

HIGHLIGHTS

Highlight 1. Shanghai Ranking – Where are we now and what can we expect?

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Recently there was a lot of outrage about the news that the University of Belgrade (UB) has dropped a hundred spots on the Shanghai Ranking list, and now ranks 301–400, after a two-year period during which UB was ranked 201–300. In the press that chases after sensational titles, we could read that it was a drastic fall or even a dizzying fall. However, there was no detailed analysis, at least in the daily press, while weekly newspapers approached the topic much more seriously. In this Highlight, the aim is to conduct a deeper analysis of this decline in order to answer whether it is really so big and significant. We will try to give an answer to the question of why the Shanghai Ranking took precedence in our country, and in the world, and became the main benchmark for comparing universities. Finally, we will also look at research in scientific fields where a special focus will be on social sciences and humanities (SSH).

International ranking of universities is not only relevant to the academic community, current and future students, but also has a wider economic and social significance. The quality of education as well as the ability of society to create and adopt innovations is an important determinant of the country's economic and social development. Universities play an important role in education because they educate not only engineers, economists, lawyers, but also teachers for primary and secondary schools and lay the foundations for the development of society in the future. In addition, fundamental scientific research is carried out at universities, as well as advanced applied research that creates the basis for future technological development. Therefore, the quality of universities in a country is an indicator of its ability to take part in scientific and technological progress. On the other hand, each country shows the place and importance of education and science through the amount of resources the state allocates for science and education, the organisation of the scientific community, the motivation of the economy to invest in scientific and technical innovations, etc.

The first part of the Highlight deals with the evaluation criteria for universities in the Shanghai Ranking, and then analyses the position of the universities in Serbia with a special focus on the University of Belgrade. In

the end, we will analyse the position of our universities in the field of social sciences and humanities compared to the universities of the former socialist countries of Central and Eastern Europe.

Shanghai Ranking for 2018

The Academic Ranking of World Universities (ARWU) is a survey that has been conducted by the Shanghai Jiao Tong University since 2003 and presents a list of the most prestigious universities by defined criteria. This survey is known as the Shanghai Ranking, while in Serbia the term Shanghai List has been adopted. The objective of the survey is to rank universities according to excellence in scientific research and scientific reputation of universities. With the intention of defining the ranking of best universities in China in relation to the rest of the world universities, the results had far greater echo, and the Shanghai Ranking has become the most cited survey in the world when it comes to ranking universities. The reason can be found in the clearly defined research objective, which is easier to measure by precise criteria than some other components of university activity such as the quality of teaching. Therefore, it is important to note that teaching and the quality of teaching are not the subject of research and analysis within the Shanghai Ranking, which is often overlooked. It is only about the excellence of scientific research output. The quality of education and learning is indirectly measured through the ability of the university to create future scientists who will leave a trace at the global level.

The survey represents a list of 500 best-ranked universities, while in the last two years this list has been extended to 800, and this year to as many as 1000 best-ranked world universities. For the reasons that will be explained more later on, when reporting the results, the ranking is not complete. Only the first 100 universities are fully ranked, while in lower positions universities are grouped in groups of 50 or 100 universities. Thus, we have universities ranging from 101 to 150, or from 151 to 200, and from the 201st place on, groups consist of 100 universities.

That the excellence of scientific research work is the basis of this ranking can also be seen from the methodology behind the survey, that is, the criteria and indicators used in it. The ranking is based on four criteria that are measured through six indicators. The four criteria are the quality of education, the quality of teaching staff, the scientific and research contribution, and the per capita academic achievements of institutions.

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Table 1. Shanghai Ranking criteria and list of indicators

Criterion	Indicator	Weighted indicator coefficient
Quality of education	Alumni	0.1
Quality of teaching staff	Award	0.2
	HiCi	0.2
Science research papers	N&S	0.2
	PUB	0.2
Academic achievements per capita	PCP	0.1

We can see in Table 1 that criteria do not play an important role, but they describe what was of interest to survey creators and, finally, what they measure with the defined indicators. In order to fully understand the results of this survey, it is necessary to understand each indicator that affects the final ranking of the university:

Alumni (awards of former graduates) – the total number of former graduates of the institution surveyed who received the Nobel Prize or the Fields medal. This number is multiplied by the coefficient that represents the time when the person received the prize. Thus, everyone who received the award post 2011 will be multiplied by 1, each person who received the award in the period 2001–2010 will be multiplied by 0.9, and so on, all the way to the period 1921–1930 when the number of people with a reward is multiplied by 0.1.

