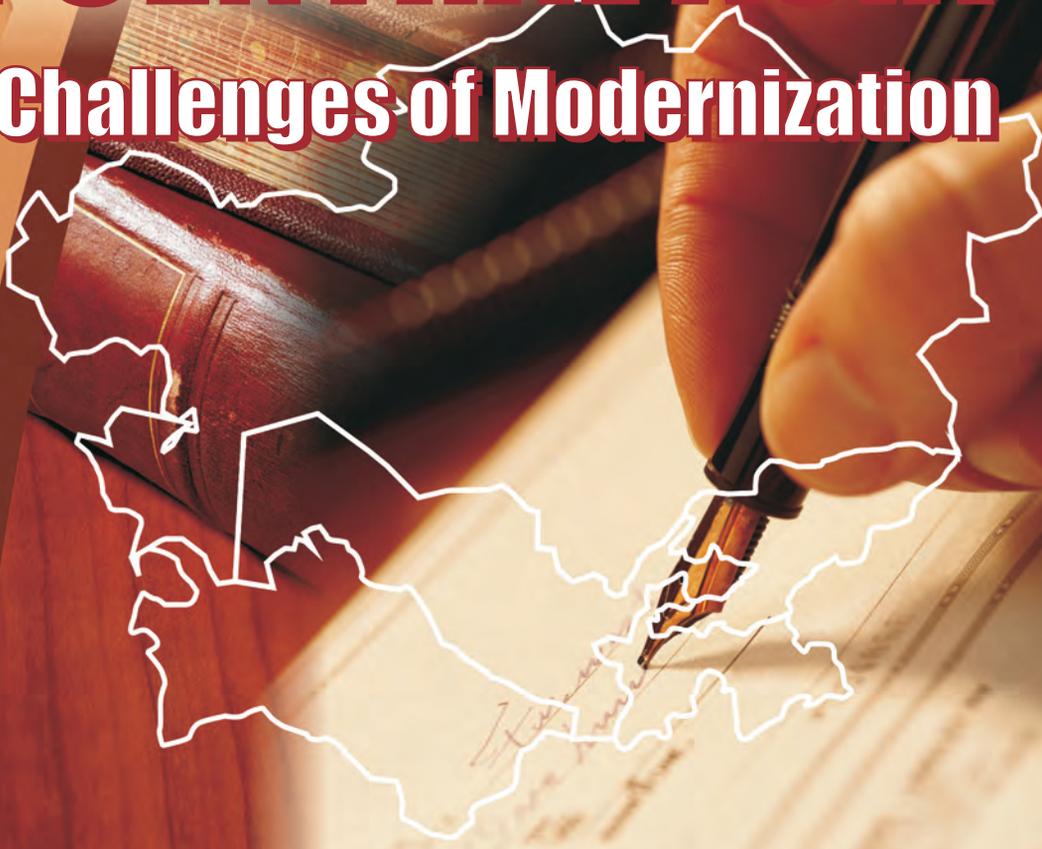




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# HIGHER EDUCATION IN CENTRAL ASIA

## The Challenges of Modernization



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# Higher Education in Central Asia

## The Challenges of Modernization

Case Studies from Kazakhstan, Tajikistan, The Kyrgyz Republic and Uzbekistan

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## Foreword

Since independence, the four Central Asia countries included in this report have made consistent efforts to modernize and reform basic and secondary education in an attempt to align their education systems with broader political and economic initiatives aimed at the transition of their social and economic institutions from centrally planned to market. Although higher education also experienced an important transformation during this period, specially in terms of increased enrollment and institutional autonomy, not enough attention has been paid to strengthening the empirical knowledge and improving the policy debate on how the higher education system operates and of what are its main challenges as it tries to become more responsive to the demands of an increasingly diverse student body and a rapidly changing economy.

This report was prepared as part of a World Bank led initiative “Analysis of the Situation of Higher Education in Central Asia”. It represents an initial attempt to put forward an analytical framework that can be used to guide further empirical research and policy dialogue in this area. It provided an opportunity for a group of local researchers and policy makers to conduct policy analysis aimed at helping government officials, decision makers and university administrators to make informed policy choices in reforming their higher education systems.

