to the documents are provided in Table 5. The name of the higher education institution in this table is a link to a file of data and decisions in the following structure:

(A) Date of completion of the Comprehensive Accreditation

(B) Assessment report

(C) Some or all types of “decisions” specified below

- Decision granting the right to award the corresponding academic titles to graduates

¹³ Results of the Comprehensive Accreditation according to the minutes of the 48th and 49th meeting of the Accreditation Commission

¹⁴ www.minedu.sk

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- Decision revoking the right to award the corresponding academic titles to graduates
- Decision rejecting an application for granting the right to award the corresponding academic titles to graduates
- Decision granting the right to conduct habilitation procedures and professor appointment procedures
- Decision suspending the right to conduct habilitation procedures and professor appointment procedures
- Decision revoking the right to conduct habilitation procedures and professor appointment procedures
- Decision rejecting an application for granting the right to conduct habilitation procedures and professor appointment procedures

However, these documents lack the critical information about the result of the Comprehensive Accreditation which is the decision on classification of the respective higher education institution. There is no other publicly available document of the MoEdu SR that would inform the public about the final result of the Comprehensive Accreditation, i.e., on the classification of those higher education institutions that were subject to Comprehensive Accreditation. We emphasise that this is the first Comprehensive Accreditation within the meaning of the law and thus a primary classification of higher education institutions definitive for a long period of time. It is the more serious that until now, the public officially learned nothing specific about their classification.

Table 5. Decisions of the Ministry of Education provided to higher education institutions concerning the completion of the Comprehensive Accreditation of their activities

<i>Institution Name</i>	<i>Completion of the Comprehensive Accreditation</i>
<u>University of Veterinary Medicine in Košice</u>	8 January 2009
<u>Academy of Fine Arts and Design in Bratislava</u>	10 July 2009
<u>Technical University in Zvolen</u>	13 July 2009
<u>Academy of Music and Performing Arts in Bratislava</u>	15 July 2009
<u>Police Corps Academy in Bratislava</u>	15 July 2009
<u>University of Economics in Bratislava</u>	21 July 2009
<u>Matej Bel University in Banská Bystrica</u>	21 August 2009
<u>Slovak University of Technology in Bratislava</u>	14 September 2009
<u>Comenius University in Bratislava</u>	17 September 2009
<u>Slovak University of Agriculture in Nitra</u>	21 October 2009
<u>Prešov University in Prešov</u>	22 October 2009
<u>J. Selye University</u>	30 October 2009
<u>Trnava University in Trnava</u>	2 November 2009
<u>Academy of Arts in Banská Bystrica</u>	3 November 2009
<u>Žilina University in Žilina</u>	3 November 2009
<u>Pavol Jozef Šafárik University in Košice</u>	3 November 2009

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Trenčín University of Alexander Dubček in Trenčín	9 November 2009
Technical University in Košice	19 November 2009
Constantine the Philosopher University in Nitra	30 November 2009
University of SS. Cyril and Methodius in Trnava	4 December 2009
Catholic University in Ružomberok	13 December 2009

From the viewpoint of substance, the conclusion of the Comprehensive Accreditation is interesting. It may not be contrary to the law and therefore it is rather a fault of the legislator but enabling a prompt reaction by those who were caught having deficiencies and accepting it equally promptly does not suggest a fair attitude and responsibility to the higher education system and its institutions. The very formulation that when deficiencies are found, it is sufficient to “adopt measures to correct the deficiencies” rather than to correct the deficiencies is alarming. It suggests that it is sufficient to write several so-called measures, “commit” to their implementation and the life goes on as before. (Empty) promises suffice! Probably final results of the Comprehensive Accreditation of higher education institutions are provided in Table 6. Universities, whose classification has not been carried out yet but the expected conclusions are obvious, as well as higher education institutions, whose Comprehensive Accreditation has not been completed yet, have their classification indicated in parentheses. The result of the Comprehensive Accreditation is a simple classification when a total of 11 out of 20 obtained the classification of “University-Type Higher Education Institutions” and a total of 9 out of 20 obtained the classification of “Unclassified Higher Education Institutions”, one of the higher education institutions not having completed the Comprehensive Accreditation as at 31 December 2009 with the previous decisions of the Accreditation Commission suggesting rather the “Special Higher Education Institution” classification for this institution as the only one of this type.

CONCLUSION

The above-mentioned, probably final results of the first Comprehensive Accreditation of Slovak higher education institutions are also a reflection of part of our society’s thinking. The ambiguous law, subsequently the course of the process but also the use and handling of the results after its conclusion including the classification of higher education institutions significantly affected the entire process and particularly the “adjustment” of the results following the conclusion of the CA quite certainly did not contribute to improving credibility of this procedure for the assessment of Slovak higher education institutions’ quality. The Comprehensive Accreditation did not result in an actual differentiation of the existing

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monoculture of universities but only in its separation into two evenly divided groups of higher education institutions. Although the result achieved is a certain step towards a structured system of higher education institutions, it failed to meet the expectations that accompanied it (including publicly) and it is not a substantial contribution to further development of higher education in Slovakia. Slovakia, with its population of 5.3 million not differing from other populations, does not have the capacity for 11 universities, regardless of the claims of formal or other authorities. Therefore we believe that the original classification before the “adjustments”, even if reservations could be voiced mentioned previously in the text, was closer to reality than the one that was published (?) as definitive.

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Table 6. Classification of higher education institutions according to Comprehensive Accreditation reports as at 31 December 2009

Higher Education Institution	CCU 1	CCU 2	CCU 3	CCU 4	CCU 5	CCU 6	Classification	CCHEI 1	CCHEI 2	CCHEI 3	Classification
UVL	+	+	+	+	+	+	A				
UK	+	+	+	+	+	+	A				
UPJŠ	+	+	+	+	+	+	A				
TUZVO	+	+	+	+	+	+	A				
STU	+	+	+	+	+	+	A				
TUKE	+	+	+	+	+	+	A				
SPU	+	+	+	+	+	(+)	A				
ŽU	+	+	+	+	+	(+)	A				
EU	+	+	+	+	+	(+)	(A)				
UMB	+	+	+	+	+	(+)	(A)				
UKF	+	+	+	+	+	(+)	(A)				
VŠMU	+	-	+	+	+	+	B				
VŠVU	+	+	-	+	-	+	B				
PU	+	-	+	+	-	-	B				
TU	+	-	-	-	+	-	B				
KU	-	+	-	+	-	-		+	+	+	B
UCM			-		-	-		+	+	+	B
AU								+	+	+	B
UJS								+	+	+	B
TUAD								+	+	+	B
VŠSA	?	?	?	?	?	-				-	(C)

+ = a criterion met

(+) = criterion promised to be met ex post

- = a criterion not met

A,B = classification obtained

(A) = proposed classification

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ARRA RATING OF HIGHER EDUCATION INSTITUTIONS

INTRODUCTION

The present rating of Slovak higher education institutions is, after almost 15 years, another attempt to evaluate the existing situation (quality) of Slovak higher education institutions using instruments that are not usual in Slovakia. In the international academic community, ratings have not disappeared although they do not belong to the most frequently used approaches. Rankings became more popular, primarily through media. It applies globally that each rating or ranking must have a clearly defined objective/goal. It often happens that the results of a rating or ranking are presented or interpreted in a too simplified manner. Perhaps also because rankings use measurable and quantifiable indicators to assess the quality of institutions. Since there are relatively few such indicators or criteria in the pedagogical process and they are not unambiguous, moreover, they are mostly based on subjective perception, while the results of research are conversely well quantifiable, moreover, it is generally accepted that a high-quality higher education institution has a high quality because it has high-quality research, what is used is the research results-based criteria. It is also significant that the greatest opponents of rankings are institutions having poor, one could even say inferior or no results in research. Ranking or rating at the level of characteristic groups of scientific or study fields typically organised as ranking/rating of faculties or institutes is therefore substantially closer to reality than ranking/rating at the level of higher education institutions only.

We arrived at the idea of preparing, after a longer period of time, a rating of higher education institutions in Slovakia being inspired by the completion of a specific rating of higher education institutions which the Comprehensive Accreditation of higher education institutions in Slovakia undoubtedly is. The methodology and objective of the Comprehensive Accreditation, as implemented by the Accreditation Commission of the Slovak Republic in the last two years, carries all attributes of a typical rating. The methodology defined a series of selected indicators for higher education institutions and their evaluation on a scale of A – D typical of ratings. The Comprehensive Accreditation also has a clearly set objective which is the division of previously a homogeneous group of higher education institutions into a rating-typical hierarchy of university-type higher education institutions (“A”), unclassified higher education institutions (“B”) and special higher education institutions (“C”). Although the Accreditation Commission is reluctant to sort higher education institutions hierarchically on

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the basis of the Comprehensive Accreditation into a “rating”, in fact, the methodology of the Comprehensive Accreditation clearly defines it, namely by exactly determining the position of each of the defined groups of higher education institutions both in the system of higher education and in research. Such a hierarchical, that is, rating-type, differentiation, including with respect to funding, is even admitted by the Ministry of Education. The target group of the Comprehensive Accreditation is primarily the higher education institutions themselves and the Ministry of Education, secondarily the prospective students and thereby also the entire public.

The objective of the rating prepared by ARRA is primarily to provide the public with an alternative possibility of a “rating-style” view of higher education institutions and, secondly, to create a possibility for closer examination of the methods used in the Comprehensive Accreditation and ARRA Rating from the viewpoint of their correctness and accuracy of covering the real condition of higher education institutions.

METHODOLOGY

ARRA methodologies, as opposed to accreditation methodologies used by the AC, represent a different approach. ARRA uses a system of relative assessment scale. The relative scale uses the value of some of arbitrarily chosen parameters/indicators as a benchmark, against which the parameters/indicators of the assessed are evaluated. This case involves an approach that consequently follows the set objective which is a hierarchical arrangement of the assessed depending on the extent of their compliance with the independent criterion specified. This approach is independent of the assessed. In the case of rules set independently of the assessed, there is an advantage of them being determined more objectively, above all, from the viewpoint of the general goal of the assessment. In such a case, although the specified objective of assessment is easier to achieve, plenty of room opens for opposition of “everything” by “everybody”, even by entities not directly involved.

For ranking purposes, the benchmark used by ARRA is always the highest value of the parameter, i.e., the best faculty in the given group. As the performance in the given parameters is monitored only within Slovakia, this is a typical internal benchmark. For the purposes of this study, in addition to the traditional one, a different method for determining the benchmark has been used.

To be able to compare the Comprehensive Accreditation with the ARRA Rating as thoroughly as possible, two different methodology models were defined. Model A was set up so that on the basis of ARRA ranking principles it defined criteria and procedures close to the

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Comprehensive Accreditation for the ARRA Rating. Model B was set up so that the ARRA Rating fully employed exclusively the principles and methodology of ranking as systematically used by ARRA.

Methodologies chosen by ARRA to set up its own ratings of Slovak higher education institutions are built on two basic premises:

- 1) To the maximum extent possible, the methodology corresponds to the methodology used by ARRA in annual ranking of higher education institutions and their faculties;
- 2) The methodology is as close as possible to the rules used by the AC in the Comprehensive Accreditation as part of the final assessment of higher education institutions and their classification in individual groups.

Methodology for model A

- 1) The rating of a higher education institution is a summary of ratings of its faculties.
- 2) The rating of faculties is a summary of their ratings for the period of 2006 – 2009, i.e., for four years.
- 3) The rating of faculties was compiled from ARRA ranking data for each year, evaluating separately the sum of ranking data from the parameters for EDUCATION and separately the sum or ranking data for RESEARCH, of course, by characteristic groups of faculties used in the ARRA ranking. This provided the possibility of assessing faculties and subsequently higher education institutions in a two-dimensional space of “EDUCATION” and “RESEARCH”.
- 4) To emphasise the characteristic differences in the EDUCATION performance as well as in the RESEARCH performance, the summary ranking data for EDUCATION [$\Sigma(SV1-SV8)^{15}$] as well as summary data for RESEARCH [$\Sigma(VV1:VV10)^{13}$] were centred. Data centring is the first step used in the PCA analysis (see Carnegie Classification[®] above) which “centres” the original data set so that the average value of the set is subtracted from each piece of data. This eliminates absolute differences between pieces of data from the set but emphasises the characteristic differences between pieces of data. From the viewpoint of the assessment, this is an especially important fact. Data so centred enable immediate characterisation of the data sets (and thereby also of what these data represent), as the nature of centring implies that

¹⁵ Annual reports of ARRA 2005 – 2009, www.arra.sk

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centred data on the positive side of the scale represent above-average values, centred data close to the zero value represent an average and negative data represent below-average values. In other words, we can speak of growing quality when moving to higher positive values and of decreasing quality towards the negative values. The “distance” from zero determines the quality.

- 5) As the goal of model A was to set up rating of higher education institutions rather than to find principal characteristics of higher education institutions, it was not necessary to carry out a complete PCA following centring the data for both characteristics (both directions) of EDUCATION and RESEARCH. The selection of summary characteristics (EDUCATION, RESEARCH) and the nature of the centring (the turning point being the “AVERAGE”) implies that this methodology is the closest to the Criteria for Classification of Higher Education Institutions that were used for final classification of higher education institutions into defined three groups and, at the same time, maintains the basic principle of ARRA ranking – internal benchmarking against the best in a group of faculties.
- 6) Rating of faculties or the final summary of their centred data for EDUCATION as well as for RESEARCH was compiled by centring the relevant data for each year separately and, at the end, calculating an arithmetic average of the centred data for each faculty in each group.
- 7) Rating of higher education institutions was prepared by calculating an arithmetic average for the sum of centred data for all faculties of the respective higher education institution. Data in the quadrant of positive values in both directions meant rating A. Data in the quadrant with positive RESEARCH but negative EDUCATION meant rating B, data with negative RESEARCH but positive EDUCATION meant rating C, and data with negative RESEARCH and negative EDUCATION meant rating D. The ARRA Rating of higher education institutions could be further simplified and approximated to the Comprehensive Accreditation by assigning the higher education institutions from quadrants B and C, which represent one positive and one negative direction, rating B and changing the original rating D to C.

Consequence: The resulting rating of higher education institutions and their faculties compiled using the methodology for model A is a reflection of quality of Slovak higher education institutions and of the entire system which was designed on the basis of using the average values of the corresponding indicators according to characteristic groups of

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faculties. Such average values served as threshold values for assigning the corresponding rating. Methodologically, this model is close to the methodology of the Comprehensive Accreditation.