Award (awards of the teaching staff) – the total number of teaching staff of the observed institution who received the Nobel Prize or the Fields medal. As in the previous indicator, this number is multiplied by the coefficient that represents the time when the person received the prize.

HiCi – the number of highly cited researchers. The Clarivate Analytics list of highly cited researchers for 2017 served as the basis for creating this indicator².

N&S – Number of papers published in Nature and Science journals in the period from 2013 to 2017. In order to distinguish the importance of each author of the paper and make a distinction when authors are with multiple institutions, each work is multiplied by the coefficient that represents the authors' participation in the work. The institution of the responsible author is multiplied with the coefficient of 1, the second author's with a coefficient of 0.5, 0.25 for third, while for all other authors the coefficient is 0.1.

For the field of social sciences and humanities, this

indicator is not considered, but rather this weight coefficient is equally redistributed to other indicators.

PUB – the total number of papers published on the SCIE / SSCI list in 2017. What is very important for further debate and analysis of potential measures of progress in future ranking – any work published on the SSCI list receives double points.

PCP – the weighted score of five coordinated indicators is divided by the number of employees on the payroll within the institution. For institutions for which there is no number of employees, the weighted average of the above indicators is used.

We see that the criteria are really in line with the objectives of the Shanghai Ranking – excellence in research, and therefore the greatest importance is attached to prizes such as the Nobel Prize and papers in journals such as Nature and Science, as we see in Table 1. As much as 50% of the total score goes to this element of scientific research, and perhaps even more when taking into account how the PCP indicator, related to the per capita achievement, is calculated. The list of highly-cited researchers can be combined with the above indicators, as the excellence in scientific research is the only thing this indicator examines. And this is one of the most important differences between this survey and the rest in the field of higher education efficiency – the number of published papers is not crucial, but the number of outstanding papers and exceptional achievements of the strongest links within the institutions.

The biggest criticism directed at this survey focuses on the choice of weights, i.e. weight coefficients for each indicator. Related to this is the question of the robustness of the results because one Nobel winner can greatly improve the position of the university. The reason for the grouping of 100 universities lies in the sensitivity of the weighted average as ranking measures and a very fragile ranking list where a top-quality published work can make a change in the ranking, not to mention the appearance of one researcher on the list of the most highly-qualified scientists. In response, survey creators present a full ranking and a final score only for the first 100 universities, while the remaining universities are grouped together.

The Position of Serbian Universities in Shanghai Ranking

As in previous years, the University of Belgrade was the best ranked university in Serbia and the region, but this year it was lower ranked, in the group of universities between 301 and 400. Nevertheless, even with this decline, the University of Belgrade can be considered

² The list can be found at <https://hcr.clarivate.com/researchers-list/archived-lists/>.

sharing the second place together with the University of Warsaw on the list of all former socialist countries of Central and Eastern Europe, behind the University of Karlovy Vary in the Czech Republic as the first ranked. Although the University of Tartu is ranked 301-400, the score of this university is slightly lower than the results of the University of Belgrade and Warsaw. Table 2 shows the universities of the former socialist countries of Central and Eastern Europe on the Shanghai Ranking in positions up to the 500th place.

Table 2. Positions of former socialist countries of the Central and Eastern Europe in the Shanghai Ranking, 1-500

University	Country	Ranking
Charles University in Prague	The Czech Republic	201-300
University of Belgrade	Serbia	301-400
University of Tartu	Estonia	301-400
University of Warsaw	Poland	301-400
Jagiellonian University	Poland	401-500
University of Ljubljana	Slovenia	401-500

In addition to these universities, the good ranking of the universities in Greece and Austria should also be highlighted. Greece has three universities in the top 500, the National and Capodistrian University of Athens rank 301-400, Aristotle University of Thessaloniki and the National Technical University of Athens are between 401 and 500. Austria has as many as six institutions on the list, with the University of Vienna being the best-ranked university between 101st and 150th place.