The four country reports included in this volume were prepared by country teams, each consisting of government officials, stakeholders and local experts. They document how the significant and rapid pace of expansion of the tertiary education system has not brought significant changes to how the institutions are managed, or to how teaching, learning and research are conducted. University faculty has changed very little and is aging rapidly with little hope for renewal due to outdated staffing practices and lack of incentives. Within this context, public universities and other tertiary education institutions are at risk of losing relevance, while the newly established private institutions still do not ensure the necessary quality. All this is happening while central government agencies (Ministries as well as deconcentrated agencies and other *buffer* bodies) still have little capacity to hold the providers of tertiary education services accountable. An urgent task ahead is to build consensus on the direction universities and the sector at large should move towards.

This publication consists of an introductory overview presenting the analytical framework and the main findings followed by the four short case studies where those broad findings are explored and documented in more detail for Kazakhstan, Tajikistan, The Kyrgyz Republic and Uzbekistan.

Initial funding for this project was provided by DFID within the framework of the World Bank/DFID Trust Fund on Knowledge and Skills for the Knowledge Economy.

Annette Dixon  
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## ACRONYMS & ABBREVIATIONS

ACCELS	American Council for Collaboration in Education and Language Study	MLSPP	Ministry of Labor of Social Protection of Population
CM	Cabinet of Ministers	MPE	Ministry of Public Education
CRDF	China Development Research Foundation	MTSVE	Ministry of Tertiary and Secondary Vocational Education
DAAD	Deutscher Akademischer Austausch Dienst	TETS	Tertiary education teaching staff
EA	Education for Adults	NIP	National Innovation Program
GDP	Gross Domestic Product	NPFR	National Program for Fundamental Research
INCO	International Scientific Cooperation Activities	NPTP	National Personnel Training Program
INTAS	The International Association for the Promotion of Co-operation with Scientists from the New Independent States of the Former Soviet Union	NTC	National Testing Center
ISTF	In-service Training Faculty	PB	Public budget
ISTI	In-service Training Institute	RU	RU
JICA	Japan International Cooperation Agency	SR	Scientific Research
KOICA	Korean International Cooperation Agency	SRI	Scientific Research Institute
LLL	Long-life learning	STC	Science and Technology Center
ME	Ministry of Economics	STCU	Science and Technology Center in Ukraine
MOF	Ministry of Finance	TE	Tertiary education
MFA	Ministry of Foreign Affairs	TETS	Tertiary education teaching staff
MH	Ministry of Health	USAID	United States Agency of International Development
MJ	Ministry of Justice	USAID	United States Agency of International Development

## Contents

Foreword .....	3
Acknowledgment.....	4
Acronyms and abbreviations .....	5
Introduction.....	11
I.    Approaches to Higher Education.....	12
II.   The Higher Education System: select issues.....	28
III.  Higher Education: policy, continuity and priorities.....	39
IV.   Higher Education and competitiveness.....	51
KAZAKHSTAN.....	75
National Context.....	75
General Characteristics of Higher Education system.....	76
Organization (Management), Planning and Regulation of HEIs .....	82
Access, opportunities and Equality.....	85
Quality and Quality Control.....	86
Labour Market and Higher Education.....	95
System of Financing HE .....	97
Role of HE in Conducting Scientific Research and Innovation Development (R&D).....	102
Globalization and Access to International Market.....	104
Kazakhstan Legal and Regulatory References.....	106
KYRGYZSTAN .....	108
National Context .....	108
Overview of Higher Education system .....	109
Organization, Planning and Regulation of Higher Education.....	111
Access, Opportunities and Equality .....	112
Quality and Quality Control .....	116
Education and Labour Market .....	117
Higher Education Financing .....	121
Role of HE in Research and Innovations .....	125
Globalization and integration with the International Education Sector.....	128
Bibliography.....	130
TAJKISTAN.....	133
National Context.....	133
Overall Description of Higher Education System .....	134
Governance, Planning and Regulation of HEIs .....	138
Access, opportunities and Equity .....	141
Quality and Quality Assurance.....	144
Relevance and Labour Market Outcomes .....	147
Financing of Higher Education .....	149
Role of Higher Education Research and Innovation.....	152
Internationalization and Globalization.....	155
List of adopted laws and regulations on the tertiary education reform.....	156
Bibliography .....	157
UZBEKISTAN.....	158
National Context.....	158
General Characteristics of Tertiary Education System .....	162
Organization (Management), Planning and Regulation of Tertiary Education.....	165
Access, opportunities and Equality .....	166
Quality and Quality Control .....	169
Labour Market and Tertiary Education .....	172
Financing of Tertiary Education.....	175
Role of Tertiary Education in Research and Innovation .....	178
Internationalization and Globalization .....	180

