

ASSESSMENT OF HIGHER EDUCATION TAJKISTAN

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Note: In this publication, “\$” refers to US dollars.

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KEY FINDINGS

- Even with meager resources, many universities in Tajikistan, led by a dynamic set of managers, are innovating, improving quality, and working with the top universities of the world.
- The government allocation of \$215 per student per year fundamentally limits the ability of the higher education sector to provide quality education in relevant fields.
- Governance reform and promotion of university autonomy in existing public sector institutions would optimize options for Tajikistan's universities to address their problems.
- Research is severely neglected, and immediate steps are required to develop indigenous university faculty capable of undertaking quality research.
- Faculty members in Tajikistan have low salaries, no incentives for research, minimal opportunities for growth, and generally work multiple jobs.
- Lack of laboratories, access to scientific literature, research grants, and qualified faculty are significant barriers to promoting science and engineering fields.
- The country's weak school system impacts the ability of the higher education system to produce world-class graduates.
- Minimal job opportunities within the country, combined with a mismatch between labor market demands and available skills, exacerbate the pressure to move abroad.
- Investment in information technology connectivity is essential to allow universities to compete at an international level.
- The ability to "pay your way" to a good grade or degree is not endemic, but it casts a pall over the entire sector.
- Comprehensive higher education reform in all areas of governance and management systems, faculty development, provision of financial support, information system upgrade, better admission systems, curricula development, and modern laboratories is urgently required to optimize the potential of Tajikistan's human resources.
- Higher education institutions must be supported to allow them to align technical and vocational education and training programs with requirements of the labor market.
- Once the existing academic leadership retires, the mass of higher education professionals will be critically reduced, leaving the sector significantly weakened and perhaps unable to recover.

BACKGROUND

Separation from the Soviet Union and a subsequent civil war were difficult events for Tajikistan. The economy contracted significantly, with economic growth falling by more than 60%. The impact of these events on the education sector was traumatic, with one-fifth of the nation's schools damaged or destroyed. Education expenditure collapsed, decreasing from 9.2% of gross domestic product (GDP) in 1992 to 2.1% in 1995.¹ There was a mass exodus of qualified teachers to the Russian Federation and the more prosperous Commonwealth of Independent States. The secondary school enrollment rate dropped by more than 15 percentage points between 1992 and 2000, along with a reduction of more than 8 percentage points in tertiary enrollment rate over the same period.²

The change in the economic system of mandatory work assignments in the Soviet era had a particularly severe impact on the tertiary education system, with large numbers of students abandoning their studies and leaving the country in search of work. However, Tajikistan managed to overcome these challenges, with enrollment rates recently returning to near pre-independence levels. Steady economic growth over the past decade and consistent allocation of more than 15% of the budget to education have facilitated these improvements.

The GDP of Tajikistan was TJS40.5 billion in 2013.³ At purchasing power parity, the per capita income was close to \$2,200, which classifies it as a factor-driven economy under the Global Competitiveness Index.⁴ Unlike the neighboring countries of Afghanistan and

Pakistan and other lower-income countries, Tajikistan—with its high levels of education achievements and a significantly higher Human Development Index—can potentially grow more rapidly.⁵ About 27.6% of the labor force in Tajikistan has had some kind of vocational and technical education, including all of vocational, postsecondary, and tertiary education graduates.⁶ Assessing gender inequality in Tajikistan, the Human Development Index Report in 2013 stated that “Tajikistan has a GII value of 0.338, ranking it 57 out of 148 countries in the 2012 index.⁷ In Tajikistan, 17.5 percent of parliamentary seats are held by women, and 93.2 percent of adult women have reached a secondary or higher level of education compared to 85.8 percent of their male counterparts.”

Commenting on the impact of independence on women in Tajikistan, a report commissioned by the United Nations Children's Fund (UNICEF) noted that “[o]pportunities for girls and young women have also changed dramatically since independence.⁸ Alongside the gender gaps in employment and wages noted previously, there has been a resurgence of traditionalism in family and cultural life.” According to DeYoung's 2011 survey report, “[t]he gender issue here is primarily cultural and economic rather than legal.”⁹

The global competitiveness ranking of Tajikistan has improved remarkably over the past 3 years, increasing from 116 out of 139 in 2011 to 100 out of 144 countries in 2013. Tajikistan's competitiveness profile, highlighting the positive impact of its educational attainment, is given in Figure 1.