Expansion of the list to 1000 universities enabled one more Serbian university to appear on the list, the University of Novi Sad, which ranked 901-1000. Croatia has its representative between 501 and 600. Also, Slovenia, in addition to the University of Ljubljana ranked 401-500, also has the University of Maribor, which is in the group of universities between 501 to 600th place. Montenegro, Bosnia and Herzegovina, Macedonia, and Albania do not have representatives in the top 1000 universities when it comes to this ranking. Two universities from Romania also made it on the list - University Babes-Bolyai (601-700), as well as the University of Bucharest (801-900).

The University of Belgrade officially dropped one category lower and this year ranked in the university group from 301 to 400, compared to the previous two years when it was ranked from 201 to 300. However, how much of a decline are we really talking about? If we get into a more precise measuring of the positions and results, we can see that the University of Belgrade has

been ranked consistently around the 300th place for the past three years. Unfortunately, that is exactly where the cut-off line is.

Figure 1 gives a more precise position of the University of Belgrade. We see that the first significant step was made in 2012 when UB first appeared on this list. After that, the next year was followed by a jump of about 100 places. A stable position for three years was upgraded in 2016 when the University of Belgrade first ranked around the 300th position, which is its current position. Indeed, if we look at absolute ranks, the University of Belgrade in 2016 occupied the 298th place, the next year 284th, while this year it landed on the 302nd position. We cannot speak of a drastic change in this three-year period, but rather of a lack of methodology that portrayed this change as a drastic fall at a first glance.

Figure 1. University of Belgrade's positions on the Shanghai Ranking since its establishment



Source: <http://www.shanghairanking.com/World-University-Rankings/University-of-Belgrade.html>

Another good way to show the stable position of the University of Belgrade is to observe points within each category over the past six years, as shown in Table 3. The number of published papers has been stable over six measurements, as well as the per capita performance of researchers measured by the PCP indicator. What distinguished the University of Belgrade in rankings and raised its position are points for highly cited researchers. And here we come back to the essence of the definition of what the Shanghai Ranking examines - excellence in scientific research. Namely, this jump occurred exclusively because of the two names that are on this prestigious list, and who are affiliated with the University of Belgrade. Long-term sustainability around the 300th position and the impact of this indicator will depend on the emergence of top researchers in the forthcoming period.

Is it right that these huge systems are ranked on the basis of a few individuals who make a difference? This is a matter of a bigger debate and objectives of the survey itself, what is it that we want to achieve. Nevertheless, proving that considering excellence makes sense is the fact that the very mention of Darren Acemoglu brings to

mind MIT as his institution; the reputation of the most important universities like Harvard or Princeton came largely from scientific giants who taught or studied at those institutions.

Table 3. University of Belgrade's points by indicators for the period 2013-2018.

Year	Alumni	Award	HiCi	N&S	PUB	PCP
2018	0	0	13.5	4.3	43.4	22.3
2017	0	0	15.4	4.5	43.6	23.1
2016	0	0	10.3	4.4	43.7	22.3
2015	0	0	0	2.5	43.3	21.0
2014	0	0	0	2.2	44.9	20.9
2013	0	0	0	2.1	44.4	20.4

The results of the universities of the former socialist republics of Central and Eastern Europe by indicators are presented in Table 4, with the addition of the University of Novi Sad, as well as the University of Zagreb. What primarily stands out is the great achievement of the University of Belgrade when it comes to the value of the indicator that indicates the number of published papers on the SCIE / SSCI list (indicator PUB). Only Charles University in Prague has a higher number of published papers than the University of Belgrade at the level of Central and Eastern Europe. How good a result this is, is also reflected in the fact that Princeton has a score of 44.2 here. If we ranked top 1000 universities only by this criterion, the University of Belgrade would be at the 189th place. The University of Novi Sad shares the 659th place according to this indicator, which is also a better position than its final one.

Table 4. Positions of the universities of Central and Eastern Europe by indicators for 2018

University	Alumni	Award	HiCi	N&S	PUB	PCP
University of Belgrade	0	0	13.5	4.3	43.4	22.3
University of Novi Sad	0	0	0	0	25.2	12.3
Charles University in Prague	8.8	0	13.5	8.9	46.9	19.9
University of Warsaw	15.2	0	9.6	11.5	32.6	18.3
University of Tartu	0	0	21.4	11.5	26.1	17.5
University of Ljubljana	0	0	0	8.3	35.3	15.1
University of Zagreb	0	0	0	4.2	33	16.3

One of the biggest objections in our professional community and beyond concerning the indicator that measures the number of published papers is that the Shanghai Ranking measures the total number of papers, putting large universities such as the University of Belgrade in a privileged position, and that by measuring the total number of publications we do not see the effects by individual researchers. However, the last indicator, PCP, measures precisely the uniqueness of the university by one researcher, as already explained. We see that even here the University of Belgrade does not fare badly, although it is not as good as an indicator related to the total number of papers. If we would rank universities solely on this criterion, UB would be in 252nd place, while the University of Novi Sad would occupy the 823rd position. Of course, when it comes to Princeton, its score for this indicator is 73.3, which shows that the space for progress is huge.

