TRANSFORMATION OF HIGHER EDUCATION IN CENTRAL ASIA FOR 20 YEARS[1]

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Abstract:

The independence of Central Asian countries at the beginning of 1990's had a strong impact on the higher education of all five Central Asian countries. We can observe tremendous changes within each of these countries in the system of higher education 20 years later due to many factors that incur some new opportunities and challenges. The objective of this paper is to provide some empirical results based on survey of 45 Central Asian universities. The survey reveals changes in different dimensions of higher education: from business competences of students, their level of internationalization, average salaries and research motivation of Faculty members till the estimated level of corruption by the representatives of higher education institutions of Central Asia. The representatives of the top and middle management of these institutions from different regions of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan were surveyed in 2010. The survey results showed some new and unexpected trends, particularly for Turkmenistan which is still considered as a "closed economy", and Kazakhstan that is generally perceived as the most developed country in higher education.

JEL codes: A10, A20, I21

Keywords: Higher education, Central Asia**,** Students´ Skills, Research Motivation, Corruption

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INTRODUCTION:

This paper investigates the current changes in Central Asian Universities related to the practical skills and knowledge that Universities provide to students through teaching practices, a connection with the business environment and international elements in curricula, as well as the estimated level of corruption of Faculty members and their motivation to be involved in research.

The focus of the paper is therefore to examine which changes take place at the higher education institutions (HEIs) and in what ways the higher education systems in each country of Central Asia differ, as seen by the internal experts of higher education from different regions.

Three main research questions have been formulated as follows:
1. What are the level of business competences for graduates and their knowledge of Russian and English languages?
2. How representatives of Central Asian universities themselves estimate the average income (salaries of Faculty members with the degree of "Candidate of Science") and the level of perceived corruption in their universities?
3. Which motivation exists for Faculty members of universities for their research practices?

First, this paper introduces a brief overview of the literature related to changes that took place in HEIs for these 20 years in this region. Second, it shows some differences and similarities in the business competences for graduates, how they search for jobs and their practice of foreign languages in terms of building a capacity for internationalization. Third, it illustrates how the sensitive issue of corruption is approximately estimated by the representatives of the surveyed universities with the compared salaries of Faculty members with PhD degrees. Fourth, it describes how motivation has been changed to carry out research at the universities for the last 2 years. Finally, conclusions and study limitations are presented.

The judgment sample *(representatives are familiar with the relevant characteristics of the population, the sample´s members have the same characteristics)* consists of the heads of international departments, vice-rectors of Science, and faculties' deans from 45 Universities of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan.

The composition of groups is presented by the middle and top-level representatives of 9 Universities of 6 Uzbekistan´s regions (from Andijan, Karshi, Bukhara, Tashkent, Samarkand and Urgench); 11 Universities of 4 Tajikistan´s regions(regionally represented by Kulob,

Dushanbe, Khorog, Khujand), 8 Universities of 4 regions from Kyrgyzstan (Jalal-Abad, Talas, Issyk-Kyl, Bishkek), 14 Universities of 6 Kazakh regions (Karaganda, Uralsk, Chimkent, Kzyl-Orda, Turkestan and Almaty), and 3 Universities of Turkmenistan from Ashgabat.

The average age of the sample population was 49. Gender groups were represented equally; however, Uzbekistan and Tajikistan had the balance shifted toward men representing 85% of HEIs top-managers. These results match to the Enterprise Survey data (2009 by WB/IFC) that only 11 percent of firms have female top managers, making Uzbekistan the last country in the region on this indicator. On the contrary, Kyrgyzstan and Kazakhstan were predominately represented by the female gender.

We consider the survey results of two rounds of independent research conducted by the author of this paper in June, 2010 and at the end of September, 2010.

Background:

The main accomplishments of the Soviet system were equal gender enrolment at all levels of education, including tertiary education, as well as near universal provision at primary and secondary levels, and the system also largely eliminated illiteracy and achieved high levels of scientific and mathematics knowledge (Shagdar, 2006). The collapse of the Soviet Union brought economic, social and political freedoms for the countries of Central Asia which they were unprepared to meet at that time.

All former Soviet Republics began their own independent way of development in all spheres including education, and they have some similarities in this process and challenges to confront, but at the same time they also differ very much in their national development (Pak, 2010).

Since 1991, education and training systems in Central Asia have operated in contexts characterised by a decline in educational and literacy standards, as part of the bigger picture of downfalls in public health, life expectancy, and massive male emigration (MacFarlane, 2004). There has been a decentralization of governance, salary, and tuition structures, a move toward standardized testing as a criterion for admissions, a restructuring away from sector ministerial control (Heyneman, 2010).

The independence of Central Asian countries had a strong impact on their education, which was experiencing rapid changes in language policy in order to reduce the cultural influence of Russia.

Despite the higher education was carried out not only in Russian, but in national languages as well at the Soviet time, with sovereignty of Uzbekistan, Turkmenistan, Tajikistan, the main emphasis was made on native languages. At the end of the first decade of 21 century, language policy in the wake of changes in state diplomacies is coming back. According to Fierman, the director of the Asian and Uralic National Resource Center at Indiana´s Department of Central Eurasian Studies, "Russian is starting something of a comeback today in Uzbekistan. The same holds true for Turkmenistan, where Russian is being reintroduced into curriculum of educational institutions[i]" as a policy shift by Turkmen president Gurbanguly Berdymukhamedov. "But if you go to Kazakhstan and Kyrgyzstan, the amount of higher education that was in Kazakh or Kyrgyz was very little" with a limited number of subjects with a poor quality, because there is a lack of textbooks with not fully developed vocabulary.

Among these countries, Uzbekistan is the most populous country with 27 million people followed by Kazakhstan with 15 million (but ethnically and culturally diverse compared to other countries), Tajikistan with 7 million and the Kyrgyz Republic and Turkmenistan with 5 million each.