Methodology for model B

- 1) The rating of higher education institutions is an arithmetic average of its faculties' ratings for the period of 2005 – 2009, i.e., for five years.
- 2) The rating of faculties is a summary of their ratings for the period of 2005 – 2009, i.e., for five years.
- 3) Faculty rating for the given year was determined from the synthetic indicator “average” used by ARRA as the overall indicator of faculty performance when determining its ranking in the given group of faculties. The above implies that faculty rating for the given year was determined on the basis of the same performance parameters of the faculty in the field of both education and research as used by ARRA when determining ranking of the faculty in the given year. Due to the low selectivity, i.e., resolution capacity, the indicator “average” could not be used directly for rating purposes. That is why the procedure was used by which ARRA determines point scores of individual performance/qualitative parameters in ranking. In this procedure, the faculty with the highest value of performance in the given group of faculties is assigned the value of 100 (points, %, etc.) and the value of the performance parameter of other faculties in the given group of faculties is calculated as the proportion of the best performance (the calculation being done with accuracy to one decimal place). In other words, the best faculty served as an internal benchmark in each group of faculties. Such a comparison of the synthetic parameter “average” showed a sufficient resolution capacity, i.e., selectivity, and a general scope in order to allow for designing a fair scale for rating enabling to sufficiently distinguish the performance, i.e., the quality, of individual faculties in the given group and to assign the corresponding rating to each faculty.
- 4) According to the above-mentioned procedure, the scale for the rating of faculties was set from 0 to 100% of the calculated parameter “average”. For rating purposes, four grades A – D were chosen, assigning “A” to faculties with a calculated “average” between 80 and 100%, “B” to faculties with a calculated “average” between 60 and 79.9%, “C” to faculties with a calculated “average” between 40 and 59.9%, and “D” to faculties with a calculated “average” between 0 and 39.9%.

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Consequence: The resulting rating of higher education institutions and their faculties compiled using this methodology is exclusively an internal reflection of quality of Slovak higher education institutions and of the entire system. This consequence is implied by the basic premise of the rating methodology, which is the comparison of faculties and subsequently of higher education institutions against the average faculties (Model A) or the best faculties (i.e., those that show the highest summary performance for the group of selected parameters, Model B). The resulting value (rating) of the internal benchmark so set up is an average value for the entire institution, i.e., regardless of the prevailing character of the institution. This is of essential importance, as the final result is given, among other things, by the fact that a faculty that is not a characteristic faculty of the given higher education institution contributes to the result equally as the faculties that characterise the institution. Faculty of Arts, Technical University in Košice, can be a typical example. Among other things, this has to be taken into consideration when comparing the results of this rating with the results of other ratings, particularly foreign ones. Compared to the Comprehensive Accreditation, the model B methodology brings substantial differences. Model B reflects the quality of Slovak higher education institutions in a different manner. However, mutual comparison of the results of these ratings is possible and useful from the viewpoint of methodology as well as from the viewpoint of the result itself.

RESULTS

Rating of higher education institutions according to Model A

ARRA Rating of faculties according to Model A is shown in Figure 4. As could be expected, the selected methodology divided the two-dimensional space of RESEARCH vs. EDUCATION into four quadrants enabling four different levels of faculty rating. Quadrant A includes faculties having both research and educational performance higher than the average in their group. Quadrant B covers faculties with research performance higher than the average but their educational performance is lower than the average in their group. Quadrant C contains faculties whose research performance is lower than the average in their group but their educational performance is higher than the average in the group. Quadrant D includes faculties whose both research and educational performance is lower than the average in their group. The rating covered 103 faculties in total of which 41 (39.8%) were rated A, 10 (9.7%) were rated B, 24 (23.3%) were rated C and 28 (27.2%) were rated D. This distribution of faculties shows that approximately a third of faculties create a cluster about the average

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spread in all quadrants. The most regular distribution is that of A-rated faculties, followed by faculties rated D. The most compact group is the group of B-rated faculties. At the same time, it is the smallest group. These two characteristics point to an otherwise known fact that most faculties rather focus on education and those having research as the priority, although at the expense of education, are rare.

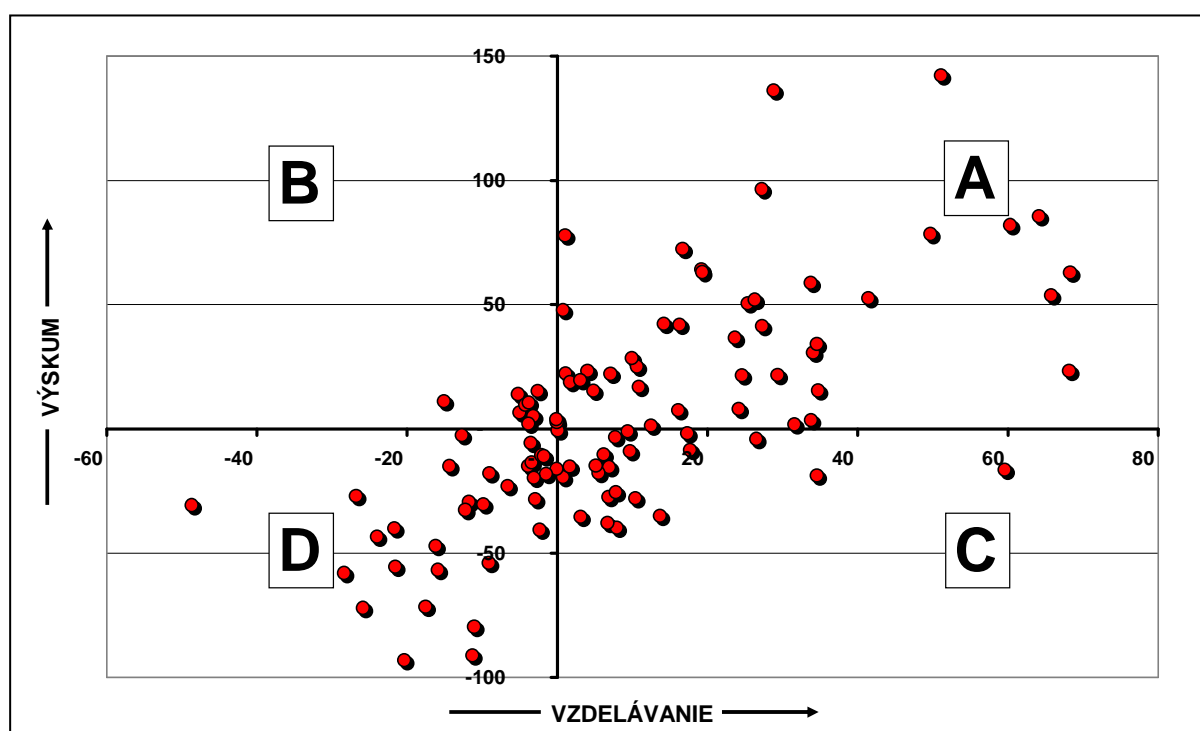


Figure 4. Distribution of faculties according to ARRA Rating Model A

ARRA Rating of higher education institutions according to Model A is shown in Figure 5. It shows that of the group of 21 higher education institutions (20 public and 1 private), 9 institutions (42.9%) obtained rating A, 2 institutions (9.5%) were rated B, 5 institutions (23.8%) were rated C and the next 5 institutions (23.8%) were rated D. The rating can be simplified by leaving the higher education institutions in quadrant A (both parameters positive = higher education institutions having above-average quality) rated A, assigning common rating B to higher education institutions in quadrants B and C (one positive and one negative parameter = higher education institutions having average quality), and assigning rating C to higher education institutions in quadrant D (both parameters negative = higher education institutions having below-average quality). This is a result that has the same structure as the Comprehensive Accreditation and therefore enables their direct comparison. According to this simplified classification, 9 higher education institutions were rated A

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(42.9%), 7 institutions were rated B (33.3%) and 5 institutions were rated C (23.8%). With respect to the existing knowledge of higher education institutions, this rating is not surprising.

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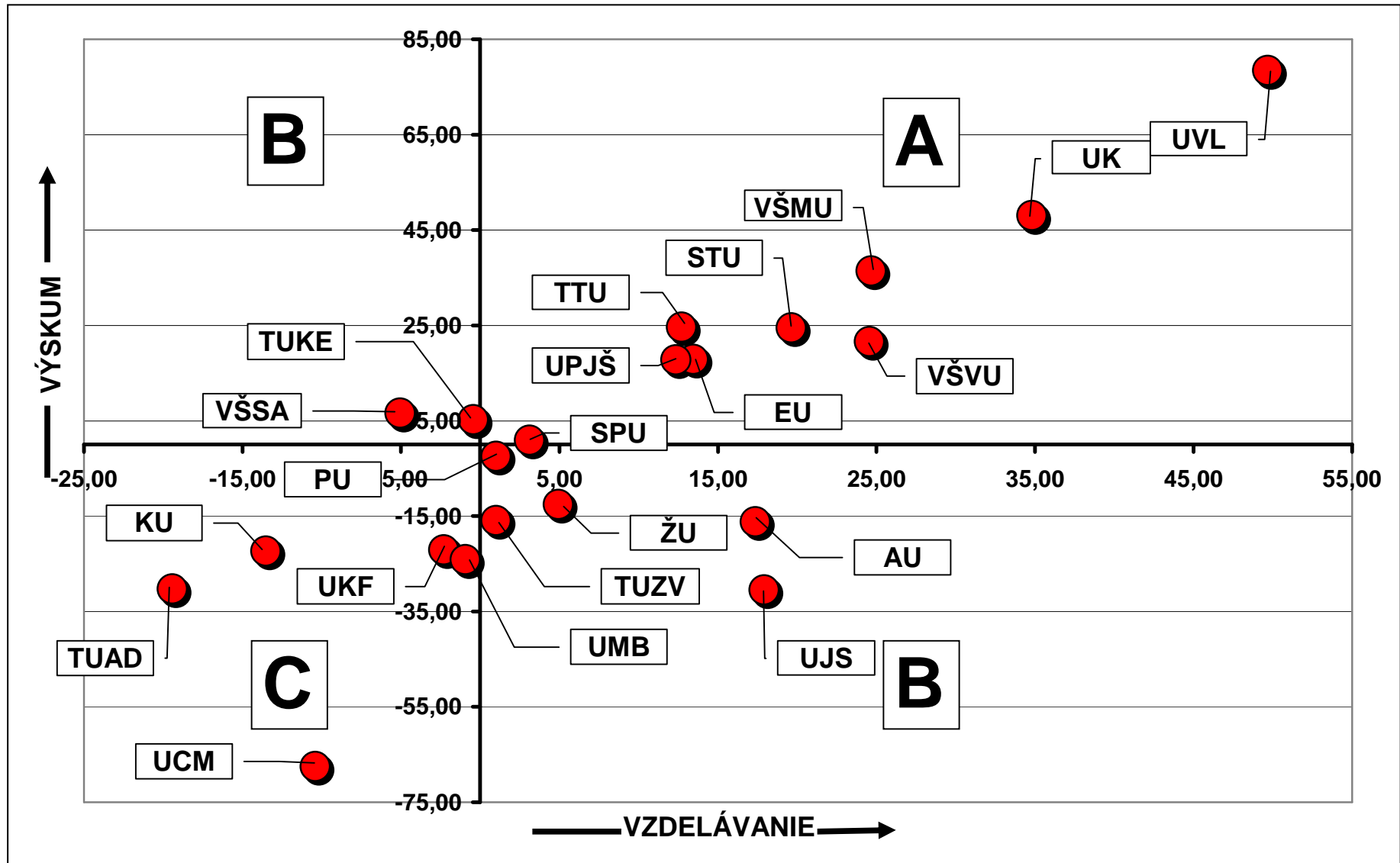


Figure 5. Rating of higher education institutions according to ARRA Rating Model A

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Rating of higher education institutions according to Model A is given in Table 7. The table suggests that rating “A” was assigned primarily to those higher education institutions that are among the oldest in Slovakia and that traditionally have a high share of research in their activities. Even the “A” rating of Trnava University, which is a young university, does not refute this claim. The reason is the fact that its critical academic employees come either from traditional Slovak universities or from the Slovak Academy of Science.

Table 7. Rating of higher education institutions, Model A

UNIVERSITIES	CDE*	CDR*	RATING
University of Veterinary Medicine	49.68	78.45	A
Comenius University	34.80	48.04	A
Academy of Music and Performing Arts	24.66	36.44	A
Trnava University	12.70	24.66	A
Slovak University of Technology	19.63	24.49	A
Academy of Fine Arts and Design	24.56	21.62	A
University of Economics	13.44	17.92	A
Pavol Jozef Šafárik University	12.34	17.78	A
Slovak University of Agriculture	3.10	0.95	A
St. Elizabeth University	-5.05	6.57	B
Technical University of Košice	-0.43	5.24	B
University of Prešov	1.00	-2.46	B
University of Žilina	4.93	-12.55	B
Technical University in Zvolen	1.00	-15.93	B
Academy of Arts	17.37	-16.16	B
J. Selye University	17.91	-30.45	B
Constantine the Philosopher University	-2.30	-22.08	C
Catholic University	-13.52	-22.28	C
Matej Bel University	-0.93	-24.10	C
Alexander Dubček University in Trenčín	-19.41	-30.29	C
University of SS. Cyril and Methodius	-10.40	-67.46	C

* centred data for education (CDE) and research (CDR)

However, this is not the only determining factor for the rating of this university. It is primarily the fact that these academicians managed to continue their previous professional success in the new workplace and thereby provide the corresponding quality to their new Alma Mater. No other university in Slovakia established after 1989 achieved such a success although all of them were built on the same principle of “buying” human resources from the existing higher education institutions, from the Slovak Academy of Sciences, or from research institutes. The A-rated group, similarly as other rating groups of universities, includes all types of higher

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education institutions with respect to their research and/or educational orientation, i.e., classical universities (UK, UPJŠ), technical universities (STU, SPU, UVL), social science- and humanities-oriented universities (EU, TTU), and higher education institutions of art (VŠMU, VŠVU). This result points to an important fact that this rating is independent of the professional orientation of the higher education institution. It can therefore be described as dependent only on the quality of the performance in the relevant group of faculties of the given university.

Rating “B” was assigned to three technical higher education institutions (TUKE, TUZVO, ŽU), three social-science and humanity higher education institutions (VŠSA, PU, UJS), and one academy of arts (AU). All of them can be characterised as higher education institutions with an average quality of performance according to the criteria used. AU and UJS are a certain exception in the field of education, being slightly above the Slovak average in the education parameter. What will certainly be surprising is the fact that this group covers higher education institutions with sufficient tradition (TUKE, TUZVO, ŽU) as well as higher education institutions established after 1989 (PU, VŠSA, AU, UJS). It can be concluded that the initially mentioned institutions failed to use their experience for an adequate development of their qualities. The latter, on the contrary, used the opportunity offered to reach, in a short period of 20 years, at least the Slovak average in the quality of their performance primarily in education.