The significant influence of several researchers who are considered the most cited persons within a particular field can be seen from the example of the University of Tartu, which primarily built its position on the Shanghai List with a solid value of indicators related to the number of highly-cited researchers. On the other hand, the results of the University of Warsaw are significantly influenced by the fact that they have former students who have won the Nobel Prize.

The reason for the small number of universities from Central and Eastern Europe in the top 500 could be due to the increasing independence of faculties and departments from large systems such as universities. In that case, it is to be expected that we have smaller institutions within the scientific fields that are specialised and highly ranked within their expertise. For this reason, since 2017, a more precise measurement of the university for specific scientific areas has been introduced. This year in the Shanghai Ranking, there were 54 scientific areas in focus, and four of our universities were listed within at least one area. The University of Belgrade has been top ranked within 27 fields. The University of Novi Sad was also present in three areas, while the Universities in Kragujevac and Nis are among the best for one scientific field.

The stable number of published papers on the SCIE / SSCI list over a six-year period suggests that some natural threshold of saturation has been reached and that we can not expect more than this. Nevertheless, the fact that papers on the SSCI list carry twice as much weight suggests two things - it is obviously harder to publish a paper in social sciences and humanities, but also, such papers have twice the effect and, in a sense, we can consider them to be twice as significant.

Therefore, in the next section, a special focus will be on the results for the scientific areas within the group of social sciences and humanities.

Shanghai Ranking by Scientific Fields – special focus on social sciences and humanities

Based on earlier research, social sciences and humanities in Serbia are significantly behind other scientific fields in the number of published papers. According to the SASA findings, in the period 2006–2010, social science and humanities in Serbia participated with only 6% in the total number of papers published by scientists from Serbia on the Web of Science list, while in the surrounding countries this percentage was 10–20%³.

Social sciences and humanities are represented in 14 areas observed by this year's survey. When we talk about the number of universities on specific lists, a list of top 500 was created for economics, psychology and management, while only the top 200 universities were listed for statistics and legal science. If it were not for this limitation, University of Belgrade would probably be listed in more areas (statistics is a good example where UB is almost certainly in the top 500, but not in top 200). So, we expect that as this number increases in the coming years, more Serbian universities will be included in more areas.

The research methodology was slightly different from the ranking of the universities. The number of top ranking universities varied from one field to another. Also, the criteria and weights were changed compared to the primary research. Indicators are still focused on excellence in research. Compared to primary research, we can conclude that the indicators are more modern and a lot more in line with the spirit of today's trends in the academic community, but they are also more biased towards the total number of published papers, rather than the efficiency of the institution measured by the number of papers per researcher. The percentage significance of each indicator for social sciences and humanities is shown in Table 5.

1. PUB indicator, the number of published works, is still present, and is related to the Web of Science (WoS) categorisation by scientific fields⁴ and the number of published works in the period 2012–2016. What is

important to highlight, and it is clearly shown in Table 5, this indicator is now crucial in ranking universities, and has a far greater weight compared to primary research.

2. CNCI (*Category Normalized Citation Impact*) represents the relationship between the number of citations of the observed institution and the average number of citations in that scientific field.

3. International Cooperation (IC) represents the number of papers published with at least one other author from a foreign institution.

4. The number of published works in the top world magazines (TOP) is an indicator that measures the number of published works in a number of best magazines in the scientific field. On average, there are five best magazines within each scientific field.

5. The Award indicator has remained active, but it is not taken into account for scientific fields where there is no corresponding prize.

Unfortunately, the results of Serbian universities are not listed in areas where we are not among the best. When it comes to social sciences and humanities, we are top ranked only in the field of psychology and education. There is clearly room for improvement. What is the situation with other countries of Central and Eastern Europe when it comes to this group of scientific fields?