If higher education was not at the forefront of policy making immediately after independence, the transition process itself has had an impact on national approaches and particularly toward the privatization of higher education (Brunner, Tillet, 2007). With the exception of Turkmenistan, Brunner J., Tillet A. (p.86) emphasized that "the four CARs countries showed a marked contrast between their first decade (1990-2000) and the first half of the second, 2000-2005 with growth being positive and likely to continue at different rates to 2008". Turkmenistan has been the only country in Central Asia where the international community has so far had little involvement in the debate on reforming the education system since the independence.[ii]

Despite some growth, "a common practice throughout Central Asia, where people say it is fact of life that most university entrants must pay bribes to get enrolled into institutions of higher education."[iii] The problem of bribery in the education system has been a topic of political debate in Central Asia in recent years, with officials warning that corrupt practices and widespread bribery have severely damaged the quality of education. At the university level, corruption does not stop with the entrance exam. Once in the classroom, students routinely pay bribes to get

better grades and to pass exams. It is common for professors to have different fees, so-called "stavki," to pass their exams. This issue on measuring corruption is necessary not only for the scale and scope of the problem, but for making simple comparisons between the countries and conducting comparative analysis of corruption (Osipian, 2007).

According to Heyneman, et al. (2008), "the level of education corruption in the USSR was lower than in other sectors. The "fairness" of system, particularly to children or proletarian origins and minorities, was manifest as a philosophy." The empirical outlines to be proactive in ex-Soviet Central Asia (Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan, and Uzbekistan) was a part of its ideological agenda (Schatz, 2010) in attending to minority groups, even in those regions where levels of nationalist mobilization were low, popular national identities were practically nonexistent, and local identities prevailed.

The following challenges were identified facing Central Asian education (Jones, 2010):
- Inadequate funding leading to a lack of capacity in the education system;
- Contraction of the secondary education system and the closure of vocational schools;
- A lack of quality provision at all levels, as well as low levels of educational achievement;
- Massification of higher education;
- Inadequate funding of education and research at all levels; and
- Corruption at all levels, but most evidently in higher education entrance exams and assessment.

According to UNESCO report (2010), Research&Development funding has remained low over the past decade in all five republics and throughout Central Asia. No country in the region devoted more than 0.25% of GDP to gross domestic expenditure on R&D. However, the situation on research status and funding improved in 2009 in Turkmenistan with the announced science policy and some positive changes in Kazakhstan due to the accession to Bologna process in 2010 and with the introduction of new Law on Science in 2011.

1. Business competences of graduates

Competences refer to capabilities, abilities, skills, proficiencies, expertise, and experience. There are two types of competences: technical (achievements, skills, knowledge, expertise, relationship) and non-technical (often referred to as professional and personal skills). In terms of business competences, we focus on technical competences.

We looked at two sides of University curriculums. One side is the *practical skills and knowledge* that Universities provide to students through teaching practices based on real examples/case studies and connection with the business environment. From the other side*, knowledge of English*, introducing international elements into their curricula and placing more emphasis on preparing globally minded and internationally competitive students, when subjects are taught in English.

W*e* first look at languages´ diversity *or the level of internationalization* of *Graph 1.1* that shows that it is organized best in Kazakhstan compared to other countries of this region. In the given sample, none of the Universities in Turkmenistan teach courses/subjects in Russian. Turkmenistan is the only country where education is mainly provided in the native Turkmen language. Tajikistan and Uzbekistan follow Turkmenistan in the category of education processes in native languages.

Graph 1.1
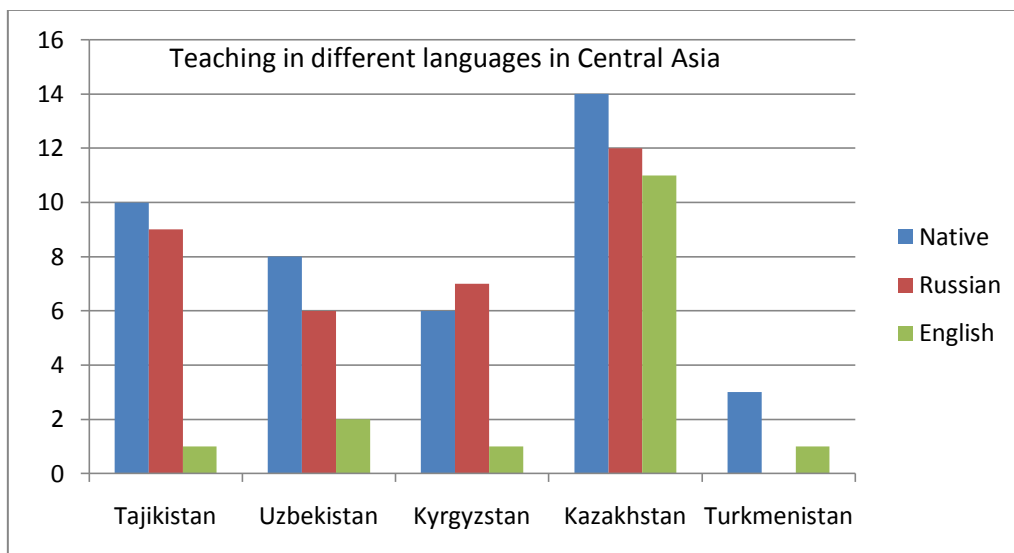
Kazakhstan is much better represented here in all 3 languages due to more diverse culture. Other Central Asian countries need to improve English language competences both among its higher education graduates and academic staff. All countries need to raise their English language skills. Russian and English language competences in Turkmenistan universities should be raised because country actively participates in bilateral agreements in education opportunities with the Russian Federation and Turkey. An internationally functional command of second and third languages should be emphasized, beginning in earlier levels of education and be further reinforced at the higher education levels.

Graph 1.2 illustrates the connection between Central Asian Universities and business environment.
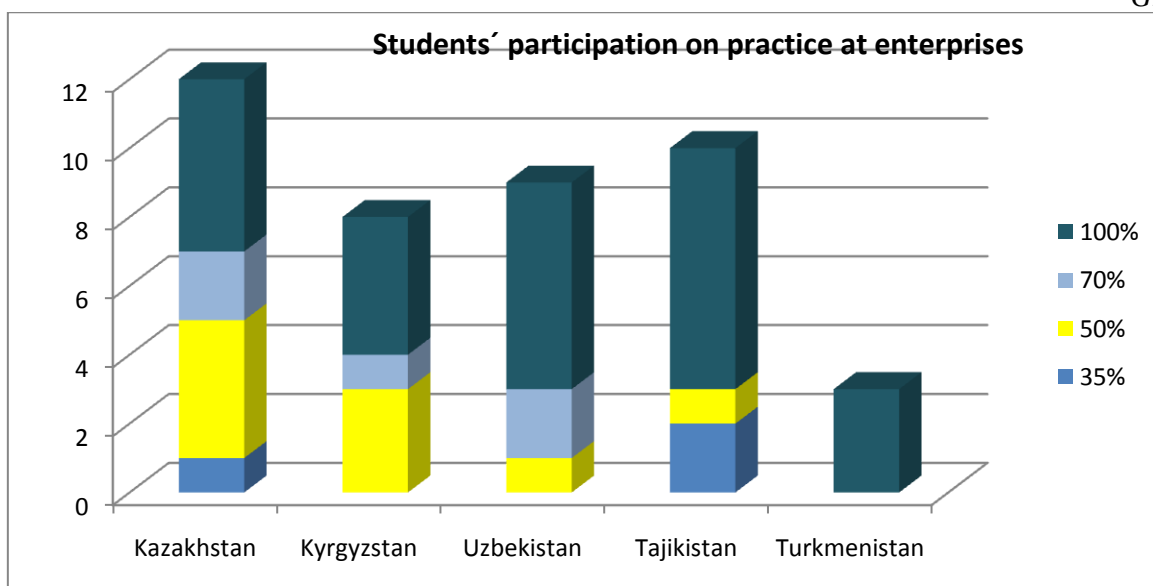
Graph 1.2