Rating “C” was assigned to one technical higher education institution (TUAD) and four social-science and humanity higher education institutions (UMB, UKF, KU, UCM). All these institutions were established after 1989, although two of them (UMB and UKF) have roots in separate faculties from before 1989. In the last 20 years, none of these institutions managed to achieve even an average level of quality, not even in education, although most of them have social-science and humanity orientation, without greater requirements for forms of education requiring experimentation. The case of TUAD shows how difficult it is to build a technically oriented higher education institution with demands for experimental forms of education within the short period of the past 20 years. Another finding of this rating model is the fact that apart from STU, other technology-oriented higher education institutions achieved only an average value of quality (even the A rating for SPU shows its position close to the average). If we disregard the case of TUAD, these are always higher education institutions with sufficient tradition in the training of engineers and also with a quality of technical research adequate to the conditions. However, the average rating has been probably caused, among other things, by their poor development strategy in the last 20 years. The basis of this

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strategy was a tendency to expand, but not in the direction of further development of the original orientation but in the direction of building “full-range universities”. The expansion in the number of faculties oriented rather on social sciences, humanities, environmental sciences or even art and built on a “green field site” meant a reduction in the overall quality of performance in research as well as in education. It is enough to look at the rating of faculties. The same effect can be seen with Slovak University of Technology. However, its new faculties with lower quality of performance form only a smaller part of this university which could not have threatened its rating. However, compared to Comenius University, the difference is more significant than could be expected.

Rating of higher education institutions according to Model B

A summary rating of higher education institutions is shown in Table 8 and its statistical division is illustrated in Figure 6. The rating implies that on the basis of the methodology for Model B, summary rating “A” was assigned to five higher education institutions in total (23.8%). Summary rating “B” was assigned to eight higher education institutions (38.1%). Summary rating “C” was assigned to eight higher education institutions (38.1%). No higher education institution was rated D.

Figure 7 shows the rating of higher education institutions according to Model B. In several cases, the results of the rating differ from the common perception of individual higher education institutions or their groups. Surprises include the fact, for example, that no university of technology was assigned summary rating “A”. Among these, rating “B” was assigned to the renowned Slovak University of Technology (STU), the Slovak University of Agriculture in Nitra (SPU), and the Technical University in Zvolen (TUZVO). Other universities of technology were rated “C” which does not suggest their qualitative growth in the recent period. What could also be surprising is the “B” rating of the University of Economics in Bratislava whose all economics-oriented faculties were rated “B” and the Faculty of International Relations even “A”. As opposed to Model A, Model B has more prominent qualitative features, as its internal benchmark is always the best faculty in the given group rather than the average of the group as is the case with Model A. Therefore it can be seen as no surprise when substantially older and established higher education institutions such as Žilina University and Technical University in Košice were only rated C for the summary performance which is lower than the summary performance of J. Selye University which is substantially younger. This points to the fact that the quality of most of these higher education institutions’ faculties is even below the average compared to the best ones. This

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only confirms the incorrectness of these institutions' development strategy chosen and implemented in the last 20 years. The C rating for the other higher education institutions in this group is not surprising. The statement from rating according to Model A on insufficient management of their development after the establishment applies to them as well. Graphic representation of rating according to Model B plastically underlines the qualitative differences between individual groups of higher education institutions as well as between institutions themselves.

What is particularly noteworthy is the fact that the four last universities do not reach with their quality even 50% of the best faculties of Slovakia, three of them hardly exceeding the level of 40%. This testifies to effective failure of development of these institutions which is striking particularly in the case of Constantine the Philosopher University which does have a certain tradition. It is obvious that forced establishment of "universities" just to satisfy local or personal ambitions is not the way to develop higher education in Slovakia. This statement is valid for higher education institutions with higher rating as well. The low rating of higher education institutions of technology cannot be satisfactory with the largest of them, Slovak University of Technology in Bratislava and Technical University in Košice, showing surprisingly low quality and imbalance in their performance. As it has already been mentioned, no higher education institution was rated D. This points to the fact that despite the low quality, each higher education institution has at least some faculties whose rating is sufficiently high to achieve at least a C rating for the institution.

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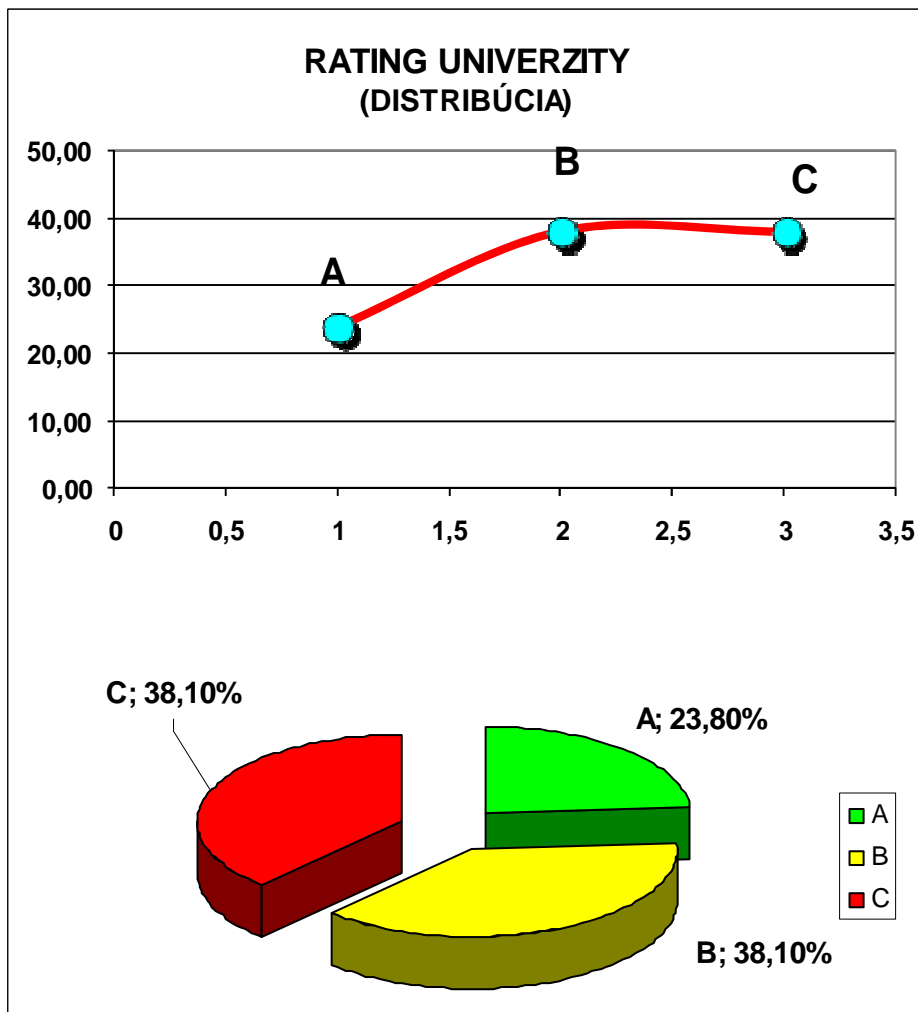


Figure 6. Statistical distribution of higher education institution rating according to Model B.

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Table 8. 2009 rating of higher education institutions according to Model B

HIGHER EDUCATION INSTITUTION	SYNTHETIC PARAMETER					AVERAGE	RATING
	2009	2008	2007	2006	2005		
University of Veterinary Medicine	100.0	100.0	100.0	100.0	100.0	100.0	A
Academy of Music and Performing Arts	93.2	96.8	98.8	94.1	92.9	95.2	A
Academy of Fine Arts and Design	91.8	91.2	92.7	81.9	100.0	91.5	A
Comenius University	88.1	87.6	86.9	87.9	94.2	88.9	A
Trnava University	75.9	77.4	91.5	84.4	92.1	84.3	A
University of Economics	80.0	73.7	79.8	79.3	77.1	78.0	B
Pavol Jozef Šafárik University	76.0	70.4	66.8	77.2	85.2	75.1	B
Academy of Arts	66.1	79.1	68.8	67.8	76.0	71.6	B
Slovak University of Agriculture	62.2	62.8	67.2	75.1	70.7	67.6	B
University of Prešov	62.5	62.9	56.4	63.5	66.4	62.3	B
St. Elizabeth University	62.6	61.1	0.0	0.0	0.0	61.8	B
Technical University in Zvolen	58.1	56.3	57.8	63.4	67.8	60.7	B
Slovak University of Technology	62.1	63.7	50.7	61.7	64.3	60.5	B
Matej Bel University	67.0	57.9	50.9	57.1	62.3	59.0	C
J. Selye University	50.7	61.0	0.0	0.0	0.0	55.9	C
Technical University of Košice	55.1	55.4	46.4	52.6	51.7	52.3	C
University of Žilina	52.8	50.1	46.4	56.8	46.7	50.6	C
Constantine the Philosopher University	56.9	48.6	45.2	44.7	44.9	48.1	C
Alexander Dubček University in Trenčín	35.6	35.8	34.1	51.3	50.4	41.4	C
Catholic University	56.8	47.7	31.6	32.0	37.2	41.0	C
University of SS. Cyril and Methodius	39.7	38.7	35.1	41.8	48.3	40.7	C

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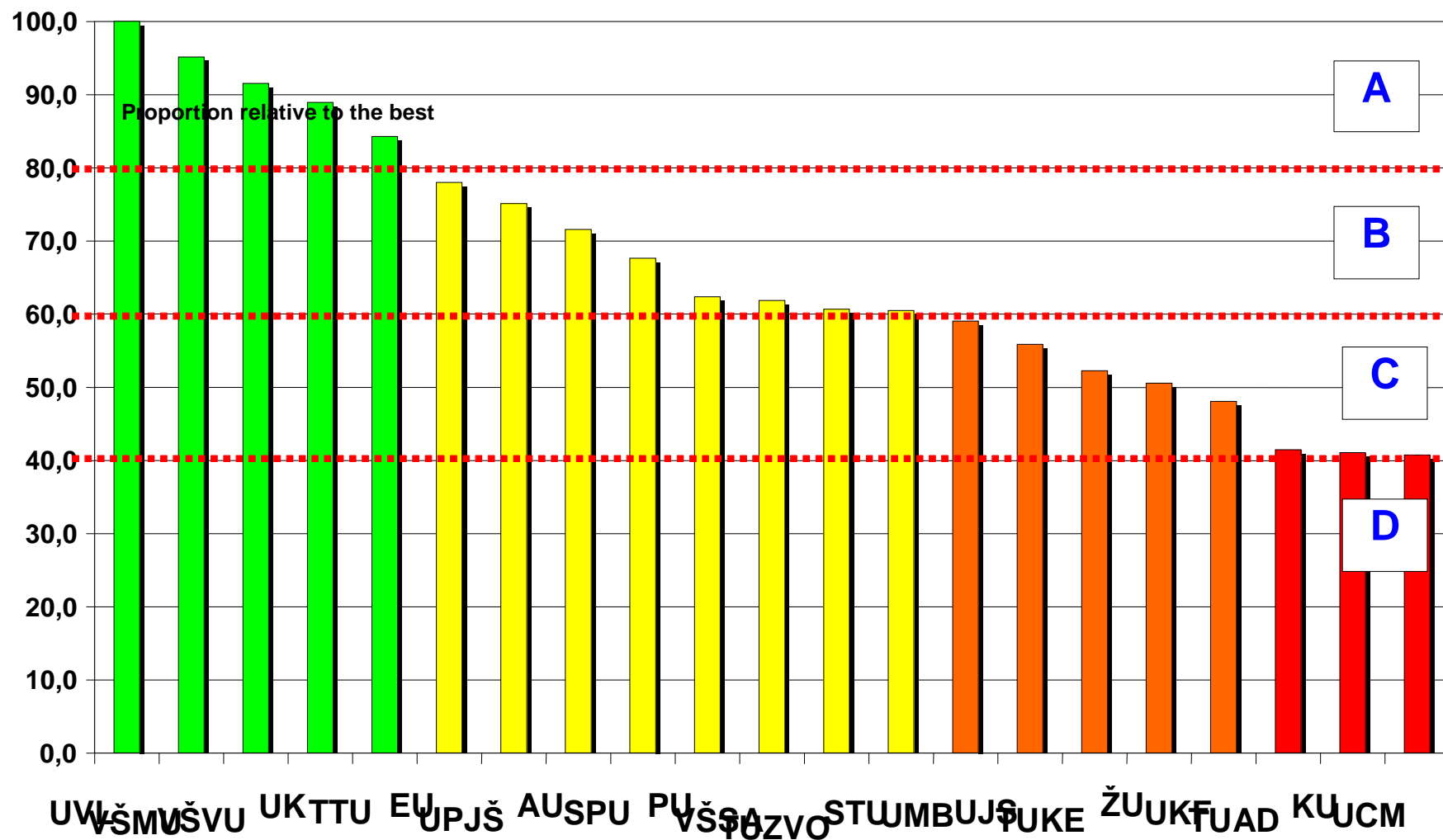


Figure 7. ARRA Rating Model B

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Rating of faculties

A summary rating of faculties is provided in Table 8. The rating was not done on an absolute scale but in a structure according to characteristic groups as used by ARRA for ranking purposes. A total of 104 faculties divided into 11 characteristic groups were assessed. Rating “A” was assigned to a total of 28 faculties of all groups which is 26.9% of all faculties in the rating. Rating “B” was assigned to a total of 32 faculties of 10 groups, none of the faculties in the PRIR group being rated “B”. The “B” rating comprises 30.8% of all faculties in the rating. Rating “C” was assigned to 30 faculties of eight groups, none of the faculties in the AGRO, PRAV, and EKONOM groups being rated “C”. The “C” rating comprises a total of 28.8% of all faculties in the rating. Rating “D” was assigned to a total of 14 faculties of six groups, none of the faculties in the AGRO, UMEL, TEOLOG, PRAV, and PEDAGOG groups being rated “D”. The “D” rating comprises a total of 13.5% of all faculties in the rating. An overview of the rating and its distribution is shown in Figure 8.

Among other things, Table 9 suggests that there are very obvious differences between qualities of individual faculties within universities. Examples of balanced quality include the University of Economics in Bratislava whose 5 faculties were rated “B” and one “A” but also the Slovak University of Technology in Bratislava whose 5 faculties were rated “C”, one “B” and one “A”. An opposite example is Prešov University in Prešov or Žilina University whose faculties were rated throughout the scale used. This results in a very varied and imbalanced picture of quality of these higher education institutions’ faculties.