Table 5. The percentage significance of each indicator within the SSH group.

	PUB	CNCI	IC	TOP	Award
Psychology	48.4%	16.1%	3.2%	32.3%	0.0%
Education	48.4%	16.1%	3.2%	32.3%	0.0%
Management	48.4%	16.1%	3.2%	32.3%	0.0%
Business and Administration	48.4%	16.1%	3.2%	32.3%	0.0%
Communication	48.4%	16.1%	3.2%	32.3%	0.0%
Law	48.4%	16.1%	3.2%	32.3%	0.0%
Sociology	48.4%	16.1%	3.2%	32.3%	0.0%
Finance	48.4%	16.1%	3.2%	32.3%	0.0%
Public Administration	48.4%	16.1%	3.2%	32.3%	0.0%
Library and Information Science	48.4%	16.1%	3.2%	32.3%	0.0%
Political Science	45.5%	15.2%	3.0%	30.3%	6.1%
Tourism and Hotel Management	45.5%	15.2%	3.0%	30.3%	6.1%
Statistics	36.6%	12.2%	2.4%	24.4%	24.4%
Economics	36.6%	12.2%	2.4%	24.4%	24.4%

³ SASA (2013) "Review of the implementation of the Strategy of Scientific and Technological Development of the Republic of Serbia in the period 2010–2015, Inter-departmental Committee for the Study and Monitoring of Science.

⁴ The way in which the survey used the WoS division and how it divided their fields within its own 54 fields can be seen at http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/attachment/Mapping-between_Web_of_Science_categories_and_54_academic_subjects.pdf

Highlight 1. Shanghai Ranking – Where are we now and what can we expect?

Within the scientific field of economics, Charles University is best ranked between 76 and 100th place. CEU from Budapest occupies positions 151-200. The Prague University of Economics is ranked 201-300 together with the University of Ljubljana and the Bucharest University of Economics. From 301 to 400 is the University of Warsaw. Hungary has another representative on the list of the top 500 universities in economics, the Corvinus University of Budapest ranking 401-500. A total of eight institutions in the field of economics, one less than in psychology, the area with the largest number of institutions in the top 500. It is worth mentioning that in this scientific field, Austria has four representatives in the top 500. The University of Vienna is ranked 101-150, while WU from Vienna ranks 201-300.

When it comes to management, Shanghai Ranking also lists 500 top-level institutions. It is interesting that the Erasmus University of Rotterdam is in a brilliant seventh position. The University of Vienna is also prominently here, positioned 101-150. That Austria is someone to be looked up to in this scientific field is confirmed by the fact that WU from Vienna is also in this group. When it comes to the countries of former Yugoslavia, the University of Ljubljana stands out as a clear and undisputed leader in the field of social sciences and humanities, and this university occupies positions 201-300. Austria is also present in this group with the University of Innsbruck, and apart from the University of Ljubljana, no one else has been able to make the list of top 500 universities within the countries in the focus of this Highlight.

Legal science listed only 200 best ranked universities. Nevertheless, the countries that were present in the already mentioned two categories have representatives in this scientific field as well. The University of Vienna is ranked here 151-200, together with the University of Maribor as well.

Political science ranked top 400 universities. The best continental European university is in Aarhus, Denmark in the 19th position. Already in positions 101-150 we have a university from this part of Europe, namely CEU from Budapest. The University of Ljubljana is ranked 201-300 together with the University of Warsaw. And in the last 100 places are the universities we are looking at, so there are Masaryk University and the University of Economics from Prague, both from the Czech Republic. Good benchmarks for our region can be Universities in Vienna and Salzburg, both positioned at 101-150.

Table 6. Number of positions within the SSH group for all universities from Central and Eastern Europe

University	Country	Number of positions
Charles University	CZE	7
University of Ljubljana	SLO	7
Masaryk University	CZE	4
CEU Budapest	HUN	3
Eotvos Lorand University	HUN	3
Bucharest University of Economic Studies	ROM	3
University of Economics, Prague	CZE	2
University of Tartu	EST	2
University of Zagreb	CRO	2
Vilnius Gediminas Technical University	LTU	2
University of Warsaw	POL	2
University of Maribor	SLO	2
University of Belgrade	SRB	2
University of Tallinn	EST	1
Corvinus University of Budapest	HUN	1
Jagiellonian University	POL	1
SWPS University of social sciences and humanities	POL	1
University Babes-Bolyai (Cluj)	ROM	1