## Tables

Table 1. Legal quality in Central Asian Republics.....	18
Table 2. CAR: Growth and change .....	20
Table 3. CIS – current data (2005) .....	22
Table 4. Higher Education: language of instruction (recent data).....	24
Table 5. Higher Education: ethnicity.....	24
Table 6. Fractionalization Indices.....	28
Table 7. Ethnic and Cultural Fractionalization.....	28
Table 8. Higher Education: number of tertiary institutions.....	34
Table 9. Higher Education: Enrolment by status.....	35
Table 10. Full time students (percent total students).....	36
Table 11. First-year students – total and proportion of all enrolled students.....	36
Table 12. Current and projected educational expenditures, 1990-2008 (selected countries).....	43
Table 13. Higher education estimates (percent).....	44
Table 14. Technology and communication indicators.....	47
Table 15. Sectoral shifts (Value added), 1990, 2000, 2005.....	55
Table 16. GDP Employment by sectors: percentage change.....	56
Table 17. Per capita Gini co-efficient.....	58
Table 18. Poverty rates.....	59
Table 19. Poverty and Education.....	60
Table 20. HEI graduates as percent of enrolment and annual employment differences.....	61
Table 21. Knowledge Economy Indicators.....	66
Table 22. Knowledge economy Index .....	66
Table 23. GDP Growth Rates, 1990-2000, 2000-2005 and 2006/2007.....	68
Table 24. Structure of Exports and Imports.....	69
Table 25. Obstacles to Business Operations and Growth: skills of available workers.....	71
Table 26. Projections to 2015 .....	72
Table 27. Network of Higher Educational Institutions in Kazakhstan.....	77
Table 28. Network of Higher Educational Institutions by Types.....	77
Table 29. Number of Students in Higher Education system (thousands).....	78
Table 30. Number of Students in Public Higher Educational Institutions.....	79
Table 31. Number of Admitted students.....	80
Table 32. Number of Graduates .....	80
Table 33. Results for Admitted Students .....	80
Table 34. Distribution of Number of Students by Language of Training (as of the beginning of learning process) students.....	81
Table 35. Development of Governmental Policy Related to Higher Education Quality in RoK.....	87
Table 36. System of Criteria for Employment and Promotion of Academic Staff .....	89
Table 37. Criteria of Accreditation of HEIs in Accordance with the Methodology Approved by Ministry of Education and Science of RoK.....	90
Table 38. System of Criteria for Employment and Promotion of Academic Staff.....	92
Table 39. Types of Internal Evaluation in HEIs of Kazakhstan .....	94
Table 40. Unemployment by Education .....	97
Table 41. Graduate Employment .....	97
Table 42. Education Funding (KZT mn) .....	99
Table 43. Students, Grants and Payments as percent HEI budget.....	102
Table 44. National and foreign students; international data .....	104
Table 45. GDP, State Budget expenditures and unemployment (percent).....	108
Table 46. HE colleges by types of education .....	109
Table 47. Number of students in HE colleges by location at the beginning of academic year.....	110
Table 48. General school graduates and admission to HE colleges (000s).....	113
Table 49. Stratification of the total number of students by age .....	114
Table 50. Stratification of the total number of students by language of study .....	115
Table 51. Stratification of the total number of students by nationality .....	115
Table 52. Graduation of certified specialists from HE colleges by location .....	118