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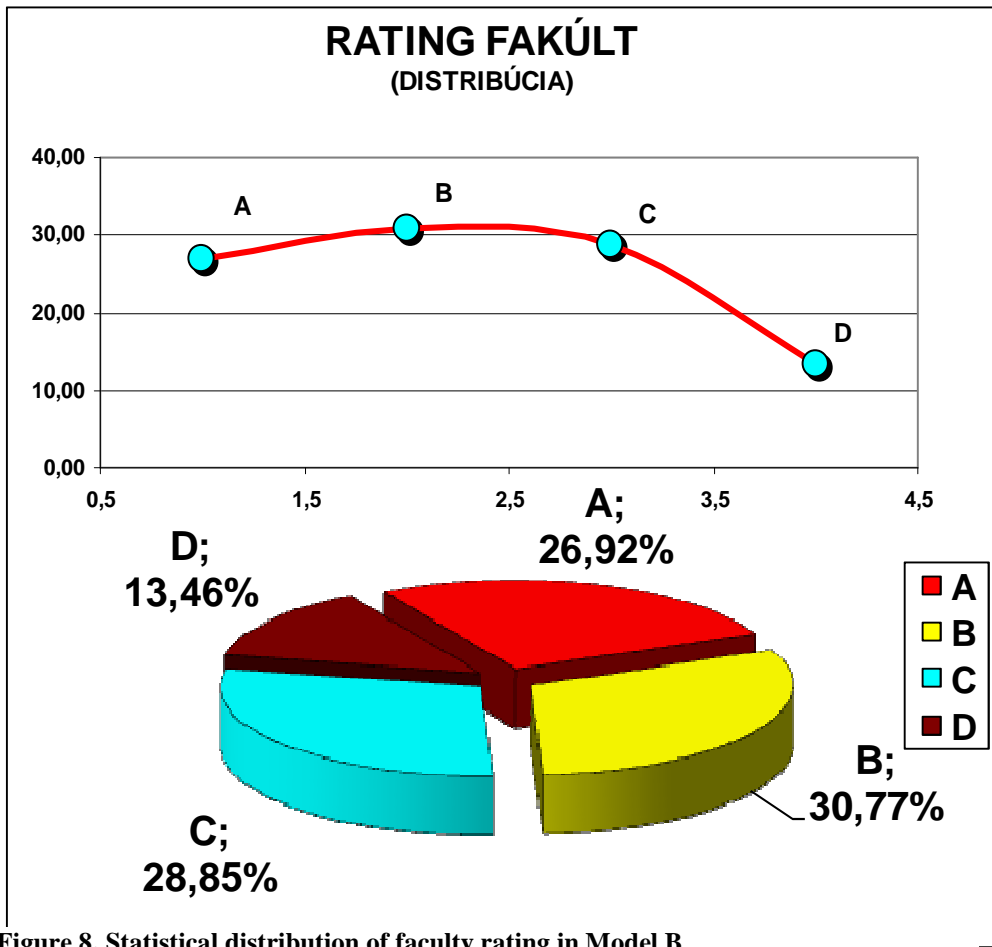


Figure 8. Statistical distribution of faculty rating in Model B

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Table 9. 2009 rating of faculties

AGRO			2009	2008	2007	2006	2005	FACULTIES
1	University of Veterinary Medicine	University of Veterinary Medicine	A	A	A	A	A	A
2	Faculty of Biotechnology and Food Sciences	Slovak University of Agriculture	B	B	B	A	C	B
3	Faculty of Agrobiological and Food Resources	Slovak University of Agriculture	B	B	B	B	B	B
4	Faculty of Forestry	Technical University in Zvolen	B	B	B	B	B	B
5	Faculty of Horticulture and Landscape Engineering	Slovak University of Agriculture	C	B	C	B	B	B
6	Faculty of Wood Sciences and Technology	Technical University in Zvolen	C	C	B	B	B	B

UMEL			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Music and Dance	Academy of Music and Performing Arts	A	A	A	A	A	A
2	Theatre Faculty	Academy of Music and Performing Arts	A	A	A	A	A	A
3	Film and Television Faculty	Academy of Music and Performing Arts	A	A	A	A	A	A
4	Academy of Fine Arts and Design	Academy of Fine Arts and Design	A	A	A	A	A	A
5	Faculty of Music	Academy of Arts	B	A	A	A	A	A
6	Faculty of Dramatic Arts	Academy of Arts	B	B	C	B	B	B
7	Faculty of Fine Arts	Academy of Arts	B	B	C	C	B	B
8	Faculty of Arts	Technical University of Košice	C	C	C	B	C	C

MED			2009	2008	2007	2006	2005	FACULTIES
1	Jessenius Faculty of Medicine	Comenius University	A	A	A	A	A	A

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2	Faculty of Pharmacy	Comenius University	A	A	A	A	A	A
3	Faculty of Medicine	Pavol Jozef Šafárik University	A	A	B	B	A	A
4	Faculty of Healthcare and Social Work	Trnava University	B	B	A	A	A	A
5	Faculty of Medicine	Comenius University	B	A	A	B	B	B
6	St. Elizabeth University	St. Elizabeth University	B	B	0	0	0	B
7	Faculty of Social Sciences and Healthcare	Constantine the Philosopher University	C	C	C	C	D	C
8	Faculty of Healthcare	Catholic University	D	D	0	0	0	D
9	Faculty of Healthcare	University of Prešov	D	D	D	D	D	D

PRIR			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Mathematics, Physics, and Informatics	Comenius University	A	A	A	A	A	A
2	Faculty of Natural Sciences	Comenius University	A	A	A	A	A	A
3	Faculty of Natural Sciences	Pavol Jozef Šafárik University	A	B	B	A	A	A
4	Faculty of Ecology and Environmental Sciences	Technical University in Zvolen	C	C	B	B	C	C
5	Faculty of Natural Sciences	Constantine the Philosopher University	C	C	C	C	C	C
6	Faculty of Natural Sciences	University of Žilina	C	D	D	D	C	D
7	Faculty of Natural Sciences	Matej Bel University	D	D	D	C	C	D
8	Faculty of Natural Sciences	University of SS. Cyril and Methodius	D	D	D	D	D	D

EKON			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Economics	Technical University of Košice	A	A	A	A	A	A
2	Faculty of Economics and Management	Slovak University of Agriculture	A	A	A	A	A	A
3	Faculty of Operation and Economics of Transport and Communications	University of Žilina	B	A	A	A	A	A
4	Faculty of National Economy	University of Economics	A	B	B	A	B	B

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5	Faculty of Economics	Matej Bel University	B	C	C	B	B	B
6	Faculty of Management	Comenius University	B	B	A	B	B	B
7	Faculty of Economic Informatics	University of Economics	B	B	B	B	B	B
8	Faculty of Business	University of Economics	B	B	A	A	B	B
9	Faculty of Business Economics	University of Economics	B	B	A	B	B	B
10	Faculty of Business Management	University of Economics	C	B	B	B	B	B
11	Faculty of Economics	J. Selye University	D	D	0	0	0	D
12	Faculty of Management	University of Prešov	D	D	0	0	0	D

TECH			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Chemical and Food Technology	Slovak University of Technology	A	A	A	A	A	A
2	Faculty of Electrical Engineering and Informatics	Slovak University of Technology	B	B	B	B	B	B
3	Faculty of Mechanical Engineering	University of Žilina	B	B	C	C	B	B
4	Faculty of Metallurgy	Technical University of Košice	B	C	C	B	B	B
5	Faculty of Civil Engineering	Slovak University of Technology	B	B	C	C	C	C
6	Faculty of Informatics and Information Technologies	Slovak University of Technology	C	C	0	0	0	C
7	Faculty of Management Science & Informatics	University of Žilina	C	C	D	C	0	C
8	Faculty of Mechanical Engineering	Technical University of Košice	C	C	C	C	B	C
9	Faculty of Mining, Ecology, Process Control and Geotechnology	Technical University of Košice	C	C	C	C	B	C
10	Faculty of Electrical Engineering and Informatics	Technical University of Košice	C	C	C	C	B	C
11	Faculty of Industrial Technologies	Alexander Dubček University in Trenčín	C	C	C	C	B	C
12	Faculty of Environmental and Manufacturing Technology	Technical University in Zvolen	C	C	D	C	B	C
13	Faculty of Civil Engineering	Technical University of Košice	C	C	C	B	C	C

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14	Faculty of Manufacturing Technologies	Technical University of Košice	C	C	C	C	C	C
15	Faculty of Mechanical Engineering	Slovak University of Technology	C	C	C	C	C	C
16	Faculty of Material Sciences and Technology	Slovak University of Technology	C	C	D	D	C	C
17	Faculty of Architecture	Slovak University of Technology	C	C	C	C	C	C
18	Faculty of Electrical Engineering	University of Žilina	C	C	0	C	C	C
19	Faculty of Civil Engineering	University of Žilina	C	C	C	C	C	C
20	Faculty of Engineering	Slovak University of Agriculture	C	C	D	C	C	C
21	Faculty of Special Engineering	University of Žilina	D	C	D	B	C	C
22	Faculty of Aeronautics	Technical University of Košice	D	D	0	0	0	D
23	Faculty of Special Technology	Alexander Dubček University in Trenčín	D	D	D	C	C	D
24	Faculty of Mechatronics	Alexander Dubček University in Trenčín	D	D	D	D	D	D

TEOL			2009	2008	2007	2006	2005	FACULTIES
1	Evangelical Theological Faculty	Comenius University	A	A	A	A	A	A
2	Faculty of Reformed Theology	J. Selye University	B	A	0	0	0	B
3	Roman Catholic Faculty of Theology of Cyril and Methodius	Comenius University	C	A	B	B	A	B
4	Faculty of Orthodox Theology	University of Prešov	C	B	B	A	A	B
5	Faculty of Theology	Trnava University	C	B	A	A	A	B
6	Greek Catholic Faculty of Theology	University of Prešov	B	C	C	C	B	C
7	Faculty of Theology	Catholic University	B	C	C	0	0	C

FIL			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Philosophy	Comenius University	A	A	A	A	A	A

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2	Faculty of Humanities and Natural Sciences	University of Prešov	A	A	A	A	A	A
3	Faculty of Philosophy	University of Prešov	B	B	B	A	A	B
4	Faculty of Philosophy	Trnava University	B	B	B	B	B	B
5	Faculty of Philosophy	Catholic University	B	B	D	C	C	C
6	Faculty of Philosophy	Constantine the Philosopher University	B	C	C	C	C	C
7	Faculty of Humanities	Matej Bel University	C	C	C	C	C	C
8	Faculty of Philosophy	University of SS. Cyril and Methodius	D	D	D	D	C	D

PRAV			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Law	Trnava University	A	A	A	A	A	A
2	Faculty of Law	Comenius University	A	A	A	A	A	A
3	Faculty of Law	Pavol Jozef Šafárik University	A	A	B	A	A	A
4	Faculty of Law	Matej Bel University	C	B	B	B	B	B

PED			2009	2008	2007	2006	2005	FACULTIES
1	Faculty of Education	Trnava University	A	A	A	B	B	A
2	Faculty of Physical Education and Sports	Comenius University	A	A	A	A	A	A
3	Faculty of Sports	University of Prešov	A	B	0	0	0	A
4	Faculty of Education	Matej Bel University	A	B	B	C	C	B
5	Faculty of Education	Comenius University	B	B	B	B	B	B
6	Faculty of Education	Constantine the Philosopher University	B	B	B	B	B	B
7	Faculty of Education	University of Prešov	B	C	C	B	B	B
8	Faculty of Education	Catholic University	C	C	C	C	B	C
9	Faculty of Education	J. Selye University	C	C	0	0	0	C

OTHER			2009	2008	2007	2006	2005	FACULTIES
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								ES
1	Faculty of International Relations	University of Economics	A	A	A	A	A	A
2	Faculty of Social and Economic Sciences	Comenius University	A	A	A	B	A	A
3	Faculty of Political Sciences	Matej Bel University	A	B	B	B	B	B
4	Faculty of European Studies and Regional Development	Slovak University of Agriculture	C	C	B	B	A	B
5	Faculty of Philology	Matej Bel University	0	0	D	C	C	C
6	Faculty of Mass Media Communication	University of SS. Cyril and Methodius	C	C	D	C	B	C
7	Faculty of Social and Economic Relations	Alexander Dubček University in Trenčín	D	D	D	B	B	D
8	Faculty of Central European Studies	Constantine the Philosopher University	D	D	0	0	0	D
9	Faculty of Public Administration	Pavol Jozef Šafárik University	D	D	D	B	B	D

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CONCLUSION

Rating of higher education institutions and their faculties provides an interesting possibility to evaluate, using the performance parameters chosen, the quality of higher education institutions and their faculties in a rating-type assessment. ARRA uses a system of performance parameters, absolute majority of which fulfils requirements of a “qualitative” dimension contained therein as well as the requirement emphasising that the institution (faculty, higher education institution) subject to assessment must be able to influence the parameter to be evaluated. The selected system of parameters used in the ranking can be considered balanced with respect to the proportion of parameters representing quality of education and/or quality of research work when in five groups of parameters, two cover education, two parameter groups cover research and one (PhD studies) is common for both of these areas. Rating results can therefore be interpreted as a synthetic, although simplified, picture of the quality of higher education institutions and their faculties. With respect to management of higher education institutions, what is more important is the view of the institutions as such; from the viewpoint of funding, research priorities and their management, as well as from the viewpoint of orientation of prospective students and their social environment, the view of the faculties is more useful.

Both ratings can be interpreted as follows. The information on the rating of faculties implies that it has essentially a normal or “natural” distribution with only something over $\frac{1}{4}$ of faculties being rated “A”, most of the faculties being rated “B” or “C” (59.6% in total, representing almost $\frac{2}{3}$ of the total number) and something over $\frac{1}{8}$ of faculties being rated “D”. The first two rating grades, A or B, were achieved by 57.7% of faculties in total, which points to an adequate quality of the entire system when measured against the best faculties in the country. Unfortunately, when we look outside of our territory we find that we have only one faculty in Slovakia, Slovak University of Technology’s Faculty of Chemical and Food Technology, that can bear international comparison, for example, with faculties of the neighbouring countries. Closer examination of the rating by groups of faculties provides possibilities of further interpretations. With respect to homogeneous and qualitatively balanced performance, the PRAV faculty group can be considered the most balanced in the entire higher education system. Although it only includes 4 faculties, only one of them was rated “B”, the other being rated “A”, which is the best assessment also among groups of faculties. Similar can be said about the AGRO faculty group (6 faculties) in which one was rated “A” and the remaining ones “B”. Other faculty groups show either prevailing rating of a

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greater number of faculties in the group (e.g., the TECH group in which 17 of 24 faculties were rated “C”, three “B” or “D” and one “A”), or the rating in the group is divided more or less regularly (e.g., the FILOZOF group). Such groups of faculties as MED, PRIR or OTHER are distinctively internally structured into a subgroup of faculties with a high rating (“A”) and a subgroup of faculties with ratings at least two levels lower (“C” and “D”). A comparison of faculty ratings also points to two developmental effects. The first is the comparison of ratings within the PRIR group which shows that in the long term, traditional faculties of natural sciences show the best performance parameters. On the other hand, even twenty years of building faculties of natural sciences at other universities failed to bring the effect of them getting qualitatively closer to the old faculties of natural sciences. This evokes an idea of such effort lacking purpose and funds being wasted for otherwise very demanding study programmes and research at organisations that, as a result of the so-called fourth-generation effect, will not have a chance to get their quality closer to that of the established faculties of natural sciences. Another developmental effect observable in the faculty rating is the rating of faculties in the OTHER group. Faculties of this group rated the lowest, three of 9 faculties being rated “D” and two being rated “C”. That means that more than 55% of faculties in this group rated “C” and lower. Yet virtually all these faculties are those established in the last 20 years. However, among them, only two (Comenius University’s Faculty of Social and Economic Sciences and the University of Economics’ Faculty of International Relations) show adequate qualities and the next two (Matej Bel University’s Faculty of Political Sciences and the Faculty of European Studies and Regional Development, Slovak University of Agriculture) are trying to keep up with them. The remaining four continue struggling with their insufficient quality, the fifth having even been dissolved (Faculty of Philology, Matej Bel University). The development and the present condition of quality at these faculties clearly shows how difficult it is to establish a new faculty and to succeed with its quality at least in the medium term of 20 years. The TEOL faculty group shows a similarly irregular development of quality. This might be surprising realising that these faculties are managed, in addition to a civilian authority, also by the competent church authority. In this case, the results point to excessive ambitions on both sides. However, the same applies to other faculty groups. The rating and its development during the monitored period illustrates the difficulties accompanying not that much the establishment as the operation and qualitative development of the new faculties established in the last 20 years. With respect to possibilities of the Slovak society it is obvious that less would be more. To put it bluntly, fewer faculties with adequate

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quality would, with the same amount of funding, be a greater benefit to education, research, and the entire society.