Connection of HEIs of Central Asia with Business
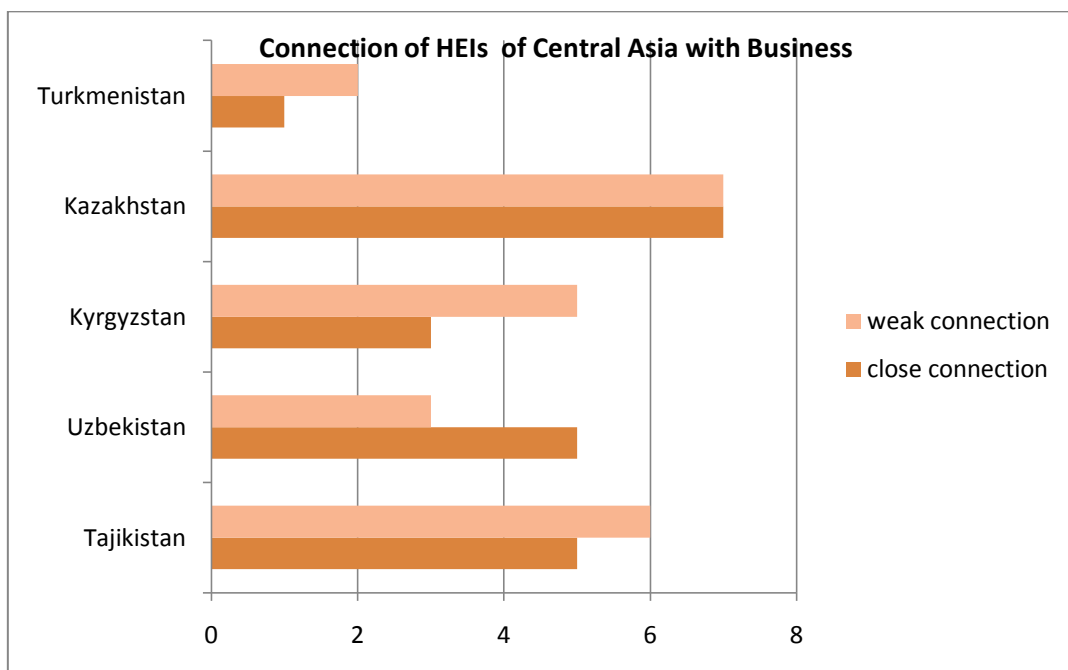
It demonstrates that Uzbekistan has the highest level of strong connections with enterprises compared to other countries and provides better business and practical skills for graduates.

Despite Kazakhstan shows that every second university demonstrates a close connection with businesses, we can see from Graph 1.3 that not many students are involved into business practices organized by universities. Turkmenistan Universities show 100% of students´ involvement in practice (with three universities in sample group), and they still estimate that it is not enough for graduates. Based on the results of both graphs (1.2, 1.3), Kyrgyzstan has much weaker connections with business environment reflected on students as a lack of practical skills.

Graph 1.3

Students´ participation on practice at enterprises

The shortage of business practices at the enterprises should be compensated for by the provision of real examples, case studies and analysis of practical situations at classes by Faculty members illustrated by graph 1.4.
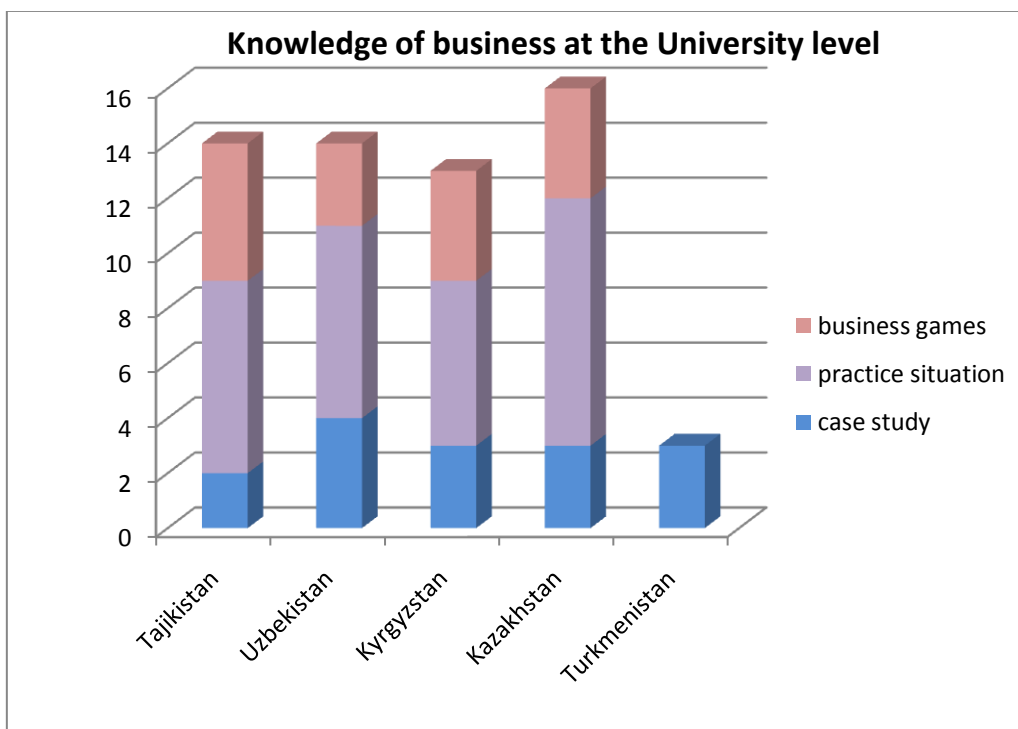
Universities of Turkmenistan lack some diversity in teaching business practices, and it is unknown how these case studies are developed. Since no research on Turkmenistan´s HEIs has been done during 2008-2010, we can only rely on old information that states that "poor infrastructure, lack of teaching and learning materials, lack of textbooks, poor funding as well as absence of teaching training opportunities have been reported as the major areas of concerns in the country up to 2006."