¹ UNESCO Institute for Statistics. Data centre. http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=136&IF_Language=eng&BR_Topic=0

² *Encyclopaedia Britannica*. 2007. Samani Dynasty. New York.

³ Tajikistan Statistics Agency Macroeconomic Indicators. <http://www.stat.tj/en/macroeconomic-indicators/>

⁴ World Economic Forum. 2012. *The Global Competitiveness Report 2012–2013*. <http://reports.weforum.org/global-competitiveness-report-2012-2013/>

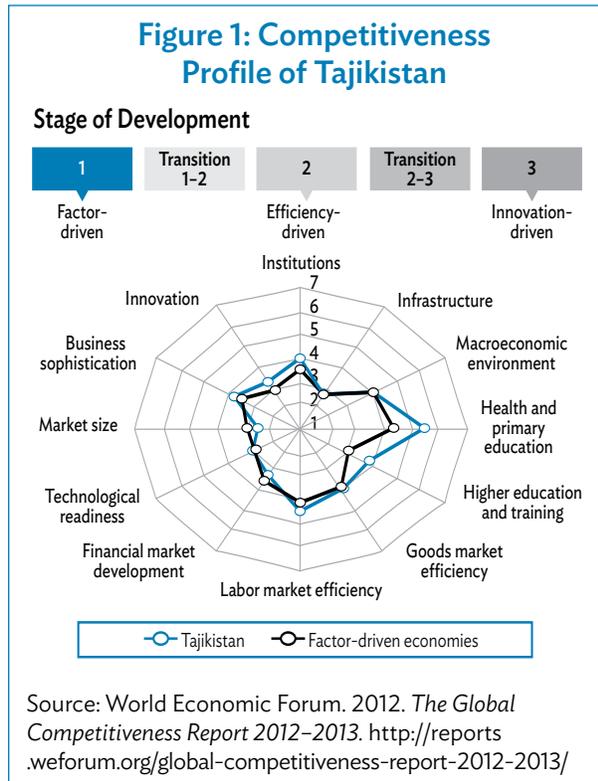
⁵ UNDP. 2013. *Explanatory Note on 2013 HDR Composite Indexes, Tajikistan*. <http://hdr.undp.org/sites/default/files/Country-Profiles/TJK.pdf>

⁶ Ministry of Education, Republic of Tajikistan, and UNICEF. 2011. *Youth Perspectives of Education Quality in Tajikistan: A Case Study of Education Quality for Youth in the CEECIS Region*. Dushanbe.

⁷ Footnote 5.

⁸ Footnote 6.

⁹ A. J. DeYoung. 2011. Scholar Research Brief: Gender and Academic Subculture(s) in Contemporary Tajik Universities. <http://www.irex.org/sites/default/files/DeYoung%20EPS%20Scholar%20Research%20Brief.pdf>



In 2010, the average salary in Tajikistan was \$82.71 per month; for the three largest employment sectors it was (i) \$23.63 per month in agriculture, (ii) \$60.38 per month in education, and (iii) \$57.00 per month in health care. Industry (\$135.31 per month) and government (\$119.43) fared better than average. It is also instructive to review the economic sectors providing the highest average wages since they indicate demand factors for higher education. The five top sectors with respect to wages were finance (average of \$298.99 per month), communications (\$238.09), the private sector (\$210.53), construction (\$204.75), and transport (\$188.54).

Tajikistan recently celebrated the birth of its 8 millionth resident and has added nearly 800,000 inhabitants during the past 5 years. Over the next 5 years, it is expected to add another 1 million inhabitants. The increase has resulted in a 15.5% rise in the working-age population. In terms of labor, Tajikistan is entering the best period of its economic

potential, reaping a demographic dividend, with its total dependency ratio expected to decrease over the next 35 years and reach its lowest level around 2050.¹⁰ Provided that high-quality educational opportunities are available, the possibility exists to achieve high economic growth and join the ranks of developed nations.