Rating of higher education institutions represents their performance-based statistical assessment, condensed in the corresponding manner. Since the rating has been designed as a comparison of performance units (faculties) with the best in the group, this rating of higher education institutions shows, among other things, the corresponding higher education faculties' share in the leading position in the relevant group and/or groups of faculties. At the same time, the rating indicates the regularity of quality distribution among faculties of the respective higher education institution. From this viewpoint, the rating of higher education institutions is a mirror of development and management of higher education institutions. Unbalanced quality within a university that persists and therefore is not the picture of faculties *in statu nascendi* points to a perhaps not optimal way of management of the given institution. Examples of such uneven quality within a higher education institution include Žilina University whose faculties' ratings cover the entire assessment scale almost regularly. An opposite picture can be seen at Comenius University and the Slovak University of Technology in Bratislava whose faculties' ratings concentrate in a single rating grade ("A" and "C", respectively).

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COMPARISON OF THE COMPREHENSIVE ACCREDITATION AND ARRA RATINGS

INTRODUCTION

A comparison of the Comprehensive Accreditation as published by the Ministry of Education of the Slovak Republic¹⁶ and in the minutes of the AC¹⁷ and ARRA Ratings was carried out for a group of 20 public and one private higher education institution. The reduction in the number of higher education institutions from the 27 that were included in the Comprehensive Accreditation to the 21 in this report is given by public availability of data. The data is available from official sources of the Ministry of Education for 20 public higher education institutions. Private St. Elizabeth University publishes the same extent of its data as public higher education institutions at its website. Other private as well as state higher education institutions do not have the necessary scope of data publicly available and therefore are included neither in regular ARRA annual reports (ARRA Ranking) nor in this study.

METHODOLOGY

The difference between the results of classification of higher education institutions in the Comprehensive Accreditation and the results of ARRA Ratings is primarily a consequence of differences in the methodologies used in each of the classifications. Table 10 shows an overview of performance indicators used in each of these methodologies. It is apparent that the Comprehensive Accreditation concentrated primarily on quantitative indicators/parameters. For research, it uses the only relevant objective indicator – the number and type of publications, which indicator is of a largely qualitative nature. And although other parameters used do carry certain qualitative element (PhD studies, grants), the overall result of the assessment is considerably influenced by the quantitative nature of the parameters (“scope of PhD studies”) and by their subjectivity (1/3 of the weight comprising “quality of research infrastructure” and so-called “other aspects”). To classify a higher education institution based on educational performance, the Comprehensive Accreditation uses a single parameter and even this parameter is quantitative.

Conversely, the ARRA Rating methodology uses a series of indicators/parameters for both models, all of them being of a significantly qualitative nature. Aware of the complex character of each higher education institution, ARRA uses a balanced ratio between research

¹⁶ www.minedu.sk

¹⁷ Minutes 36 to 48

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performance indicators and educational performance indicators. A detailed analysis and comparison of these indicators is provided below.

Table 10. Performance indicators used for classifications

ARRA INDICATORS	AC INDICATORS
Research	Research
VV1a, publications/faculty member	<i>“attribute of outputs”</i>
VV2, number of citations/faculty member	<i>50 outputs of research (publications)</i>
VV2a, citations/publication	<i>“environmental attribute”</i>
VV4a, PhD graduates/PhD students	<i>scope and results of PhD studies (weight of at least 1/3)</i>
VV5, PhD graduates/Prof., Associate Prof.	<i>funds (grants) obtained for projects worked on at the faculty in the field and period under assessment (weight of at least 1/3)</i>
VV6, full-time PhD/full time students	<i>quality of research infrastructure (instrumentation, libraries, IT – weight of at least 1/6)</i>
VV7, VEGA grants/faculty member	<i>other aspects characterising the environment in which research is carried out (weight of at least 1/6)</i>
VV8, R&D Support Agency/faculty member	<i>“appraisal attribute” – 30 results of the faculty</i>
VV9, foreign grants/faculty member	<i>invited lectures given</i>
VV10, grants total/faculty member	<i>membership in national and international committees in the field of research</i>
	<i>commissions by external entities to organise conferences</i>
	<i>membership in edition committees of international journals</i>
	<i>membership in national and international commissions and juries</i>
	<i>honours and awards</i>
Education	Education
SV1, number of students/teacher	number of students in first- and second-level study programmes relative to a calculated number of registered higher education teachers
SV2, number of students/Prof. or Assoc. Prof.	
SV3, number of teachers with PhD/teacher	
SV4, number Prof. and Assoc. Prof./teacher	
SV6, applicants/plan	
SV7, registered/admitted	
SV8, proportion of foreign students	

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An analysis and comparison of parameters and indicators for classification (rating) of higher education institutions is given in Table 11. It implies that all the three classifications used related parameters and indicators to rate higher education institutions, although in different structures and extents. The Comprehensive Accreditation used the “publications” indicator only in a simple version of the total number of publications in the field for the period and faculty while ARRA Ratings used this indicator in the form of three separate parameters (number of publications per faculty member, number of citations per faculty member, and number of citations per publication). Likewise, the “domestic grants” indicator was used in the Comprehensive Accreditation only in a simple form of the amount of funds obtained by the faculty for the given period while ARRA Ratings used a system of as many as four parameters (total VEGA grant funding per academic employee, total R&D Support Agency funding per academic employee, total foreign grant funding per academic employee, and total grant funding per academic employee). For PhD studies, the Comprehensive Accreditation used three parameters (number of PhD graduates per supervisor, number of “PhD publications” per PhD student, and number of PhD students to total number of teachers). ARRA Ratings also used three parameters (ratio of PhD graduates to PhD students, ratio of PhD students to supervisors, and ratio of full-time PhD students to full-time students). The comparison implies that one of these parameters was identical or very similar (ratio of PhD students to supervisors or teachers, respectively). The greatest difference between classifications was in the parameters of education. While the Comprehensive Accreditation used for classification (rating) a single – quantitative – parameter (number of 1st and 2nd level students per teacher), ARRA Ratings used seven of them, which is generally the greatest number of parameters from a single characteristic group. Although the number of parameters or indicators used is not critical for the result, the use of significantly qualitative indicators, as is the case in ARRA Ratings, increases the representativeness of the classification itself.

What is apparent from Table 11 is not only the arbitrary nature of scales used in both classifications but primarily the lenience or outright low exactingness of the Comprehensive Accreditation to the assessed. Indeed, to reach the level of a “university-type higher education institution” it was enough if 60% of faculties satisfied the required criteria at least at the level of B- or C+ which corresponds to fifth and sixth classification grade, respectively, on the ten-grade scale of the Comprehensive Accreditation. In other words, it was enough for a Slovak higher education institution to be classified as a “university-type higher education institution” if at least 60% of its faculties reached at least an average or moderately below-average level

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of research indicators defined. This means that in Slovakia, an average is already considered a university standard. All the rest, i.e., the substandard, is satisfactory for the second highest level, a so-called unclassified higher education institution.

Table 11. Parameters and indicators for classification of higher education institutions (minimum values or ranges)

AC		Universities	Non-universities	Special higher education institutions	Other
Rule	Parameter	Indicator	Indicator	Indicator	Indicator
KZ-1 (publications)	60% of faculties/50% for a special HEI	4.00 – 2.50 B-	2.49 – 1.50 C+	< 1.50 C-	/
KZ-2 (domestic grants)	SKK/person	60,000	40,000	20,000	/
KZ-3 (PhD graduates/supervisor)	60% of faculties	1/3	?	?	/
KZ-4 (PhD publications)	60% of faculties	C+	?	?	/
KZ-5 (number of PhD students/teacher)	number of PhD students/teacher	min. 1	?	?	/
KZ-6 (number of 1 st and 2 nd level students/teacher)	number of 1 st and 2 nd level students/teacher	max. 20	max. 25	max. 30	
ARRA "A"		A	B	B	C
VV1a publications/faculty member	Relative to the average in the group	+,+	+,-	-,+	-,-
VV2 number of citations/faculty member	Relative to the average in the group	+,+	+,-	-,+	-,-
VV2a citations/publication	Relative to the average in the group	+,+	+,-	-,+	-,-
VV7 VEGA grants/person	Relative to the average in the group	+,+	+,-	-,+	-,-
VV8 R&D Support Agency/person	Relative to the average in the group	+,+	+,-	-,+	-,-
VV9 foreign grants/person	Relative to the average in the group	+,+	+,-	-,+	-,-
VV10 total grants/person	Relative to the average in the group	+,+	+,-	-,+	-,-
VV4a PhD graduates/PhD students	Relative to the average in the group	+,+	+,-	-,+	-,-
VV5 PhD graduates/Prof., Associate Prof.	Relative to the average in the group	+,+	+,-	-,+	-,-
VV6 full-time PhD/full time students	Relative to the average in the group	+,+	+,-	-,+	-,-
SV1 number of students/teacher	Relative to the average in the group	+,+	+,-	-,+	-,-

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SV2 number of students/Prof. or Assoc. Prof.	Relative to the average in the group	+,+	+,-	-,+	-,-
SV3 number of teachers with PhD/teacher	Relative to the average in the group	+,+	+,-	-,+	-,-
SV4 number Prof. and Assoc. Prof./teacher	Relative to the average in the group	+,+	+,-	-,+	-,-
Used only	for ARRA				
SV6 applicants/plan	Relative to the average in the group	+,+	+,-	-,+	-,-
SV7 registered/admitted	Relative to the average in the group	+,+	+,-	-,+	-,-
SV8 proportion of foreign students	Relative to the average in the group	+,+	+,-	-,+	-,-
ARRA "B"		A	B	C	D
VV1a publications/faculty member	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV2 number of citations/faculty member	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV2a citations/publication	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV7 VEGA grants/person	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV8 R&D Support Agency/person	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV9 foreign grants/person	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV10 total grants/person	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV4a PhD graduates/PhD students	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV5 PhD graduates/Prof., Associate Prof.	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
VV6 full-time PhD/full time students	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
SV1 number of students/teacher	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
SV2 number of students/Prof. or Assoc. Prof.	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
SV3 number of teachers with PhD/teacher	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
SV4 number Prof. and Assoc. Prof./teacher	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
Used only	for ARRA				
SV6 applicants/plan	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
SV7 registered/admitted	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0
SV8 proportion of foreign students	Relative to the best in the group	100-80	79.9-60.0	59.9-40.0	< 40.0

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Table 12 shows classification scales used in individual classifications. The table implies that rating was similar in all three classifications despite the fact that the Comprehensive Accreditation used a 10-grade classification scale to assess research. Although the ARRA Ratings used four rating classification grades, only the first three were used for direct comparison with the Comprehensive Accreditation, putting both ARRA Ratings clearly closer to the classification of the Comprehensive Accreditation.

Table 12. Classification scales for ratings

AC				ARRA "A"			ARRA "B"	
SCALE	RATING	SCALE	REDUCED CLASSIFICATION	CVV	CSV	RATING	SCALE [%]	RATING
4.00-3.75	A	93.80%	A	+	+	A	100-80.0	A
3.74-3.50	A-	87.50%	A	+	+	A	100-80.0	A
3.49-3.25	B+	81.30%	A	+	+	A	100-80.0	A
3.24-2.75	B	68.80%	B	+	-	B	79.9-60.0	B
2.74-2.50	B-	62.50%	B	+	-	B	79.9-60.0	B
2.49-2.25	C+	56.30%	C	-	+	B	59.9-40.0	C
2.24-1.75	C	43.80%	C	-	+	B	59.9-40.0	C
1.74-1.50	C-	37.50%	D	-	-	C	< 40.0	D
1.49-1.25	D+	31.30%	D	-	-	C	< 40.0	D
1.24-1.00	D	25.00%	D	-	-	C	< 40.0	D

RESULTS

Classification of higher education institutions

Table 13 shows a comparison of classification of higher education institutions according to the results of the Comprehensive Accreditation and ARRA Rating from both models. The table suggests that as opposed to ARRA Ratings, no higher education institution was originally classified as a special higher education institution in the Comprehensive Accreditation (classification "C" in ARRA Ratings). Additional initiatives of the Ministry of Education with respect to St. Elizabeth University, after which the AC reconsidered its data, it appears that with respect to Resolution 49.5.2.4 on the fulfilment of the "Criteria for Classification...", St. Elizabeth University will be classified as a "special higher education institution" as the only one. This does not suggest a very high resolution capacity of the Comprehensive Accreditation methodology. Other possible reasons for the poor resolution

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between levels of individual higher education institutions lack sufficient reliable data to rely on.