The results of our survey also show that Kazakhstan lacks the practices of prepared real case studies in addition to a weak connection with the employers (at the level of 50%) and a shortage of real practices at enterprise level. The recommendation here is that more emphasis has to be made on preparing real case studies, business games and practice through creating additional mechanisms of financial motivation of Faculty members and their direct involvement into business research.

The replies for the question "What do you think is the main problem of your University at this time?" were distributed with the major indicated concerns due to the lack of connections with employers (shown as the main problem for 4 countries) and absence of practical skills for HEIs in Uzbekistan (50%):

Table 1. **The main problem identified by Faculty members at their Universities**

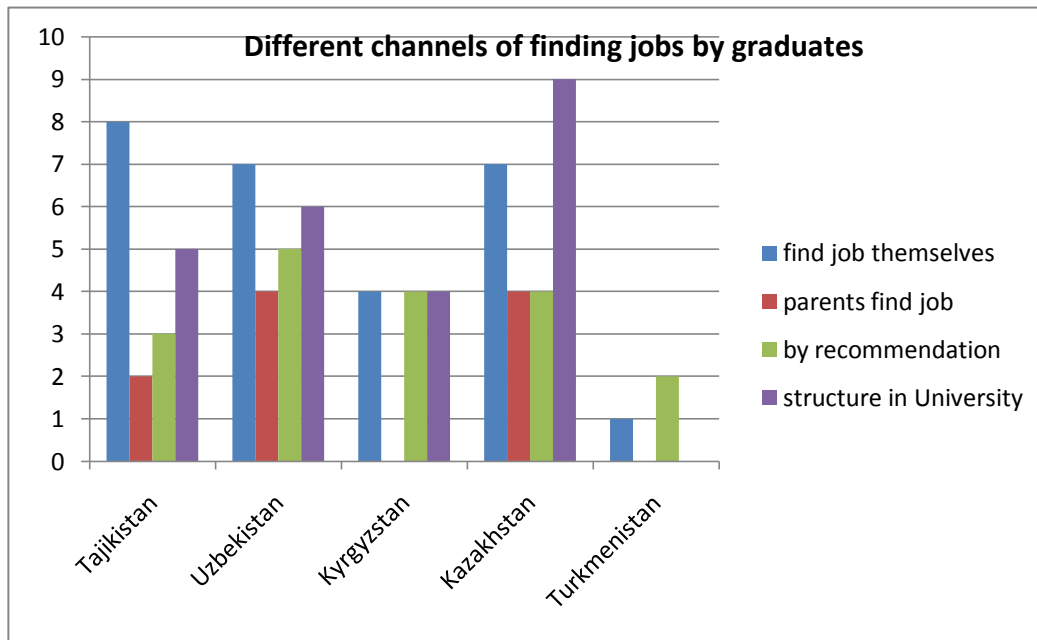| COUNTRIES	Connection with employer	Practical skills	Knowledge	Problem
Kazakhstan	8	4	2	57%
Kyrgyzstan	5	3	1	56%
Uzbekistan	3	5	2	50%
Tajikistan	6	4	2	50%
Turkmenistan	2		1	67%

It does confirm that the main problem of major Universities of Central Asia is a lack of connections with real businesses, which is estimated by all universities.

Despite having the highest cost of higher education in Kazakhstan (at the level of bachelor degrees it is up to 6 000 US dollars, at the master level is 5000 US dollars, at the doctorate level is around 10 000 US dollars and for business schools it could be double and higher prices) compared to other countries of Central Asia and the free education in Turkmenistan, it is quite difficult for Universities´ graduates in Kazakhstan to find a job because of absence of practical skills and high competition.

Another explanation is that the business climate in Kazakhstan is the most difficult compared to the rest of the Central Asian countries. *Doing Business 2010* ranks Kazakhstan at 63rd out of 183 economies and doesn't capture severe constraints on competition. The practice of business regulation is hindered by unofficial payments and other obstacles. The private sector suffers from limited competitiveness and non-transparent corporate governance. Kazakhstan's ranking in the *Global Competitiveness Index* worsened from 50th in 2006 to 67th in 2009.

The interview results reveal that the *employment rate* of university graduates is in Turkmenistan, followed by Uzbekistan and Tajikistan is much better when compared to Kazakhstan and Kyrgyzstan. The different channels used by graduates to find jobs are depicted at Graph 1.5 with the different patterns of jobs finding for graduates from Turkmenistan and Kyrgyzstan, who are trying to find their jobs without parents´ connections.

Graph 1.5

Different channels of finding jobs by graduates

- find job themselves
- parents find job
- by recommendation
- structure in University

Countries: Tajikistan, Uzbekistan, Kyrgyzstan, Kazakhstan, Turkmenistan

Kazakhstan experienced the worst recession of all of Central Asia in 2008, but the higher education sector was one of few exceptions here because it didn't significantly suffer from this economic downturn. There are some features which can be different for universities and business schools in terms of market demand. In business schools, which are more oriented towards a market education, there are two different *observations* here. The first is during the time of *economic growth* there is a strong demand for business education. However, during the *economic downturn*, despite the general recession in companies, demand for business education *is not eliminated* partly because graduates cannot find a job and continue their study, and those who work also apply for enrollment in business schools to upgrade their knowledge and keep a job safe.

The other reason is that both the top-management and employees of companies realize that there is a need for more creative ideas and abilities in making non-standard managerial decisions that require new knowledge and skills. In the short-term, there is a strong demand for business education. This phenomenon was observed in Russia during the recession of 1998 when enrollment was even significantly increased. The same occurred in Kazakhstan during the economic recession in 2008.