With nearly 1 million migrant workers and 25% of Tajik families having at least one member working abroad, it is clear that out-migration has a critical role in the socioeconomic structure of the country. An estimated 93% of migrants are working in the Russian Federation and 5% in Kazakhstan. An International Labour Organization survey conducted in 2010 estimated that the largest proportion (52%) of these migrant workers are engaged as laborers while 16% are engaged as construction workers.¹¹ A UNICEF case study on education quality identified the poor quality of education as the most important reason for migration.¹² Minimal opportunities for employment within the country, combined with a mismatch between labor market demands and available skills, exacerbate the pressure to move abroad.

Education Sector

Analyzing the risks to implementation of education sector goals in 2005, the 2006–2015 education sector strategy identified the following issues: (i) high rate of population growth, (ii) “brain drain” from the education sector due to migration, (iii) insufficient funding, (iv) poor learning conditions, and (v) outdated management and planning.

Tajikistan has an 11-year schooling system with children entering the system at age 7 years. Following completion of 9 compulsory years of schooling, students may continue secondary school (grades 10–11) or enroll in primary vocational education (PVE) schools, which offer 1–3-year programs along with 3–6-month short courses. Completion of PVE and an additional academic curriculum earns a certificate of full secondary general education in addition to the certificate of vocational education. This allows admission into institutions of higher education as

¹⁰ UN Population Division. Probabilistic Projections: Total Dependency Ratio. Afghanistan. http://esa.un.org/unpd/ppp/Figures-Output/Population/PPP_Total-Dependency-Ratio.htm

¹¹ International Labour Organization Subregional Office for Eastern Europe and Central Asia. 2010. *Migrant Remittances to Tajikistan: The Potential for Savings, Economic Investment, and Existing Financial Products to Attract Remittances*. Moscow: ILO.

¹² Footnote 6.

well as to vocational institutions providing secondary specialization programs of 2–4 years. Similarly, a student completing secondary school may directly pursue secondary vocational education studies. The tertiary education institutions admit only students who have completed secondary education or PVE.

According to government statistics, 84% of teenagers are completing compulsory basic education (grade 9).¹³ Nearly 80% of the students completing grade 9 went on to complete secondary school (through grade 11) in academic year (AY) 1990/91, whereas hardly 52% did so in AY2011/12. Only one-third of these “incomplete” secondary school graduates are choosing to enroll in PVE institutions, where enrollment has declined by 43% over the past 2 decades. Nearly 25% of students admitted into PVE institutions do not complete the academic program. These facts indicate a worrisome trend of declining qualifications of young people entering the workplace in Tajikistan.¹⁴

Numerous steps have been taken by the government to improve the education sector, including enhancement of funding from 3.5% to 4.5% of GDP in 2011, raising teacher salaries by an average of 31% each year for the past 6 years, building new schools each year, shifting to per capita funding, and building presidential schools where gifted but needy students are provided scholarships. With robust economic growth, an increasing amount of funds are being made available to education, and the government plans to enhance school funding even further to 7.0% of GDP by 2020.

Job creation in Tajikistan has seriously lagged behind working-age population growth, and, as noted by the European Training Foundation Labour Market Review, “job creation is the most pressing issue in Tajikistan, given the high population and labour force growth and declining quality of the labour force.”¹⁵ This pressure highlights one of the key reasons for out-migration. The lack of internationally recognized qualifications severely impacts the access of Tajik migrants to high-paying professional jobs. Remittances from Tajik migrant workers have a staggering impact on the economy, contributing 50% to GDP. Remittances grew by almost 10% in 2013 to an estimated \$3.9 billion from \$3.6 billion in 2012, with 95% of inward remittances coming from the Russian Federation.¹⁶ According to the Migration Service of Tajikistan, during the first 11 months of 2013, out-migration increased by 10.3% over the corresponding period of the previous year, continuing the trend in increased out-migration from the previous years.¹⁷ However, remittances are now under serious threat due to the slowdown of the Russian Federation economy, which hosts over 90% of Tajik migrant workers. Remittance flows dropped by 34.1% to \$615.6 million in the first four months of 2015 compared with the same period in 2014. In addition, the Russian Federation has tightened its migration policies. Combined with 150,000 new entrants into the labor force every year, unemployment in Tajikistan is serious.

¹³ Government of Tajikistan. 2012. *National Strategy for Education Development of the Republic of Tajikistan till 2020*. Dushanbe.