Table 13. Comparison of the results of the Comprehensive Accreditation and ARRA Ratings (higher education institutions are sorted according to ARRA Rating Model A)

RATING 2009	ARRA "A"	ARRA "B"	AC	Difference "A" - "B"	Difference "A" - AC	Difference "B" - AC
Comenius University	A	A	A	0	0	0
University of Veterinary Medicine	A	A	A	0	0	0
Trnava University	A	A	B	0	1	1
Academy of Music and Performing Arts	A	A	B	0	1	1
Academy of Fine Arts and Design	A	A	B	0	1	1
Slovak University of Technology	A	B	A	1	0	-1
Pavol Jozef Šafárik University	A	B	A	1	0	-1
Slovak University of Agriculture	A	B	A	1	0	-1
University of Economics	A	B	(A)	1	0	-1
Technical University in Zvolen	B	B	A	0	-1	-1
Academy of Arts	B	B	B	0	0	0
University of Prešov	B	B	B	0	0	0
St. Elizabeth University	B	B	(C?)	0	?	?
Technical University of Košice	B	C	A	1	-1	-2
University of Žilina	B	C	A	1	0	-2
J. Selye University	B	C	B	1	0	-1
Matej Bel University	C	C	(A)	0	-1	-2
Constantine the Philosopher University	C	C	(A)	0	-1	-2
Catholic University	C	C	B	0	-1	-1
Alexander Dubček University in Trenčín	C	C	B	0	-1	-1
University of SS. Cyril and Methodius	C	C	B	0	-1	-1

Interesting view is offered by mutual comparison of individual institutions' ratings among themselves. First of all, it is obvious that ARRA Ratings differ in the selected benchmark. "Average" as a benchmark in Model A expands rating "A" and "B" and reduces the range of the "C" rating. Conversely, "The Best in the Group" as a benchmark in Model B significantly narrows the range of the "A" rating and expands the range of the "C" rating which points to its more significant qualitative orientation when compared to Model A.

The comparison of the ARRA Ratings with the Comprehensive Accreditation points to significant differences in the classification achieved. These differences are primarily a reflection of essentially differently set objectives, different approaches, and classification methodologies derived therefrom. Only for two higher education institutions classified as universities in the Comprehensive Accreditation, a complete agreement was reached in all three rating models used (Comenius University and the University of Veterinary Medicine rated A,A,A). Comprehensive Accreditation of another two higher education institutions,

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which were classified as non-university-type higher education institutions in the Comprehensive Accreditation, is also in agreement with both ARRA Ratings (the Academy of Arts and Prešov University, rated B,B,B). The result is in agreement with the expectation that statistically, particularly in an effort to harmonise the classification scales used, some – primarily the extreme – values of quality will be identical regardless of the differences in the methodologies used. From this point of view, the differences in methodologies are underlined by the fact that no agreement between the Comprehensive Accreditation and the ARRA Ratings was reached for the group of institutions with the lowest quality. While the ARRA Ratings clearly point to the low quality of a certain group of higher education institutions, the Comprehensive Accreditation satisfied itself with merely differentiating universities from other higher education institutions. This is too little even for a debut which the Comprehensive Accreditation undoubtedly is.

Both academies of arts received identical ARRA Ratings but in the Comprehensive Accreditation, both institutions ended up among the so-called unclassified higher education institutions. This points to the fact that the Comprehensive Accreditation prioritised the research performance on an absolute scale (which is not quite inherent to higher education institutions of art) while ARRA Ratings are based on the assessment of quality among related faculties. Similar result has been achieved by Trnava University which was rated A by ARRA on both occasions, but the Comprehensive Accreditation classified it as a “non-university-type” higher education institution.

A group of four higher education institutions follows (Slovak University of Technology, Pavol Jozef Šafárik University, Slovak University of Agriculture, and University of Economics) whose A rating in the Comprehensive Accreditation is in accordance with the ARRA Rating in Model A but not with the ARRA Rating in Model B. This result says that these higher education institutions are among above-average Slovak higher education institutions, which is confirmed by their classification in the category of university-type higher education institutions in the Comprehensive Accreditation. However, the second “B” ARRA Rating (in Model B) is a warning sign pointing to the fact that the quality of these institutions’ faculties is considerably imbalanced, most of them significantly lagging behind the best one in the group in quality. Also the peculiar way, in which the Slovak University of Agriculture and the University of Economics were classified “A” in the CA, does not add credibility to the result of the CA.

Another group of higher education institutions (Technical University in Zvolen, Academy of Arts, Prešov University, St. Elizabeth University) forms a kind of divide in

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ratings. None of them was rated “A” by ARRA. Yet the Technical University in Zvolen was classified “A” in the Comprehensive Accreditation. The Academy of Arts and Prešov University received three “B” ratings, being thus classical average higher education institutions, although education at the Academy of Arts shows an above-average standard in the ARRA Model A. The case of St. Elizabeth University requires a separate comment. In the Comprehensive Accreditation, the institution was first rated “A”, this rating to be subsequently questioned by the Ministry of Education. On the basis of the results of a review, the process of the Comprehensive Accreditation for this institution has not been completed to date and the AC is revising its original report. As indicated by the resolutions of the 49th session of the AC, after verification of new facts, the institution probably meets criteria to be classified as a “special higher education institution”!

The Technical University in Košice and Žilina University received half “B” and half “C” ARRA Ratings which means a classical Slovak average both in research as well as in education. Yet in the Comprehensive Accreditation, the higher education institutions of this group were classified as universities. This is striking in the case of the Technical University in Košice, which showed only average or even below-average quality of its activities in both ARRA Ratings, as well as in the case of Žilina University. The latter obtained the “A” classification of a university-type higher education institution at the very end of the Comprehensive Accreditation in an interesting manner.

J. Selye University differs from the previous two higher education institutions only by failing to achieve the status of a university-type higher education institution which was, at one point, self-critically admitted by its representatives. It is interesting, however, that the performance of J. Selye University in education as represented by the ARRA Rating Model A ranges above the Slovak average.

The group of higher education institutions including Matej Bel University, Catholic University, Constantine the Philosopher University, Trenčín University of Alexander Dubček, and SS. Cyril and Methodius in Trnava obtained “C” ARRA Ratings on both occasions. This points to below-average performance of their faculties in research as well as in education. However, in the Comprehensive Accreditation, Matej Bel University as well as Constantine the Philosopher University “surprisingly” obtained an additional recommendation of the AC to be classified as “university-type higher education institutions”. These are another two higher education institutions whose results of the Comprehensive Accreditation substantially differ from ARRA Ratings (similarly as Žilina University and the Slovak University of Agriculture). In addition to the peculiar procedure already known with Žilina University and

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the Slovak University of Agriculture, these two higher education institutions obtained a recommendation of the AC to be classified as “university-type higher education institutions” at the last moment and after the official completion of their Comprehensive Accreditation. The differences between ARRA Ratings and the Comprehensive Accreditation in this group of higher education institutions point to the significance of differences in the methodologies of ARRA Ratings and the Comprehensive Accreditation primarily with respect to subjectivity and qualitative nature of the indicators in the Comprehensive Accreditation as well as with respect to further developments after the primary classification of these institutions was disclosed in the AC Assessment Report. It is obvious on the basis of comparing the ratings in this group of higher education institutions that the Comprehensive Accreditation has not resulted in a complete and qualitative differentiation of the Slovak “monoculture” of universities and “universities” and satisfied itself with only separating a group of universities. It is to the detriment of further development of higher education in Slovakia that at this critical moment of a first differentiation and stepping towards (?) a professionally and qualitatively heterogeneous structure of higher education institutions there was not enough courage for consequent differentiation which is a necessary prerequisite for proper development of the entire system.

Classification of faculties

As it has been mentioned previously, classification of faculties representing individual fields or their characteristic groups is more correct and accurate, simply qualitatively more representative than a classification of such complex structures as higher education institutions undoubtedly are. Classification of faculties, however, is significantly more demanding with respect to processing as well as interpretation and presentation. For simplification and greater closeness to the ARRA Rating in Model A, the comparison between classifications by ARRA Ratings and by the Comprehensive Accreditation at the level of faculties was carried out only by comparing the “A” ARRA Rating and the Comprehensive Accreditation. The results are given in Table 14. The table shows that 104 faculties in total were compared, sorted according to higher education institutions. Statistical comparison of the results is shown in Figure 9.

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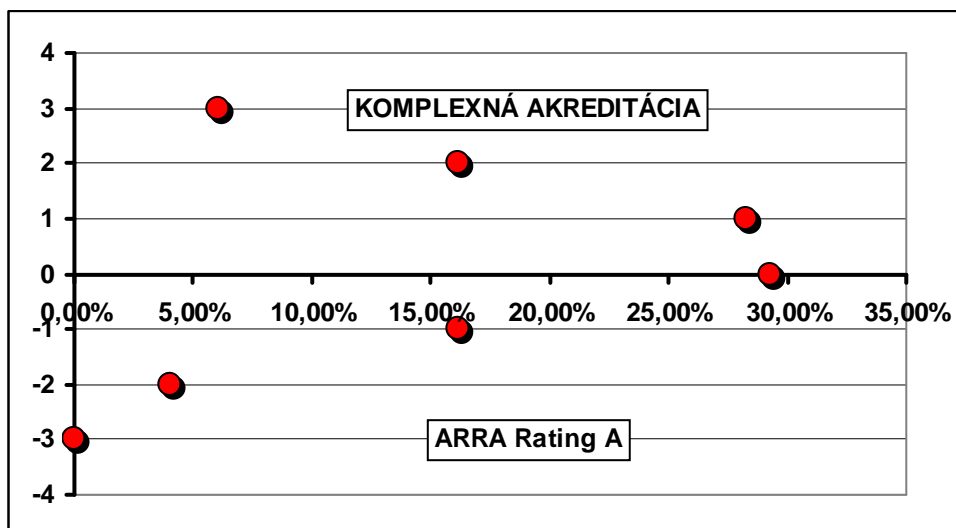


Figure 9. Statistical comparison of the results of the “A” ARRA Rating and the Comprehensive Accreditation of faculties

Statistical comparison of the results shows that 4.81% were not included in the assessment. Among the faculties included in the assessment, a complete agreement of ratings occurred for 29.29%, one-grade difference was found for 44.44% of faculties, the prevailing deviation being towards a higher Comprehensive Accreditation rating (28.28%) rather than to the “A” ARRA Rating (16.16%). A deviation by two grades was found for 20.20% of faculties, the prevailing deviation being completely towards a higher Comprehensive Accreditation rating (16.16%) rather than to the “A” ARRA Rating (4.04%). A deviation by three grades was found for 6.06% of faculties, all deviations being towards a higher Comprehensive Accreditation rating. If we consider a complete agreement of both the ratings and a deviation by one grade to be results within an acceptable measure of agreement, then the agreement reaches 73.74%. This result can be interpreted by stating that regardless of the differences in the methodology, an agreement was reached between the Comprehensive Accreditation and the “A” ARRA Rating (comparison with the average) for almost $\frac{3}{4}$ of faculties, extreme deviations (3 grades) being found for only 6.06% faculties.

Table 14 enables comparing and evaluating ratings and their differences for faculties of individual higher education institutions. The greatest disagreement between ratings can be seen in the Slovak University of Agriculture where out of 5 of its faculties under assessment, in three cases a disagreement greater than 2 was found. An equally high measure of disagreement of the Comprehensive Accreditation and the “A” ARRA Rating was found for Trnava University whose five faculties under assessment show a disagreement by two grades in three cases, the disagreement to higher ratings of ARRA prevailing over that to higher

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ratings of the Comprehensive Accreditation. Likewise, in the case of Matej Bel University, disagreement of ratings was found by at least two grades for three of six faculties under assessment. This disagreement is less significant in the case of Žilina University with three of its seven faculties under assessment showing disagreement between ratings in the range of at least two grades. What is noteworthy is the relative agreement of ratings in the case of the Technical University of Košice with most of its faculties being rated B (A:B = 3:5) in the Comprehensive Accreditation which is in quite a good agreement with ARRA Rating “B” (4xA, 2xB, 3xD). In spite of that, the Technical University of Košice was classified among universities. Academy of Music and Performing Arts is an opposite case showing a complete agreement of both classifications of its faculty at the “A” level; despite that, this institution was classified as unclassified higher education institutions. Other differences between ratings of individual higher education institutions’ faculties are of a rather singular nature, reflecting probably the extent of subjectivity of working groups and the AC in the framework of the Comprehensive Accreditation. This statement relies on the fact that in the framework of ARRA Ratings, publicly available objective data was used, while in the case of the Comprehensive Accreditation, part of its indicators and methodology had the nature of “on the spot” peer review assessment, which is the most subjective part of any classification.

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Table 14. Comparison of faculty classification according to ARRA Rating “A” and according to the Comprehensive Accreditation (the reduced scale) structured by higher education institutions

FACULTY	INSTITUTION	ARRA Rating “A”	Reduced classificatio n by the AC	Differenc e
Faculty of Dramatic Arts	Academy of Arts	C	C	0
Faculty of Music	Academy of Arts	A	A	0
Faculty of Fine Arts	Academy of Arts	C	A	2
Faculty of Economic Informatics	University of Economics	C	B	1
Faculty of International Relations	University of Economics	A	C	-2
Faculty of Business Management	University of Economics	D	B	2
Faculty of National Economy	University of Economics	A	A	0
Faculty of Business	University of Economics	A	A	0
Faculty of Business Economics	University of Economics	B	B	0
Faculty of Healthcare	Catholic University	D	C	1
Faculty of Philosophy	Catholic University	D	C	1
Faculty of Education	Catholic University	D	C	1
Faculty of Theology	Catholic University	D	B	2
Faculty of Humanities and Natural Sciences	University of Prešov	A	B	-1
Faculty of Management	University of Prešov	D	/	/
Faculty of Sports	University of Prešov	A	/	/
Faculty of Healthcare	University of Prešov	D	C	1

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Faculty of Philosophy	University of Prešov	A	B	-1
Greek Catholic Faculty of Theology	University of Prešov	C	A	2
Faculty of Education	University of Prešov	B	B	0
Faculty of Orthodox Theology	University of Prešov	A	B	-1
Faculty of Agrobiology and Food Resources	Slovak University of Agriculture	D	A	3
Faculty of Biotechnology and Food Sciences	Slovak University of Agriculture	B	A	1
Faculty of Economics and Management	Slovak University of Agriculture	A	A	0
Faculty of European Studies and Regional Development	Slovak University of Agriculture	B	/	/
Faculty of Horticulture and Landscape Engineering	Slovak University of Agriculture	D	A	3
Faculty of Engineering	Slovak University of Agriculture	C	A	2
Faculty of Architecture	Slovak University of Technology	C	A	2
Faculty of Electrical Engineering and Informatics	Slovak University of Technology	A	A	0
Faculty of Chemical and Food Technology	Slovak University of Technology	A	A	0
Faculty of Informatics and Information Technologies	Slovak University of Technology	B	A	1
Faculty of Material Sciences and Technology	Slovak University of Technology	D	A	3
Faculty of Civil Engineering	Slovak University of Technology	A	A	0
Faculty of Mechanical Engineering	Slovak University of Technology	C	B	1
Faculty of Economics	Technical University of Košice	A	A	0
Faculty of Mining, Ecology, Process Control and Geotechnology	Technical University of Košice	A	B	-1
Faculty of Electrical Engineering and Informatics	Technical University of Košice	B	A	1
Faculty of Arts	Technical University of Košice	D	B	2
Faculty of Manufacturing Technologies	Technical University of Košice	D	A	3