All Central Asian countries could benefit dramatically by increasing mobility of their students and academic staff and by raising the level of internationalization of HEIs and business practices. If this is done, in the long run, they will contribute to the improved competitiveness of their countries.
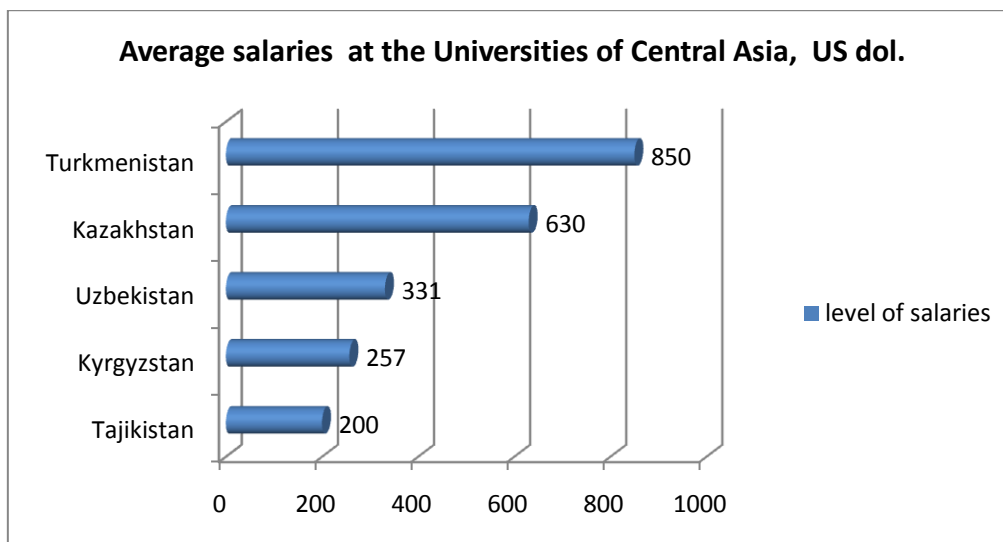
2. Level of Income and Corruption in the Universities of Central Asia

Despite the fact that higher education in Kazakhstan is the most expensive out of all the countries of Central Asia, the existence of corruption inhibits the ability of the educational system to serve the economy and society. It misleads employers and evokes mistrust among the general public. Corruption depraves civic culture by generating the impression that universities are unfair to young people while breeding a culture of cynicism about the nation. When higher education is corrupt, young people come to believe that cheating and bribing may advance their careers.

A 2002 World Bank survey confirmed that higher education in Kazakhstan is perceived by the public as being corrupt. One out of four surveyed university student households surveyed reported paying a bribe for higher education services. Seventy-four percent of reported bribes were made to a specific person associated with a university. When asked about why they paid a bribe, 69 percent of respondents said they did so to obtain admission to a university and 10 percent paid to receive better grades. The latest survey by the World Bank indicates that administrative corruption (as a share of Annual revenues) in Kazakhstan is more than 30% and in Kyrgyzstan it is higher than 50%.

One of the social consequences of corruption is that it leads to reduced school enrolment. One index point increase of corruption is equal to a 5 percentage point´s decrease in school enrolment. The other direct economic consequence shows that 1 index point increase in corruption is equal to 7.5 percent point's increase of the tax rate. The level of corruption in this survey is compared with the average level of salaries in each Central Asian country indicated in dollars terms (US) for comparison.

Graph 2.1.

Average salaries at the Universities of Central Asia, US dol.

Turkmenistan — 850
Kazakhstan — 630
Uzbekistan — 331
Kyrgyzstan — 257
Tajikistan — 200

level of salaries

These survey results show the differences between the average monthly incomes of faculty members with a PhD (candidate of science degree) are unevenly distributed among the countries: Tajikistan ($200), Kyrgyzstan ($257), Uzbekistan ($331), Kazakhstan ($630) and a surprisingly high level in Turkmenistan ($850 US dollars) that was not observed previously in any surveys. It radically changes the whole picture of Central Asia in the higher education.

According to the first round of survey conducted in June, 2010 the **level of corruption** (selling grades, degrees, admissions and graduations) in higher education was estimated by the representatives from Higher Education Institutions to be at 21% in Tajikistan (as the highest one), 16% in Uzbekistan, 10% in Kazakhstan, 5% in Kyrgyzstan without much involvement of regional universities.

When the second round of survey took place in September, 2010 with higher regional coverage and participation rate from the Southern regions of Central Asia (mainly from Kazakhstan and Tajikistan), and an introduction of the most "closed economy" - Turkmenistan, these 2 factors have significantly changed the final survey results. Inclusion of Turkmenistan revealed the new phenomenon in the higher education in terms of higher paid salaries (that are confirmed by additional results that the income in education is almost 3 times higher than the average market rate) with no obvious corruption and the higher rate of universities' inclusion from South of Kazakhstan has dramatically increased the level of corruption.

The next graph demonstrates the percentage rate for Central Asian countries with recognized corruption at their universities:

Graph 2.2
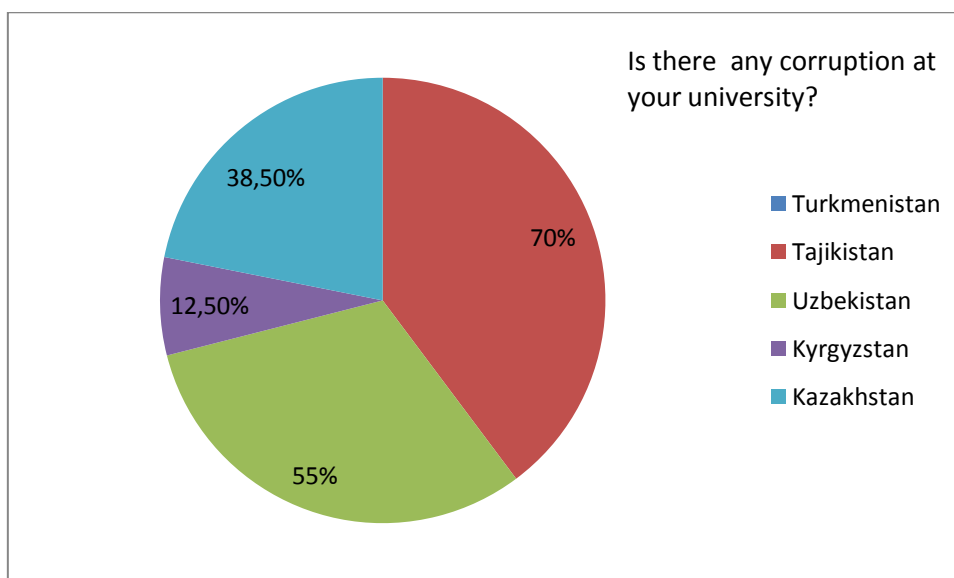
Tajikistan´s experts highlighted the highest frequency of recognition for corruption (70%), with the following Uzbekistan (55%) and Kazakhstan (38,5%). At the same time, there is a very high level of uncertainty for Kyrgyz universities that preferred to answer that they do not know:

Table 2. Recognition of corruption at university level

Countries	Is there corruption at your university?		
	yes	no	do not know
Turkmenistan	0%	67%	33%
Tajikistan	70%	10%	20%
Uzbekistan	55%	22%	22%
Kyrgyzstan	12,50%	12,50%	75%
Kazakhstan	38,50%	30,80%	30,70%

If we put the estimated levels selected by universities according to the scale, and estimate the weighted answered then we will see the following picture:

Table 3. The estimated level of corruption at Central Asian universities

Countries	How would you estimate the level of corruption?				level "out of yes&no"
	20-30%	50%	no corruption	do not know	
Turkmenistan			2	1	
Tajikistan	6	1	1	2	25%
Uzbekistan	5	0	2	2	18%
Kyrgyzstan	1		1	6	12,50%
Kazakhstan	2	3	4	4	22%

We can observe from Table 3, that the highest level of corruption is indicated in Tajikistan (25%) and a surprising result of "no evident corruption" in Turkmenistan. We should also bear in mind that estimation of corruption is provided by insiders of each university.

The unexpected results of the highest salaries at the level of Universities and an absence of corruption in Turkmenistan could be partly explained because of relatively small sample of 3 Universities surveyed (located in capital city, Ashgabat) and an absence of regional universities in our sample group. On the other hand, the survey results indicate that all HEIs of Turkmenistan show that the average salaries at University level are at much higher level compared to salaries paid at the market business environment in this country (which is about $300 US dollars which is almost 3 times less than salaries of Faculty members with PhD at university level).

In July 2007, the President of Turkmenistan defined the priorities for higher education reform: to achieve international standards in education, science, technology; and for universities to retrain

teachers and trainers at all levels, from pre-school to higher education, and defined the priorities for science and education in 2009. All other Central Asian countries illustrate the opposite trend when levels of salaries at HEIs are compared with their market level and the level of income for faculty members is at much lower rate than the salaries in business environment.

Thus, the latest data with a larger coverage of regional universities in Kazakhstan it was reflected in a higher level of corruption and lower level of salaries in higher education moving Kazakhstan (22%) on the second place right after Tajikistan (25%) as the second corrupted country in the higher education.

According to the Transparency International Corruption Perceptions Index 2010, which shows that nearly three quarters of the 178 countries in the index score below five, on a scale from 10 (highly clean) to 0 (highly corrupt) it clearly demonstrates how corruption is spread in the **public sector** of Central Asian countries (see Table 4).

Table 4.   Corruption in Central Asian countries in public sector

Rank	Regional rank	Country	CPI 2010 score	90% confidence interval		Survey used
				Lower bound -	Upper bound	
105	9	Kazakhstan	2.9	2.2	3.7	8
154	16	Tajikistan	2.1	1.7	2.5	7
164	18	Kyrgyzstan	2.0	1.8	2.3	7
172	19	Turkmenistan	1.6	1.4	1.8	3
172	19	Uzbekistan	1.6	1.5	1.7	6

Central Asian countries are still among the most corrupt countries in the world in 2010. Comparing our results with the general data of firms from Enterprise Surveys 2010 in **the public** (Table 4) **and private** (Table 5) **sectors**, we see the different trends with Uzbekistan as being the most corrupted in private sector and Kazakhstan as the most corrupted in public sector. As for the higher education is concerned, Tajikistan has been rated higher based on these results with 25% estimated level.

Table 5.   Corruption in Central Asian countries (selected indicators) in private sector

Country	% of Firms Expected to Pay Informal Payment to Public Officials (to get things done)	% of Firms Expected to Give Gifts to Get an Operating License	% of Firms Expected to Give Gifts to Secure a Government contract	% of Firms Identifying Corruption as a Major Constraint
Kazakhstan (2009)	23.25	30.02	54.84	43.85
Kyrgyz Republic (2009)	37.48	25.69	56.38	58.93
Tajikistan (2008)	40.51	38.55	31.09	37.82
Uzbekistan (2008)	56.19	58.94	50.81	27.20

According to the third source on corruption index, CountryWatch, Transparency International's Corruption Perceptions Index "is a composite index which compares countries in terms of the degree to which corruption is perceived to exist among public officials. This index indicates the views of national and international business people and analysts about the levels of corruption in each country. In 2009, the 20 lowest ranking countries around the world in terms of Transparency International's corruption perception were: Uzbekistan (12), Turkmenistan (13), Kyrgyzstan (14).

First of all, **results of our independent** survey show that difference is related to Turkmenistan, that doesn't indicate evident corruption at selected universities in Ashkhabad. The second difference refers to Tajikistan (25% of estimated corruption) as the most corrupt country in higher education in this region, and the third one is that Kazakhstan (with 22% of estimated corruption) is rated at the second place right after Tajikistan.

Central Asian education systems continue to be characterized by the obsolescence of infrastructure and facilities, unstable mixes of public and private provision and funding, and unbalanced curricula with a system of qualifications that has little relevance to economic and social development. Despite its level of corruption in higher education, Kazakhstan is the only country which is now in Bologna process and its Universities are applying for international related accreditation. According to Jones P. (2010), "it would be reasonable to assume that the Education Initiative has the potential to help Central Asia become a mini-Bologna, with Kazakhstan and Kyrgyzstan as leaders for emulation, policy learning or even competitive copying". It is becoming a dilemma then, how it would be perceived at the international level, when these countries are still on the way to combat corruption practices.

Administrators appear to ignore the problem which leaves little opportunity for students to raise it as an issue. Further research on corruption in the post-Soviet region is necessary to understand the causes and consequences of this phenomenon and to develop effective policy recommendations. Turkmenistan could be used as a very interesting case in terms of experience of no indicated corruption at Universities´ level and require more universities from regions.