¹⁴ Statistics quoted in this paragraph are from the official Tajikistan Statistics Agency. <http://www.stat.tj/en/database/socio-demographic-sector>

¹⁵ J. Kuddusov. 2010. *Labour Market Review: Tajikistan*. Luxembourg: Publications Office of the European Union.

¹⁶ ADB. 2014. *Asian Development Outlook 2014: Fiscal Policy for Inclusive Growth*. Manila.

¹⁷ Government of Tajikistan, Ministry of Economic Development and Trade. 2013. *Monitoring and Early Warning in Tajikistan: Monthly Report March*. http://www.untj.org/files/Publications/DRMP/Monitoring_and_Early_Warning_Report/TJK_Monitoring_and_Early_Warning_Report_March_2013_ENG_.pdf

HIGHER EDUCATION

At the time of independence in 1991, 13 higher education institutions were operational in the country, enrolling nearly 70,000 students, with 5,400 faculty members. Since then, the number of institutions has grown, with 11 opening in the past 6 years. In AY2012/13, 34 higher education institutions were operational, including the private Tajik State Pedagogical Institute in Panjakent.¹⁸ These institutions constitute 14 universities and 14 institutes with 5 branch campuses, and the National Conservatory. In addition, there are four military institutes. A 2001 presidential initiative, which introduced enrollment privileges for young women from rural areas by allowing their admission in higher education institutions through interviews instead of formal examination, has resulted in a substantial increase in the number of women in tertiary education institutions.¹⁹ The percentage of women enrolled in secondary vocational education has shown a positive trend over the past decade, reaching 56% of total secondary vocational education enrollment in AY2011/12. This trend also exists for higher education institutions, which have witnessed a 5% increase in female enrollment over the past decade per statistics maintained by the Tajik State Statistical Agency.

A statistical profile of higher education is given in Table 1.

The qualification of teachers employed in higher education institutions has been gradually declining, with only 26.7% of the 9,271 teachers employed in AY2011/12 having a doctoral or candidate of science degree as opposed to 35.0% in AY2005/06. The other factor of great concern is the high average age of faculty members; Tempus quoted a figure of 64 years, which was confirmed during field work and consultation with other researchers and university administrators.²⁰ These older faculty members are the ones primarily holding the higher qualifications, and their retirement over the next several years will drastically reduce the percentage of faculty having doctoral or equivalent qualifications. This is an issue that requires immediate attention. Of these highly qualified faculty members, 80% are concentrated in seven universities, six of which are in Dushanbe. Faculty employed by the universities and institutes outside of Dushanbe are, on average, significantly less qualified, and this issue will be exacerbated with the retirement of the more highly qualified faculty.

Table 1: Statistical Profile of Higher Education Institutions^a

Item	2000/01	2011/12	2012/13
Number of higher education institutions	30	33	34
Enrollment	77,700	151,207	150,100
Percentage of day students	61.60	68.70	69.15
Percentage of correspondence students	38.40	31.30	30.91
Percentage of female students in day courses	...	22.90	...
Percentage of female students in correspondence courses	...	40.60	...
Total percentage of female enrollment	18.40	29.00	28.31
Number of graduates	13,600	27,700	36,200

... = not available.

^a Excludes the four military forces institutes.

Source: Tajikistan Statistics Agency. <http://www.stat.tj/en/database/socio-demographic-sector>

¹⁸ The location of the other institutions are 1 in the Gorno-Badakhshan region, 5 in Khatlon, 6 in Sughd, and the remaining 21 in Dushanbe.

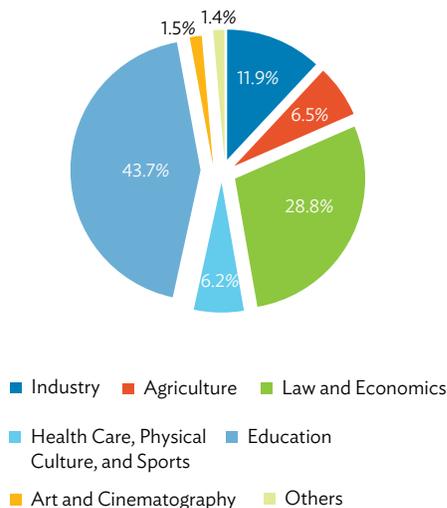
¹⁹ M. Baskakova. 2007. *Some Aspects of Youth Education, Gender Equality and Employment in the Caucasus and Central Asia*. <http://www.ilo.org/public/english/region/eurpro/moscow/areas/gender/baskakova-eng.pdf>