If we look at all 14 fields of social sciences and humanities, only the Library studies have no representatives from the countries of Central and Eastern Europe in the top 100 universities listed. For all other fields, at least one institution is present. It is necessary to point out the excellent result of the University of Ljubljana with as many as seven fields within which it is ranked among the best universities, making it the best performing university together with Charles University in Prague. We can see that the University of Bucharest now appears in as many as three places, although it is not in in top 500, which speaks in favour of specialisation within a specific scientific field, as is the case for CEU from Budapest, which is highly ranked in economics, political science and psychology. It is worth mentioning that the University of Vienna is ranked as the best in 12 fields, WU Vienna is ranked as best in five fields.

The Czech Republic, Hungary and Poland each have three universities that are top ranked in at least one field; Estonia, Romania and Slovenia have two, while Serbia, Croatia and Lithuania each have one representative. Austria has as many as seven different institutions appearing as top ranked in at least one field with the SSH group.

Conclusion

When we talk about the Shanghai Ranking, it is necessary to stress the objective of this survey, which often remains overlooked - examining excellence in the scientific and research capacity of institutions. It is precisely because of the clearly defined objective of the survey that the Shanghai Ranking has become popular in the world because it does not try to measure the complete opus and function of the university, but deals with one but very significant segment of the work of these institutions.

The position of the University of Belgrade can be considered good, and stable in the last three years. University of Serbia's placement on the Shanghai List can be even more favorable if one takes into account that total spending on higher education relative to GDP in Serbia is low and that it does not depend on the quality of scientific research at universities. Does the University of Belgrade have room for improvement? It is clear that it does, but it is of limited scope when it comes to the final ranking on the Shanghai List. As long as we are present with two scientists on the list of highly-cited researchers, UB will be somewhere around the 300th position, with a tendency of dropping by some 50-100 places unless another scientist manages to break into that list in the future, bearing in mind that both professors who are currently ranked are retired. As we have seen on the example of the University of Warsaw (University of Vienna as well), the Nobel Prize winner from these universities significantly increases its reputation on this list. Hoping that another Nikola Tesla or Mihajlo Pupin will emerge is not unrealistic given that we currently have a not insignificant number of researchers in the world, as well as an increasing number of our students from universities in Serbia in significant academic positions around the world. However, institutional measures cannot be based on the hope that at one time the Nobel Prize in physics, chemistry or biology will be awarded to a scientist who has completed basic studies at a university in Serbia.

The science research output of universities in Serbia is not bad, on the contrary. If we observe the universities of the continental part of Europe according to the number of published papers on the SCIE / SSCI list, the University of Belgrade is in the 44th position, splitting the 189th place when we look at all the universities. And the University of Novi Sad is ranked much better by this indicator than in the final ranking, so it is at the 659th position according to the number of published papers. Criticism of the Shanghai Ranking that it is biased in favour of major universities is somewhat neutralised by the position of the University of Belgrade within

the indicator that measures impact per researcher, which shows that UB is the best university in former Yugoslavia for good reason. On the other hand, the University of Ljubljana has proven to be the undisputed leader in this region when it comes to social sciences and humanities. Even when observing countries in transition in Central and Eastern Europe, besides the Charles University in Prague, University of Ljubljana is the best ranked university with as many as seven out of a total of fourteen fields in the SSH group within which it is on the list of the best universities. When it comes to economics, it is worthwhile mentioning the good position of CEU from Budapest. The University of Belgrade does not have significant results in the field of social sciences and humanities, and it is the University of Ljubljana, which is the one to follow.

A realistic capacity building of universities in Serbia, and that especially goes for the University of Belgrade based on the insight into the Shanghai Ranking by scientific fields, is easiest to achieve by raising excellence in research within the group of social sciences and humanities (SSH). The reason we put focus on this group is the methodology for creating indicators related to the number of published works - each work published on the SSCI list is twice as significant as the works on the SCIE list. This measurement indirectly suggests that it is twice as difficult to publish papers within the SSH group. However, the current situation is such that the number of papers published within the SSH group is far smaller compared to technical or natural sciences. Universities have to use internal acts to promote the publication of papers on the SSCI list and direct the SSH group toward more successful parts of the university. There is a real chance for the university to improve its placements on the Shanghai Ranking and other lists, by increasing the number of papers in the field of social sciences and humanities. Of course, we should always keep in mind, that when we talk about success, we mean excellence in scientific research. Teaching is not included in the discussion here, and we do not even compare that segment.