3. Motivation of Faculty members for Research and Development

Research and development were synonymous with science and technology before the break-up of the Soviet Union, but University was not at the center of Research (Brunner, J. and Tillett A. (2007). There was only a very functional relationship between teaching and research, often

sponsored through specific ministries. Close links of scientists' skills and the Academies were good examples of the need for market based bridging institutions.

Universities and technical institutes were one of the three pillars around which Soviet science and technology were organized. The others were the Academy system and the ministerial research establishments. However, the Academies could only sign external contracts up to 25 percent the value of their total incomes; this restriction did not apply to universities, some of which became highly dependent on this alternative source.

When looking at the background of research and science development (R&D) in Kazakhstan in 1991, the government invested 0.68% of GDP in the area of science (out of 7,7% of GDP for education). In 2010 this figure dropped to the level of 0.22% of the GDP (out of 3% of spending for education in GDP).

We compare not only motivation of Faculty members to do research, but also how they perceive the conditions for the last 2 years at their Universities to stimulate research. It is confirmed by the data that Kazakhstan has proven to be in the worst situation in research development. Tajikistan, Turkmenistan and Uzbekistan's Universities indicate that there is good motivation in research and current projects in R&D.

Graph 3.1.

Faculty members´ existing motivation for Research
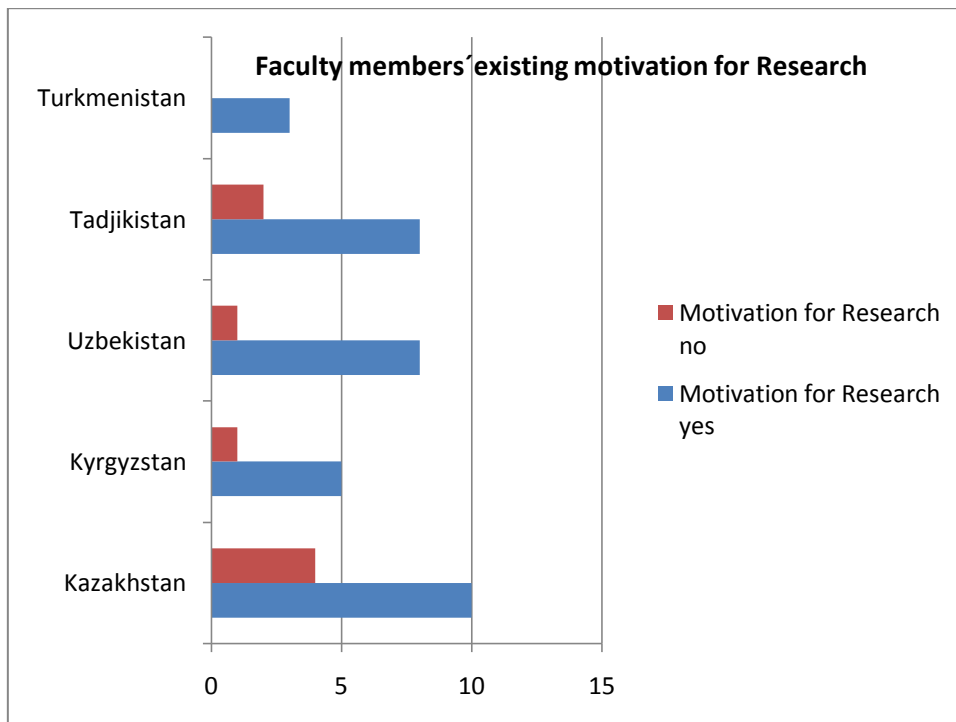
Motivation has been greatly improved in these countries over the last 2 years.
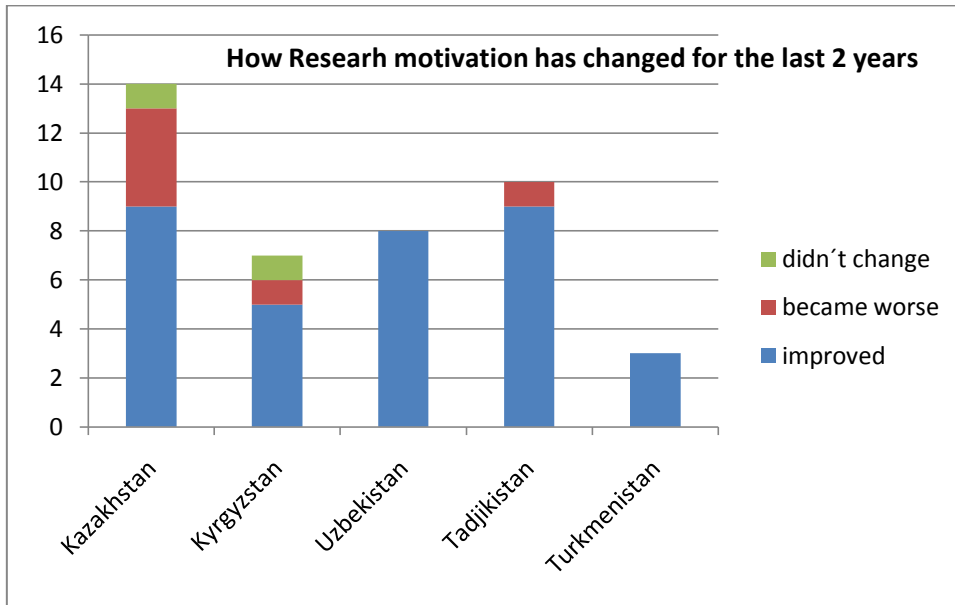
Thus, the main results of a current survey are quite interesting: *the status of research* and development processes in *Turkmenistan, Uzbekistan and Tajikistan* is much better organized, presented and motivated than that in *Kazakhstan and Kyrgyzstan*.