²⁰ Tempus is the European Union program that supports the modernization of higher education in partner countries. <http://tempus.tojikiston.com/en/>

The language of instruction at the higher education level is predominantly Tajik, with 81.0% of students instructed in Tajik, 17.5% in Russian, and the remaining 1.5% in Uzbek. Over the past 10 years, more students have been enrolling in programs where the language of instruction is Tajik. Another notable trend is the start of programs exclusively delivered in English. Although only a handful of programs in a few universities have been piloted at this time, globalization and the increasing demands of students and industry will inevitably result in more English-only programs.

In general, tuition fees account for around 70% of university budgets and are the main source of funding of higher education. On a per capita basis, government funding of the university sector is only \$215 per student per year. It is no surprise then that science, technology, and engineering education is neglected at the tertiary level (Figure 2). The lack of student enrollment in fields related to science, engineering, and technology is of serious concern to the government. The National Strategy for Education Development 2020 refers to this as “structural disproportions of the education system,” and plans to shift the focus of higher education institutions from social sciences disciplines to the applied fields, and terms these institutions the “most essential intellectual resource” for the development of the country.

Figure 2: Enrollment by Discipline



Source: Tajikistan Statistics Agency. <http://www.stat.tj/en/database/socio-demographic-sector>

While the National Strategy for Education Development 2006–2015 was primarily focused on school education, it did identify a few areas in which support to higher education will be provided, including a local information management system, a student loan system, international scholarships, and scientific equipment. These programs have been only partially implemented, and their effect on the accessibility, quality, and relevance of higher education has been minimal. The National Strategy for Education Development 2020 places a greater emphasis on higher education for the accelerated socioeconomic development of the country, noting that “the availability of highly qualified specialists in science, production and management is a priority objective for the functioning of the education system.” The strategy also recognizes the importance of higher education in (i) dynamic development of human capital assets, (ii) achieving competitiveness of the country, and (iii) raising Tajikistan’s international image.

The areas of concern in higher education identified in the National Strategy for Education Development 2020 are (i) an inadequate technical base and access to information; (ii) lack of integration of higher education with research activity; (iii) lack of faculty development programs; (iv) lack of an internal planning and assessment of educational quality by higher education institutions; (v) lack of a public education quality assurance system for open evaluation of institutions; (vi) lack of a distance learning system; (vii) low enrollment in higher education, as only 18% of the population of relevant age is enrolled in higher education, while the neighboring Kyrgyz Republic has more than 50% enrolled; and (viii) labor market disconnect.

Probably the most significant issue facing higher education is the failure to recognize the higher education sector as distinct from the education sector, requiring staff with expertise in higher education faculty development, assessment, quality, planning, governance, management, research, and information services, who understand the existing challenges and can devise and implement policies to improve the country’s higher education system.

The Law on Higher Education explicitly clarifies roles and responsibilities of the body responsible for the management of higher education in the country (the Ministry of Education and Science [MOES]) as well as the institutions of higher learning that are subordinate to the ministry and exercise autonomy within the

spheres laid out in this law. The Law on Higher Education determines the framework for “operational management” of all higher education institutions, and no separate provisions exist for governance and management of these institutions.

The autonomy of higher education institutions with respect to financial, staffing, and academic matters is defined by the Law on Higher Education, which requires a university to operate within the budget approved by MOES and Ministry of Finance, with staffing levels also defined by the budget. In academic matters, the academic standards and draft curriculum provide the framework within which the higher education institutions must operate. While the institutions may propose changes to the academic curricula, these changes must be approved by MOES. It may be then concluded that at this time, there is limited institutional autonomy in the country.

Against the heavy burden of responsibilities placed on MOES, certainly the number of personnel available, support structure, and budgeted resources greatly constrain the ministry’s ability to achieve requisite targets. Steady progress has been made in higher education reform, including a shift to the three-tier system of education, introduction of PhD programs in universities, and significant enhancement of faculty salaries, but much remains to be done, for which significantly greater financial resources and qualified personnel will be required. More important, however, is a reassessment of the ministry’s future role, taking into consideration international best practices and optimum use of public resources to achieve the country’s socioeconomic development objectives.