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Faculty of Metallurgy	Technical University of Košice	A	B	-1
Faculty of Aeronautics	Technical University of Košice	D	/	/
Faculty of Civil Engineering	Technical University of Košice	B	B	0
Faculty of Mechanical Engineering	Technical University of Košice	A	B	-1
Faculty of Wood Sciences and Technology	Technical University in Zvolen	D	B	2
Faculty of Ecology and Environmental Sciences	Technical University in Zvolen	C	B	1
Faculty of Environmental and Manufacturing Technology	Technical University in Zvolen	D	C	1
Faculty of Forestry	Technical University in Zvolen	A	B	-1
Faculty of Mechatronics	Alexander Dubček University in Trenčín	D	C	1
Faculty of Industrial Technologies	Alexander Dubček University in Trenčín	A	A	0
Faculty of Social and Economic Relations	Alexander Dubček University in Trenčín	D	C	1
Faculty of Special Technology	Alexander Dubček University in Trenčín	D	B	2
Faculty of Healthcare and Social Work	Trnava University	A	C	-2
Faculty of Philosophy	Trnava University	B	B	0
Faculty of Education	Trnava University	A	C	-2
Faculty of Law	Trnava University	C	A	2
Faculty of Theology	Trnava University	A	B	-1
Faculty of Economics	J. Selye University	D	C	1
Faculty of Reformed Theology	J. Selye University	C	B	1
Faculty of Education	J. Selye University	C	C	0

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Evangelical Theological Faculty	Comenius University	A	B	-1
Faculty of Management	Comenius University	C	B	1
Faculty of Mathematics, Physics, and Informatics	Comenius University	A	A	0
Faculty of Social and Economic Sciences	Comenius University	A	B	-1
Faculty of Physical Education and Sports	Comenius University	A	C	-2
Faculty of Pharmacy	Comenius University	A	A	0
Faculty of Philosophy	Comenius University	A	B	-1
Jessenius Faculty of Medicine	Comenius University	A	A	0
Faculty of Medicine	Comenius University	A	A	0
Faculty of Education	Comenius University	C	C	0
Faculty of Law	Comenius University	C	A	2
Faculty of Natural Sciences	Comenius University	A	A	0
Roman Catholic Faculty of Theology of Cyril and Methodius	Comenius University	A	B	-1
Faculty of Natural Sciences	Constantine the Philosopher University	C	C	0
Faculty of Social Sciences and Healthcare	Constantine the Philosopher University	C	B	1
Faculty of Central European Studies	Constantine the Philosopher University	D	C	1
Faculty of Philosophy	Constantine the Philosopher University	C	A	2
Faculty of Education	Constantine the Philosopher University	A	B	-1
Faculty of Economics	Matej Bel University	D	A	3
Faculty of Humanities	Matej Bel University	D	B	2
Faculty of Political Sciences	Matej Bel University	A	A	0
Faculty of Natural Sciences	Matej Bel University	D	C	1
Faculty of Philology	Matej Bel University	D	/	/

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Faculty of Education	Matej Bel University	C	B	1
Faculty of Law	Matej Bel University	D	B	2
Faculty of Public Administration	Pavol Jozef Šafárik University	D	C	1
Faculty of Medicine	Pavol Jozef Šafárik University	A	A	0
Faculty of Law	Pavol Jozef Šafárik University	C	A	2
Faculty of Natural Sciences	Pavol Jozef Šafárik University	A	A	0
Faculty of Mass Media Communication	University of SS. Cyril and Methodius	C	B	1
Faculty of Natural Sciences	University of SS. Cyril and Methodius	D	C	1
Faculty of Philosophy	University of SS. Cyril and Methodius	D	C	1
University of Veterinary Medicine	University of Veterinary Medicine	A	A	0
Theatre Faculty	Academy of Music and Performing Arts	A	A	0
Film and Television Faculty	Academy of Music and Performing Arts	A	A	0
Faculty of Music and Dance	Academy of Music and Performing Arts	A	A	0
St. Elizabeth University	St. Elizabeth University	B	A	1
Academy of Fine Arts and Design	Academy of Fine Arts and Design	A	B	-1
Faculty of Electrical Engineering	University of Žilina	C	B	1
Faculty of Operation and Economics of Transport and Communications	University of Žilina	A	B	-1
Faculty of Natural Sciences	University of Žilina	D	C	1

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Faculty of Management Science & Informatics	University of Žilina	D	A	3
Faculty of Special Engineering	University of Žilina	D	B	2
Faculty of Civil Engineering	University of Žilina	C	A	2
Faculty of Mechanical Engineering	University of Žilina	A	B	-1

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Table 15 shows a comparison of faculty classification according to ARRA Rating “A” and according to the Comprehensive Accreditation (the reduced scale) structured by fields of research. The table shows that the best match between ARRA Ratings and the Comprehensive Accreditation is in the subject area group of PRIR, MED, and UMEL. The exceptions in this match include the Faculty of Healthcare and Social Work of Trnava University with a significantly better ARRA ranking than that under the Comprehensive Accreditation and the Faculty of Fine Arts, Academy of Arts, which was substantially better rated in the Comprehensive Accreditation than in the ARRA Rating. Similarly in the EKONOM group, the agreement between ARRA Rating “A” and the Comprehensive Accreditation is violated only in the case of the Faculty of Business Management, University of Economics (difference 2) and Matej Bel University’s Faculty of Economics (difference 3). Both these exceptions have a higher rating in the Comprehensive Accreditation than in the ARRA Rating. Conversely, the greatest disagreement between ARRA Ratings and the Comprehensive Accreditation can be most significantly seen for the AGRO subject group but similarly significant is the disagreement of these ratings for the TECH and OTHER subject group. Exclusively one-sided mutual differences in ratings are in the PRAV and TEOLOG groups. While in the PRAV group, the difference is two grades in favour of the Comprehensive Accreditation for all the faculties under assessment, the TEOLOG group includes a one-grade systematic difference in favour of ARRA Rating “A”. The only exceptions are the Faculty of Greek Catholic Theology, Prešov University, and the Faculty of Theology of the Catholic University in Ružomberok which have their rating higher by two grades in the Comprehensive Accreditation. This difference is given by the diametrically different results of both faculties’ rating in ARRA Rating “A” in comparison with the Comprehensive Accreditation. Ratings in the FILOZOF group compare similarly, the exception in favour of the Comprehensive Accreditation being Constantine the Philosopher University’s Faculty of Philosophy and Matej Bel University’s Faculty of Humanities. It can be concluded that this is the manifestation of primarily the more homogeneous, less differentiated classification of the Comprehensive Accreditation with 22.22% share of the lowest classification “C” compared to ARRA Rating “A” in which the share of the lowest classifications “C” and “D” reached 53.53%.

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Table 15. Comparison of faculty classification according to ARRA Rating “A” and according to the Comprehensive Accreditation (the reduced scale) structured by fields of research

FACULTY	INSTITUTION	ARR A Rating “A”	Reduced classification by the AC	Difference
AGRO				
University of Veterinary Medicine	University of Veterinary Medicine	A	A	0
Faculty of Biotechnology and Food Sciences	Slovak University of Agriculture	B	A	1
Faculty of Agrobiology and Food Resources	Slovak University of Agriculture	D	A	3
Faculty of Horticulture and Landscape Engineering	Slovak University of Agriculture	D	A	3
Faculty of Forestry	Technical University in Zvolen	A	B	-1
Faculty of Wood Sciences and Technology	Technical University in Zvolen	D	B	2
UMEL				
Faculty of Music and Dance	Academy of Music and Performing Arts	A	A	0
Film and Television Faculty	Academy of Music and Performing Arts	A	A	0
Theatre Faculty	Academy of Music and Performing Arts	A	A	0
Academy of Fine Arts and Design	Academy of Fine Arts and Design	A	B	-1
Faculty of Music	Academy of Arts	A	A	0
Faculty of Fine Arts	Academy of Arts	C	A	2
Faculty of Dramatic Arts	Academy of Arts	C	C	0
Faculty of Arts	Technical University of Košice	D	B	1
MED				
Faculty of Medicine	Pavol Jozef Šafárik University	A	A	0

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Jessenius Faculty of Medicine	Comenius University	A	A	0
Faculty of Pharmacy	Comenius University	A	A	0
Faculty of Medicine	Comenius University	A	A	0
Faculty of Healthcare and Social Work	Trnava University	A	C	-2
St. Elizabeth University	St. Elizabeth University	B	A	1
Faculty of Social Sciences and Healthcare	Constantine the Philosopher University	C	B	1
Faculty of Healthcare	Catholic University	D	C	1
Faculty of Healthcare	University of Prešov	D	C	1
PRIR				
Faculty of Mathematics, Physics, and Informatics	Comenius University	A	A	0
Faculty of Natural Sciences	Comenius University	A	A	0
Faculty of Natural Sciences	Pavol Jozef Šafárik University	A	A	0
Faculty of Natural Sciences	Constantine the Philosopher University	C	C	0
Faculty of Ecology and Environmental Sciences	Technical University in Zvolen	C	B	1
Faculty of Natural Sciences	University of Žilina	D	C	1
Faculty of Natural Sciences	Matej Bel University	D	C	1
Faculty of Natural Sciences	University of SS. Cyril and Methodius	D	C	1
EKON				
Faculty of Economics	Technical University of Košice	A	A	0
Faculty of Economics and Management	Slovak University of Agriculture	A	A	0
Faculty of National Economy	University of Economics	A	A	0
Faculty of Business	University of Economics	A	A	0
Faculty of Business Economics	University of Economics	B	B	0
Faculty of Economic Informatics	University of Economics	C	B	1
Faculty of Business Management	University of Economics	D	B	2

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Faculty of Management	Comenius University	C	B	1
Faculty of Operation and Economics of Transport and Communications	University of Žilina	A	B	-1
Faculty of Economics	Matej Bel University	D	A	3
Faculty of Management	University of Prešov	D	/	/
Faculty of Economics	J. Selye University	D	C	1
TECH				
Faculty of Chemical and Food Technology	Slovak University of Technology	A	A	0
Faculty of Civil Engineering	Slovak University of Technology	A	A	0
Faculty of Electrical Engineering and Informatics	Slovak University of Technology	A	A	0
Faculty of Mechanical Engineering	Slovak University of Technology	C	B	1
Faculty of Architecture	Slovak University of Technology	C	A	2
Faculty of Informatics and Information Technologies	Slovak University of Technology	B	A	1
Faculty of Material Sciences and Technology	Slovak University of Technology	D	A	3
Faculty of Metallurgy	Technical University of Košice	A	B	-1
Faculty of Mining, Ecology, Process Control and Geotechnology	Technical University of Košice	A	B	-1
Faculty of Mechanical Engineering	Technical University of Košice	A	B	-1
Faculty of Electrical Engineering and Informatics	Technical University of Košice	B	A	1
Faculty of Aeronautics	Technical University of Košice	D	/	/
Faculty of Civil Engineering	Technical University of Košice	B	B	0
Faculty of Manufacturing Technologies	Technical University of Košice	D	A	3
Faculty of Engineering	Slovak University of Agriculture	C	A	2
Faculty of Environmental and Manufacturing Technology	Technical University in Zvolen	D	C	1
Faculty of Mechanical Engineering	University of Žilina	A	B	-1
Faculty of Management Science & Informatics	University of Žilina	D	A	3
Faculty of Electrical Engineering	University of Žilina	C	B	1
Faculty of Civil Engineering	University of Žilina	C	A	2
Faculty of Special Engineering	University of Žilina	D	B	2

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Faculty of Special Technology	Alexander Dubček University in Trenčín	D	B	2
Faculty of Industrial Technologies	Alexander Dubček University in Trenčín	A	A	0
Faculty of Mechatronics	Alexander Dubček University in Trenčín	D	C	1
TEOL				
Evangelical Theological Faculty	Comenius University	A	B	-1
Roman Catholic Faculty of Theology of Cyril and Methodius	Comenius University	A	B	-1
Faculty of Orthodox Theology	University of Prešov	A	B	-1
Greek Catholic Faculty of Theology	University of Prešov	C	A	2
Faculty of Theology	Catholic University	D	B	2
Faculty of Theology	Trnava University	A	B	-1
Faculty of Reformed Theology	J. Selye University	C	B	1
FIL				
Faculty of Humanities and Natural Sciences	University of Prešov	A	B	-1
Faculty of Philosophy	University of Prešov	A	B	-1
Faculty of Philosophy	Trnava University	B	B	0
Faculty of Philosophy	Catholic University	D	C	1
Faculty of Philosophy	Comenius University	A	B	-1
Faculty of Philosophy	Constantine the Philosopher University	C	A	2
Faculty of Humanities	Matej Bel University	D	B	2
Faculty of Philosophy	University of SS. Cyril and Methodius	D	C	1
PRAV				
Faculty of Law	Comenius University	C	A	2

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Faculty of Law	Trnava University	C	A	2
Faculty of Law	Pavol Jozef Šafárik University	C	A	2
Faculty of Law	Matej Bel University	D	B	2
PED				
Faculty of Physical Education and Sports	Comenius University	A	C	-2
Faculty of Education	Comenius University	C	C	0
Faculty of Sports	University of Prešov	A	/	/
Faculty of Education	University of Prešov	B	B	0
Faculty of Education	Trnava University	A	C	-2
Faculty of Education	Constantine the Philosopher University	A	B	-1
Faculty of Education	Matej Bel University	C	B	1
Faculty of Education	Catholic University	D	C	1
Faculty of Education	J. Selye University	C	C	0
OTHER				
Faculty of Social and Economic Sciences	Comenius University	A	B	-1
Faculty of International Relations	University of Economics	A	C	-2
Faculty of Political Sciences	Matej Bel University	A	A	0
Faculty of European Studies and Regional Development	Slovak University of Agriculture	B	/	/
Faculty of Central European Studies	Constantine the Philosopher University	D	C	1
Faculty of Public Administration	Pavol Jozef Šafárik University	D	C	1
Faculty of Social and Economic Relations	Alexander Dubček University in Trenčín	D	C	1
Faculty of Mass Media Communication	University of SS. Cyril and Methodius	C	B	1
Faculty of Philology	Matej Bel University	D	/	/

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CONCLUSION

The results of the comparison of ARRA Ratings and the Comprehensive Accreditation show that despite methodological differences, such comparison is possible. Its usefulness consists in the methodological level, reminding about the importance of correct definition of rating objectives and correct and fair definition of indicators and the methodology of their processing into information – the rating. From the qualitative point of view, the comparisons showed only poor agreement between the results of ARRA Ratings and the Comprehensive Accreditation, primarily for the group of universities. For the group of unclassified higher education institutions, the disagreement between ARRA Ratings and the Comprehensive Accreditation is primarily a reflection of the fact that ARRA Ratings are independent of the assessed and are quality-oriented while the Comprehensive Accreditation is consensual with the assessed and rather quantity-oriented.