Involvement in research practice remains quite low for all Universities of Central Asia. In average, it is only each 3rd of 4th faculty member who are involved in research, as shown in Graph 3.3.
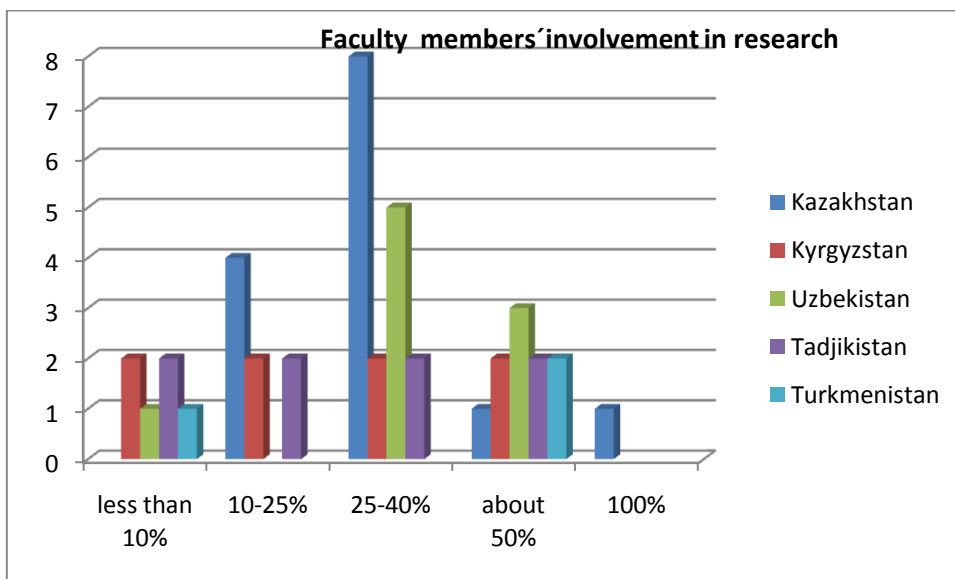
Kazakhstan universities are involved in practices of research, though at a much lower scale than other countries.

From (Graph 3.4) we can see that the trend shows that almost all Universities demonstrate preferences in scientific research. Turkmenistan Universities are not involved into business research, Uzbekistan is equally good at business, scientific and applied research. Tajikistan is more involved in scientific research and Kazakhstan is better represented with scientific and applied research.

Graph 3.4.
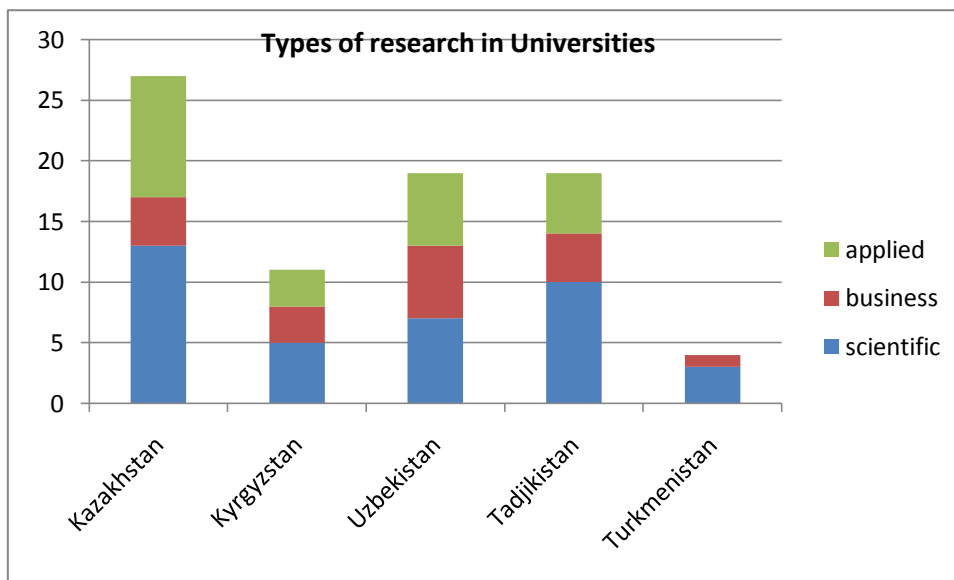
It will not be easy to achieve the goal of increasing the funding of research and technological development in Kazakhstan to 2% of the GDP which is promised to be by the year 2012, while ensuring that the money is used cost effectively and a fair share of the increase goes to HEIs.

The problems that are occurring in Kazakhstan are: the national sphere of science currently faces the harmful effects of the brain drain, a reduction in funding for R&D, and a demographic decline as well as professional degradation. Despite the availability of different research grants that could be found in Kazakhstan, there is a general problem connected with management in R&D and inability of top-management and owners of schools to create R&D or scientific teams and motivation for people. Another problem is the absence of appropriate research skills that meet the international required level. The recommendations given by the donor institutions are that an implementation advisory group should be set up involving HEIs representatives and international input to advise the government.

HEIs should be more involved in the development of science, research and innovation policy with international counterparts. This will help to strengthen research in universities facilitating a higher level and improving the level of international publications.

A new Research Fund is recommended to support the development of research potential between the HEIs, research institutions and enterprises. This Fund would provide mechanisms for financing the activities of international research teams and required resources. Participation in the Bologna process should be seen as a unique opportunity to learn and adopt the best international research practices in Kazakhstan HEIs, providing more time for research and reducing the high teaching load of academic staff, thus, improving the quality, relevance and international orientation of research in HEIs.

All Central Asian nations intend to bring higher education closer to market requirements. The expected results are that these processes have to occur in the countries with a higher cost of education, such as Kazakhstan. However, practices show quite different trends, especially in science and R&D areas with an urgent need to improve the situation and some optimistic promises based on the new law on Science.

CONCLUSIONS

Results of our survey reveal that the main problem of all Universities of Central Asia is lack of connection with real businesses and enterprises, which is highly estimated by all universities as well as lack of student's practices at enterprise level. The results also demonstrate that Kazakhstan has a weak connection with the employers. The recommendation here is that more emphasis has to be made on preparing real case studies, business games and practice through creating additional mechanisms of financial motivation of Faculty members and their involvement into business research.

An internationally functional command of second and third languages should be emphasized, from earlier levels of education and be further reinforced at the higher education levels. Only Kazakhstani universities present the better pattern for building a capacity for internationalization of higher education.

Independent results show that there are some different trends in higher education in perception of corruption from general trends in private and public sectors. It is related to Turkmenistan, that doesn't indicate evident corruption at selected universities of Ashkhabad, to Tajikistan (25% of estimated corruption) as the most corrupt country in higher education in this region, and Kazakhstan (with 22% of estimated corruption) which is placed just after Tajikistan.

The status *of research* and development processes in *Turkmenistan, Uzbekistan and Tajikistan* is much better organized, presented and motivated than that in *Kazakhstan and Kyrgyzstan*.

Important limitations are related to universities in Turkmenistan, in terms of regional representation. Further research would be recommended with the perception of corruption by students at these regional Universities.

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