Quality Assurance

Tajikistan is taking steps to join the European Higher Education Area, of which Kazakhstan is the 47th and latest member.²¹ This requires modifications in the legal and normative framework, some of which have already been done, such as the establishment of a

three-tier education system and the implementation of the European Credit Transfer System to promote student mobility. The most important task, pertaining to the establishment of a credible quality assurance system based on the European Standards and Guidelines and implemented through organizations listed in the European Quality Assurance Register, is yet to be accomplished.^{22,23} The launch of a unified test for admission into universities by 2014 and a reduced number of specializations at the bachelor’s level are positive steps to improve the quality of higher education.

Research, Science, and Innovation Systems

Research has essentially remained outside of the purview of the higher education system since it is primarily coordinated by the Academy of Sciences. Funding available for research is limited. Consequently, the number of international research publications from Tajikistan has remained very low over the past decade, with no indication that these will be increasing in the future. The number of research articles published by Tajik authors in international journals has doubled over the past decade from 49 in 2002 to 106 in 2012. However, Tajikistan’s share of these publications from all Asian countries has decreased to about one-third of what it was a decade ago, clearly indicating that Tajikistan is losing ground in research to its regional peers (Figure 3).²⁴

The 2012 and 2013 regulations allowing award of doctoral degrees in Tajikistan, in conformance with Bologna Process requirements, is a welcome step that will increase the number of university faculty with advanced degrees. This represents a crucial step toward the launch of research activity that will improve the quality of higher education, help retain highly qualified faculty members, and improve the qualification level of university faculty members. Formal PhD programs were initiated in September 2014.

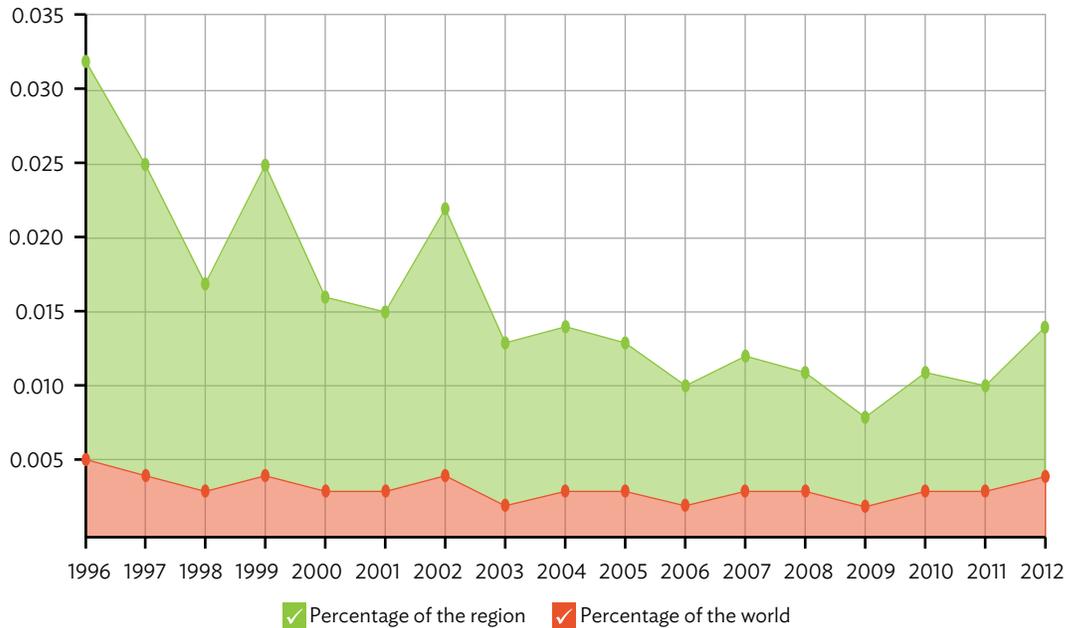
²¹ European Higher Education Area. <http://www.ehea.info>

²² European Standards and Guidelines for Quality Assurance. <http://www.eqar.eu/application/requirements/european-standards-and-guidelines.html>

²³ European Quality Assurance Register for Higher Education. <http://www.eqar.eu>