What we can say based on the insight into the results of the Shanghai Ranking and a deeper insight into the social sciences and humanities is that the University of Belgrade can really be compared with the Charles University, the University of Vienna or Warsaw in the overall ranking, but not in the field of social sciences and humanities. The reasons behind this lagging behind other countries of Central and Eastern Europe in the field of SSH can be found in the late transition of universities in this field and the resistance to bringing in foreign professors, as well as toward current academic trends in specific fields.

Highlight 2. Status of Youth in Serbian Labor Market

Room for progress can be sought exactly where UB is the weakest compared to these three universities. The advantage of focusing on these groups lies in the fact that research within this area is relatively cheaper than in other groups, which is important for Serbia, given the limited capacity of the state to invest in science. However, in order for this to happen, universities must raise the quality of doctoral studies within this group, especially with regard to the methodology. Colleges must open for top-level professors, as well as start a trend of visits of our prominent experts who would teach at master and doctoral studies, thus bringing young researchers closer to the current scientific trends. Enabling doctoral students and assistants to study at foreign universities is also crucial.

Highlight 2. Status of Youth in Serbian Labor Market

Nemanja Vuksanović¹

Introductory considerations

Most significant global social changes in the labor market, such as changes in state regimes and policies resulting from the collapse of socialism, crisis of welfare states and neoliberal regimes, have fundamentally influenced the lives of young people (Furlong, Cartmel, 2007). The growing interest in the position of youth in labor market has been induced over recent years by the fact that young people make a group that is related to a higher risk of poverty and social exclusion, and that the unsuccessful transition from school to work can have negative consequences on other life transitions. Changes on the global level since the 1970s have contributed to rising unemployment and difficult conditions for young generations to enter into the labor market. The transition from school to work increasingly loses its standard form and becomes prolonged and fragmented (Du Bois-Reymond and Chisholm, 2006). Therefore, it is not surprising that in most countries youth unemployment rates are almost twice the unemployment rate of the adult population. As stated in the article of the Labor Market Research Institute (Kluve, 2014), this can be explained by the fact that lack of work experience, weaker job search skills, and structural problems, such as inadequate education and training and restrictive labor market regulation, are the main causes of such high unemployment rates of young people. In this regard, the analysis of transition of young people from

It would be very interesting to explore the development of an institution such as the University of Belgrade and how it is that one group has institutionally evolved completely differently than natural or technical sciences, and explore more deeply the reasons behind this poor performance. We have shown that socialist structure is not the answer because other countries with a similar past are better ranked. This is an interesting idea for more serious research. Also, in addition to this, we should keep in mind that the Shanghai Ranking is only one of the many studies on university ranking. It would be interesting to compare the results of the Shanghai Ranking with other studies and to create a qualitative assessment about the position of Serbian universities in the region, but also wider within Central and Eastern Europe.

the moment of graduating to the moment of finding a job is becoming important.

The youth employment crisis represents a special challenge that Serbia faces. Moreover, for this employment crisis it could be said that it's one aspect of the job crisis, and it is linked not only to the level and duration of youth unemployment in the labor market, but also to the decline in the quality of jobs available to young people. The difficult transition from school to work in Serbia was negatively influenced by the last economic crisis in 2008, whose consequences were mostly felt by young people. Namely, the experience of other countries shows that in time of economic crisis, due to a decline in demand for companies with labor, companies not only employ less people, but also lay off workers and often the ones they employed last. Certainly, it should be noted that young people in labor market of Serbia, even before the aforementioned economic crisis, faced certain problems, but this already unfavorable situation was significantly worsened by this crisis.

In this Highlight, the subject of the analysis will be the status of youth in Serbian labor market. The first part will show the movement of employment and unemployment rates of young population. After that, categories of young people's employment on the labor market will be observed according to different criteria, such as age, educational level and material status of the household. Also, we will analyze the average time needed to get the first job and importance of work during education for the length of transition from school to work. A special part of this Highlight will be dedicated to examining the importance of education for the future salaries of a young person, as well as the differences in average salary that result from various fields of study.

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