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CONCLUSION

The study is a reflexion of the Comprehensive accreditation of higher education institutions as carried out by the Accreditation Commission and also a reflexion of those trends that can be presently considered significant in the field of quality assessment of higher education institutions. From the methodological viewpoint, the document includes three methodologically different approaches to the assessment of performance or quality of higher education institutions. A common feature of all three examples is the arbitrary choice of the scales used for the classification (Carnegie), Comprehensive Accreditation (AC), or rating (ARRA). A common feature of the Comprehensive Accreditation and ARRA Rating was the necessity to carry out a primary assessment at the level of subject groups, i.e., at the level of faculties, and only subsequently to classify or rate the higher education institution. This shows that when assessing higher education institutions (although for different purposes), it is not possible to find some “natural” scale independent of their complex character and, at the same time, independent of the objective of the corresponding assessment.

Each methodology for the classification of higher education institutions should, above all, be reliable. To be reliable, it has to be correct and accurate. For a methodology (and, subsequently, the entire classification) to be correct, both must have a clearly defined purpose or objective. Likewise, for the purpose of satisfying the condition of correctness, the methodology must be transparent, having the form of comprehensibly presented indicators (parameters) and operations, through which it arrives at a result. The condition of methodology’s transparency is valid also from the viewpoint of satisfying the condition of accuracy. The condition of methodology’s accuracy must be complemented, in addition to the condition of transparency, with that of general availability and relevance of input data used in the framework of the given classification to conduct the classification itself.

With respect to the selection of parameters in the assessment or the manner of their processing into information, all three presented cases differ.

The Carnegie Classification[®] is an example of a methodology in which a single indicator (parameter) is used for the purposes of classifying a group of universities, the indicator being the amount of expenditures for research, and it is used in two forms – as the absolute amount of expenditures and as the amount of expenditures calculated per academic (creative) employee. This single indicator is processed using a modern statistical method (Principal Component Analysis, PCA) to enable classifying the given group of universities into three separate groups depending on the absolute amount of expenditures for research and

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the amount of such expenditures calculated per faculty member. This means that the classification result reflects the total amount of research expenditures (the “institution success” parameter) as well as the amount of expenditures per research worker (the “research intensity” parameter). As admitted by the authors themselves, the qualitative dimension of the parameter used is uncertain. With respect to reliability, this classification satisfied the basic conditions for its correctness and accuracy, as it has a clearly defined goal, transparent parameters (target group + indicators) and operations to achieve the result, and uses publicly available data.

The Comprehensive Accreditation is an example of a methodology that used several selected parameters (6 in total) which are dominated by parameters characterising PhD studies (generally considered to be rather parameters of research, 3 in total) and research as such (2 in total), education being also assessed using another parameter (number of 1st- and 2nd-level study students per teacher). The above-mentioned parameters are quantitative in their essence, but they are generally believed to include a certain qualitative element. Individual parameters were assessed on an arbitrarily defined 10-grade scale at the level of fields of research. Likewise, the classification of universities into three groups is a result of an arbitrarily defined scale of satisfying the relevant parameters by the determined share of faculties out of their total number. Using such an approach – which can be seen as a specific type of rating classification, i.e., using several selected parameters, a simple mathematical apparatus, and arbitrarily defined scales – it was possible to divide higher education institutions into three qualitatively differing groups. In the first step, the critical parameters turned out to be the “PhD parameters”, failing to meet which meant exclusion of the higher education institutions from among universities and, in the second step, the critical parameter was the educational (“student”) parameters where too large a number of students per teacher pushed some higher education institutions out of the group of universities. In other words, if an institution could not show that it provided PhD studies at least at a level close to the Slovak average, it was not classified as a university. If, at the same time, it showed a below-average number (and quality) of publications, a low amount of research grants and a high number of students per teacher, it could only be classified as a so-called unclassified higher education institution. On the basis of the used methodology and its results, the Comprehensive Accreditation can be characterised as a specific rating of higher education institutions based on satisfaction of minimum levels of selected quantitative indicators (the minimum threshold principle) which also reflects qualitative differences between higher education institutions to the extent necessary for basic differentiation of higher education institutions. Considering basic

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requirements for reliability, the Comprehensive Accreditation represents a relatively varied mixture. Its objective is defined clearly, as is the target group. However, the transparency of indicators and operations is questionable, as some of them are of utterly subjective nature (the “on the spot” assessment and evaluation by the ad hoc working group). Likewise, the input data is not sufficiently transparent, as higher education institutions had to prepare so-called accreditation files as ad hoc files that were never published. Their correctness and accuracy is thus unknown and unverifiable. The greatest measure of subjectivity is shown by the conclusion of the Comprehensive Accreditation involving revision and modification, in a quite peculiar manner, of original proposals of the Accreditation Commission for classification of a group of five higher education institutions (25% of public higher education institutions!) proposed for inclusion in the group of so-called unclassified higher education institutions.

ARRA Ratings are an example of classification attempting to find such a set of indicators and the relevant mathematical apparatus, using which it would be possible to quantitatively as well as qualitatively characterise individual higher education institutions and rate them accordingly. The set of parameters used by ARRA is almost three times larger (17) than the set of parameters used in the Comprehensive Accreditation (6), with at least 7 of ARRA parameters having a largely qualitative nature (citations/publication, citations/faculty member, students/professor, teachers with PhD/teacher, etc.). The assessment itself was also carried out at the level of faculties agglomerated into typical groups, this being on the basis of two internal benchmarks used separately in two models of ARRA Ratings. The first benchmark used was the average of data based on data centring separately for the sum of RESEARCH indicators and separately for the sum of EDUCATION indicators (ARRA Rating Model “A”). Subsequently, individual higher education institutions could be rated in the coordinates of RESEARCH vs. EDUCATION. This classification of higher education institutions, based on comparison with the “average”, is very clear for the “consumers” (the public, media, etc.) and “clients” (employers, state administration, etc.), as it allows to easily recognise “above-average”, “average”, and “below-average” higher education institutions.

The second benchmark used (ARRA Rating Model “B”) was the faculty having the highest value of a sum of parameters. An arbitrary, evenly distributed scale was used to rate individual faculties within the group to which they were assigned. The respective higher education institution was then rated on the basis of an arithmetic average of a sum of faculty ratings. This classification is strongly quality-oriented. Its “disadvantage” with respect to consumers and clients consists in its very ability to clearly differentiate high-quality faculties

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in the same group from those having a lower quality. This is what creates a more demanding situation for the “clients” considering the understanding of a so designed rating of an institution as a whole. The rating of the Slovak University of Technology (STU) is a typical example. According to Model A, STU is an above-average higher education institution. However, according to Model B, its rating is not higher than “B”, STU ending up last in the group of the B-rated institutions having the mathematical rating value of 60.5 (the “C” rating starts at 59.9). Such differences in ratings of the same institution do not have to be surprising. When we compare STU faculties with the Slovak average of faculties of technology, then virtually all of them will be rated “A”. However, when we compare STU faculties with the best faculty of technology in Slovakia, which happens to be the STU Faculty of Chemical and Food Technology, then all of them, except for this single faculty (rated “A”) and the STU Faculty of Electrical Engineering and Informatics (rated “B”), are rated “C” (5 faculties in total) which means that the institution as such statistically should not be rated higher than “C”. The resulting rating “B” was obtained only thanks to the sufficient influence of both high-quality STU faculties on the total mathematical rating value and in comparison to, on average, higher values of ratings for other faculties of this institution. Other faculties with technical and technological orientation have similar ratings and thus half of universities of technology were rated “B” and half were rated “C” in Model B which may be surprising. However, these differences in the results are not due to an error in some of the methodologies used but a reflection of their different orientation. While Model A is oriented at determining the “distance” of the assessed faculty/institution from the average on a normalised scale which mathematically reduces the scope of the scale, Model B is oriented at determining the “distance” of the assessed faculty/institution from the best one on an absolute scale where the differences, i.e., “distances”, may be as significant as in the above-mentioned case of STU. In other words, STU is an above-average higher education institution relative to the average of faculties of technology in Slovakia but it is a below-average higher education institution relative to the quality of the best faculty of technology in Slovakia. More differing ratings, and not only among higher education institutions of technology, can be found when comparing models A and B. Since Model B is significantly quality-oriented, it can be observed that this rating is always more “strict” and assigns a lower classification grade than Model A. With respect to reliability, ARRA Ratings comply with all basic conditions. ARRA uses a well-known methodology that has been published for a long period of time, with a clearly defined, transparent objective, target groups, and indicators. Similarly as in the case of rankings, ratings also used exclusively publicly available official data provided by the

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Ministry of Education of the Slovak Republic. Both ARRA Rankings can therefore be described as sufficiently reliable.

On the basis of the used methodology and its results, ARRA Ratings can be characterised as a typical classification of higher education institutions independent of the assessed, based on publicly accessible data processed using internal benchmarks which reflect primarily qualitative differences between faculties and thus also higher education institutions.

The Comprehensive Accreditation can be characterised as a classification of higher education institutions based on ad hoc parameters agreed consensually with the assessed, dominated by quantitative indicators, the threshold (limit) values, i.e., the benchmark, consisting of values at the level of the average and lower than the average of the selected scale. As shown by the comparison of the Comprehensive Accreditation with ARRA Rating Model A, this often shifts the benchmark of the Comprehensive Accreditation below the Slovak average. The methodology of the Comprehensive Accreditation is also marked by the influence of the subjective “on the spot” assessment by the working group and by other external influences and processes that considerably distort its results. Both the methodology and the results of the Comprehensive Accreditation imply not only the arbitrary nature of the classification scale used but primarily the lenience or outright low exactingness of the Comprehensive Accreditation to the assessed and its openness to external influences. For example, to reach the level of a “university-type higher education institution” it was enough if 60% of faculties satisfied the required criteria at least at the level of B- or C+ which corresponds to fifth and sixth classification grade, respectively, on the ten-grade scale of the Comprehensive Accreditation. In other words, it was enough for a Slovak university if at least 60% of its faculties reached at least an average or moderately below-average level of research indicators defined. This means that in Slovakia, an average is already considered a university standard. All the rest, i.e., the substandard, is satisfactory for an “additional”, second grade, a so-called “unclassified” higher education institution. At the same time, dissatisfaction with the original proposal of the Accreditation Commission for classification of a higher education institution was enough, whoever this dissatisfied entity was, to “remedy” the situation in an extremely flexible manner.

One common result applies to all classifications analysed, namely that the highest and the lowest quality can be identified very easily and these are less dependent on the used methodology than the “average”. Average values, their scope and variance are substantially more difficult to evaluate and the final result is significantly dependent on the used methodology’s ability to differentiate. This is primarily given by the definition of the

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classification objective. Likewise it applies that what is critical for the final result of the classification is its robustness given by the measure of resistance to external influences. In this, the Comprehensive Accreditation shows the lowest measure of robustness.

Further existence of the Slovak higher education system will be shaped by the results of the Comprehensive Accreditation. It should be noted that their final form is significantly affected by a systematic error which is implied by the terminological and competence confusion as introduced by Section 2 of Act No 175/2008 when out of three classification grades defined it used only the first and an “additional” second one. The text of the law apparently defines a curious or rather confusing classification of higher education institutions. On the one hand, higher education institutions are classified as “university-type” or “special higher education institutions” (paragraph 13) while on the other hand, a “third” (in fact, second) classification level of “higher education institutions” is added to this two-level classification (paragraph 16). Thus instead of returning to the known and in other countries still commonly functioning binary model of a higher education system of universities and special higher education institutions, which could have been complemented with an additional group of institutions oriented primarily at the first level of higher education, we built our own “original” into Act No 131/2002. Similarly significantly the results of the Comprehensive Accreditation are affected by its low resistance to external influences. These are two systematic errors occurring in the Comprehensive Accreditation. In their essence, these are errors of strategic importance with respect to impacts of the Comprehensive Accreditation, as they form a mixture of 11 “universities” and other at least 9 “unclassified higher education institutions”. Instead of a clear differentiation, an unnecessary irritation with immediate attempts to escape from “unclassification”, which is quite a natural response by the “unclassified”. Yet as shown by the conclusion of the entire process, the transition between both classifications was all too simple. The results of the Comprehensive Accreditation are significantly affected by the above-mentioned system errors and distort the actual condition of higher education institutions in the country. According to the classification by the Comprehensive Accreditation, Slovakia has presently a strange mixture of universities and unclassified higher education institutions. It is astonishing how little (effort, time, arguments, etc.) is enough to turn a “higher education institution” (2nd grade of classification) into a “university” (1st grade of classification). The conclusion of the Comprehensive Accreditation and its results implemented in this way can disqualify the entire process. Yet the Comprehensive Accreditation is a substantial step in the right direction, to the differentiation of higher education institutions.

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This study also shows that higher education institutions know little about their quality and rely on and are satisfied with the results of accreditation. Yet due to inertia, there continues to be an external pressure on quantitative “development” of education with higher education being made available to over 70% of the age cohort. This results in a situation where the quality of the education process and the quality of education obtained is declining. We fail to respond to the developments in Europe in the framework of the European Higher Education Area and the European Research Area (EHEA + ERA). The classifications carried out show that established higher education institutions and faculties with a tradition exceeding 50 years are in a better position to ensure quality of their research and education stemming therefrom and do not suffer too much of a decline in their quality due to massification of the educational process. However, with the persisting egalitarian monoculture of universities, even they are unable to ensure adequate development of their quality that would make them partners in the European Higher Education and Research Area. Younger institutions and faculties are failing in their efforts to meet the requirements for quality of the education they provide and their quality (apart from exceptions) has been lagging behind in the longer term and starts to decrease.

At the same time, the classifications showed the incorrectness of the present development of the higher education system in the form of a homogenised monoculture of universities. The actual state of affairs shows that such a development was not sustainable even in the medium term of 20 years. The homogeneous culture of 17 public universities in the 5.3 million society of Slovakia was a curious extreme. The Comprehensive Accreditation was the first step to returning to a natural path of development of a differentiated system of higher education institutions with a varied structure. It is to the detriment of further development of this system that at this critical moment of a first differentiation and stepping towards (?) a professionally and qualitatively heterogeneous structure of higher education institutions, there was not enough courage for a more consequent differentiation. This would enable paying special attention to each group of higher education institutions, which is a necessary prerequisite for proper development of the entire system. Slovakia as a completely standard, quantitatively limited population does not have the capacity for 11 universities. Without thorough and consequent differentiation of higher education institutions oriented at sufficient stratification of human and financial potential with a focus on their concentration on the needs of the development of research and the broad spectrum of higher education, Slovakia and its universities have no chance of satisfying the sharply changing needs of the country or being a partner of other countries in the area of Europe as well as globally.