²⁴ SCImago. 2007. SJR—SCImago Journal and Country Rank. <http://www.scimagojr.com>

Figure 3: Comparison of Publications from Tajikistan with Publications from All Countries in Asia



Source: SCImago. 2007. SJR—SCImago Journal and Country Rank. <http://www.scimagojr.com>

Table 2: Public Expenditure on Education, 2009–2014 (Current Prices)

Indicators	2009	2010	2011	2012	2013	2014
GDP (TJS million)	20,628	24,500	30,069	36,161	42,100	48,500
GDP, real annual change (%)	3.9	6.5	7.3	7.5	7.4	8.8
State budget expenditure, (TJS million)	5,652	6,782	8,595	10,341	12,268	13,910
State budget expenditure (% GDP)	26.4	27.7	28.5	28.9	29.0	28.7
Public education expenditure (TJS million)	1,110.2	1,068.3	1,363.3	1,607.8	2,130.8	2,516
Public education expenditure (% GDP)	5.0	4.4	4.5	4.5	5.1	5.2
Public education expenditure (% state budget expenditure)	18.6	18.9	15.9	15.5	17.4	18.1

GDP = gross domestic product, TJS = somoni.

Sources: Law on State Budget of the Republic of Tajikistan No. 1025 dated 31 October 2013; Government of Tajikistan, Ministry of Economic Development and Trade. Policy Documents. http://medt.tj/index.php/ru/?option=com_content&view=article&id=116; Government of Tajikistan, Ministry of Finance.

Financing of Higher Education

With increasing resources at its disposal, Tajikistan has made impressive progress in the past few years, with education expenditure increasing from 4.5% of GDP in 2011 to 5.2% of GDP in 2014 (Table 2).

Based on a review of the expenditures of each education subsector, the government is increasing the overall education budget substantially each year, and providing the maximum increase to preschool and vocational education. Of the total education budget, 16.0% is currently allocated to higher education,

a substantial increase from 2007 when higher education's share was only 6.4%.

In AY2011/12, only 24 institutions in the public sector were funded through the budget, with the remainder funded by self-generated funds, other government funds, or a combination of both. Funds raised by the universities through tuition fees and other fees charged for services are deposited into the federal treasury and, following deduction of a 10% tax, are made a part of the public university budget approved by the Ministry of Finance. The public university operational budget is, therefore, composed of three parts: (i) budget provided by the government,

inclusive of the 10% tax on special funds; (ii) special funds consisting of fees collected by the universities; and (iii) additional funds raised through donations or other sources. For 2013, the government made a special allocation of TJS41 million to universities for construction.

Nearly 90% of the total operational budget of universities in 2013 was distributed among (i) salaries, wages, and pensions (59.0%); (ii) facilities and furniture repair and maintenance (10.8%); (iii) equipment, machinery, and software (8.4%); (iv) student stipends and awards (8.2%); and (v) utilities (2.8%).

Table 3: Government Funding of Higher Education

Higher Education Budget (HEB)	2011		2012		2013	
	TJS '000	% of Total HEB	TJS '000	% of Total HEB	TJS '000	% of Total HEB incl. Construction
Funds raised by universities	167,212	76.1%	213,336	75.9%	229,949	68.1%
10% tax on funds raised	16,721	7.6%	21,334	7.6%	22,995	6.8%
Special funds	150,491	68.5%	192,002	68.3%	206,954	61.3%
Actual government funding	52,414	23.9%	67,735	24.1%	107,859	31.9%
Republican budget	69,135	31.5%	89,069	31.7%	130,854	38.7%
Total including construction	219,626	100.0%	281,071	100.0%	337,808	100.0%

TJS = somoni.

Source: Government of Tajikistan, Ministry of Finance.

UNIVERSITY QUALITY AND COVERAGE

The **Tajik Agrarian University** is one of the oldest universities in the country, where 82% of the student body comes from rural areas. It has graduated more than 40,000 specialists to date, and an analysis of its graduates over the past several years has shown that 76%–78% are employed in areas related to their fields of specialization. The university is thus having a direct impact on the socioeconomic development of the country. It currently enrolls nearly 7,500 students in 38 different bachelor's programs, offers 8 master's courses, and also enrolls 63 PhD students, all from foreign countries. The university is justifiably proud of the strict quality check systems in place, including computerized admissions and internal testing systems; not a single complaint of corruption has been registered, according to the rector of the university.

Established in 1939 as one of the premier medical universities of the Soviet Union, the **Avicenna Tajik State Medical University** has seen its fortunes diminish following independence and consequent events. The university infrastructure deteriorated along with departure of specialists. Lack of investment in the technological infrastructure added to the institution's hard times. Since 2005, however, a step-by-step rebuilding process has occurred, and a gradual increase in financial resources has allowed the institution to start regaining some of its past glory. Because 75% of funds are raised through tuition fees and private donations, the university is able to exercise some financial autonomy in charting its way forward. Administratively, the university is subordinate to both the Ministry of Health and MOES, a far from ideal situation.

The **Tajik Pedagogical University** is one of the country's largest universities, and has the distinction of hosting more than 1,000 foreign students, 95% of whom come from Turkmenistan and Uzbekistan, where access to higher education is restricted. The university has 13 faculties, most of which are in the pedagogical area. Perhaps of greatest concern to the university is the lack of PhD-qualified faculty members as well as the age profile of its faculty (72% of the professors are aged 60 years or more). Closure of correspondence programs has placed an additional financial burden on the university, which was already facing financial pressures due to lower contract fees of pedagogy students.

The **University of Commerce**, founded by the Tajik Union of Consumers, is a public university that operates out of two campuses and enrolls more than 10,500 students, yet is completely financed through tuition fees and support of the founding board. As such, it essentially operates like a private university with complete control over its budget allocation, faculty and staff salaries, fee levels, and all financial and administrative matters with the exception of the appointment of the rector, which is done by the President of the country on the recommendation of the founding board. In line with its private sector mode of operation, the university minimizes the number of full-time faculty, which allows it to economize and focus on delivery of industry-relevant programs. The university is a pioneer in the implementation of the Bologna Process requirements.

Founded by the Ministry of Energy and Industry just over 20 years ago, the **Technological University of Tajikistan** has more than 6,200 students, including 1,500 part-time students. The largest enrollment in the university, however, is in the humanities and social science fields, with the departments of economics and finance each having more than 1,100 students. "Innovation" is the key thrust of the university in every sphere of its work. Students are challenged to prepare innovative projects, while faculty is challenged to present innovative ideas for the university's development as well as for enhancement of university-industry ties. The university is taking a competence-based approach to education related to the requirements of modern times. This has led it to require all of its students to (i) understand English, (ii) have knowledge of innovation, (iii) have skills to establish relationships with enterprises, (iv) be able to type 150 words per minute, and (v) be able to develop business plans.

Founded in 1956 as the Stalinabad Polytechnic Institute, the **Tajik State Technical University** today is the country's premier engineering university, enrolling 11,500 students on its main campus in eight faculties. The campus infrastructure is somewhat decrepit, and the condition of its buildings and laboratories does not reflect well on the state of technology education in the country. Funding remains the single biggest

obstacle to improving the quality of education. The government allocation of nearly TJS6 million compares poorly with nearly TJS19 million in contract funding raised by the university, without which operation of the university would not be possible.

The **Russian Tajik Slavonic University**, established in 1996 as a joint initiative of the Russian Federation and Tajikistan and recognized as a public university in both countries, has Russian as the medium of instruction, with all academic programs accredited by the Russian Federation. It has five faculties: economics, philology, history and international relations, law, and faculty

preparatory and supplementary educational services. About 70% of its funding comes from the Government of the Russian Federation, with student tuition and the Government of Tajikistan providing the remaining 20% and 10%, respectively. The salary structure for the faculty is the same as that of Russian universities and is the best in Tajikistan. The Russian Tajik Slavonic University has converted all of its academic programs to the bachelor's/master's structure and initiated a PhD program in 2013. This university is a working model of an institution, delivering international-quality higher education.

Assessment of Higher Education

Tajikistan

Separation from the Soviet Union and a subsequent civil war were difficult events for Tajikistan. The economy contracted significantly, one-fifth of the nation's schools were damaged or destroyed, and the change in the economic system of mandatory work assignments in the Soviet era had large numbers of students abandoning their studies and leaving the country in search of work. Tajikistan managed to overcome these challenges, with enrollment rates returning to near pre-independence levels.

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