Table 53. Allocation of Young Specialists .....	119
Table 54. Young Teacher's Deposit Program (2005/06 academic year) .....	120
Table 55. State institutes of HE by types of education (at the beginning of the academic year).....	121
Table 56. Structure of the HE financing, (percent) .....	121
Table 57. Shares of education in the GDP and the state budget (percent).....	122
Table 58. Structure of the state budget expenditures by educational institutions (percent) .....	122
Table 59. Amount of funds allocated per student .....	123
Table 60. Share of budgetary and special means in financing expenditures of the republican budget of HE in 2005 (percent).....	123
Table 61. Economic classification of expenditures of the republican budget of HE in 2005 .....	124
Table 62. External assistance trends to HE, USD (000s).....	124
Table 63. Share of expenditures for research and development activities as percent GDP.....	126
Table 64. Share of HE colleges in the total volume of scientific and technical activities (percent).....	126
Table 65. Allocation of expenditures for science in the state R&D budget (percent).....	126
Table 66. Number of students in the country's tertiary education institutions by vocational training stages.....	134
Table 67. Number of students in the country's tertiary education institutions by study forms.....	135
Table 68. Number of students by teaching languages .....	141
Table 69. Number of students in the country's TEIs by financing sources.....	142
Table 70. Official salaries of teaching staff.....	145
Table 71. Graduation from TEIs by their sectoral specialization .....	147
Table 72. Share of the education budget in GDP and total state expenditures.....	149
Table 73. Basic macroeconomic indicators .....	150
Table 74. Expenditures by education 2000 -2006 .....	151
Table 75. Itemized structure of TEIs' expenditures in 1998 – 2002.....	152
Table 76. Scientific subjects supported at tertiary education institutions and scientific institutions.....	153
Table 77. Students enrolment in TEIs, 1990-2005.....	159
Table 78. Students enrolment per 10 thousand of population.....	161
Table 79. Structure of TE expenditures in the GDP in 2000-2005.....	162
Table 80. TEIs by sectors.....	163
Table 81. TEIs by ministries and agencies.....	163
Table 82. Recommended workload for teaching staff .....	164
Table 83. Distribution of TEIs' students by languages of instruction, as percent of overall number of students.....	164
Table 84. Annual tuition fee for Bachelor programs in TEIs of Uzbekistan in 2005-06 academic year by areas of training.....	167
Table 85. Annual tuition fee for Master programs in TEIs of Uzbekistan in 2005-06 academic year by areas of training.....	168
Table 86. Annual tuition fee for second specialty studies in TEIs of Uzbekistan in 2005-06 academic year by areas of training.....	168
Table 87. Annual tuition fee for foreign students in TEIs of Uzbekistan in 2005-06 academic year by levels of education.....	168
Table 88. Results of admission to Bachelor programs of TEIs in Uzbekistan as of early 2005-06 academic year.....	168
Table 89. Monthly average salary of teaching staff in 2005-06 academic year.....	170
Table 90. Structure of employees in economic sector in Uzbekistan by gender and level of education.....	172
Table 91. Share of citizens with tertiary education among those registered at employment services in Uzbekistan.....	172
Table 92. Monthly national average wages by sectors (ratio of the national average rate, average wage, %)..	173
Table 93. Competition rate for admission to TEIs.....	173
Table 94. Results of admission of Master programs (early 2005/06 academic year).....	174
Table 95. Ratio of budget and off-budget financing of TEIs in 2000-2005.....	175
Table 96. Financial indicators of TE expenditures as share of GDP.....	176
Table 97. Expenditures on TE.....	177
Table 98. Key indicators of salary in TE system.....	177
Table 99. Distribution of scientific potential by ministries and agencies in 2005-2006.....	178
Table 100. Allocation of CST grants by ministries and agencies, UZS mn.....	179

Table 101. Ratio of grants for scientific and research activities (SRA) to TE budget.....	180
Table 102. Scope of scientific and research activities and TEI contracts by years, UZS mn.....	180
Table 103. Number of foreign students studying in Uzbekistan.....	181

## Figures

Figure 1. Central Asia and the Russian Federation – net migration .....	14
Figure 2. CAR: Government Expenditure to GDP, 1991 – 2004 .....	15
Figure 3. Transition indicies .....	16
Figure 4. First Second Phase Transition Reforms.....	17
Figure 5. Compare transition to the Russian Federation (2006).....	18
Figure 6. Real GDP Growth (1989 – 2005) .....	19
Figure 7. GNI per capita (\$US, PPP) .....	20
Figure 8. Higher Education Enrolment Growth compared.....	30
Figure 9. Secondary and Tertiary Enrolment (a-d).....	32
Figure 10. Vocational – technical education as percent Secondary.....	34
Figure 11. Full time students – growth of absolute numbers.....	37
Figure 12. Government educational expenditures/GDP (selected years).....	43
Figure 13. CAR: Unemployment rates 1992 – 2003/05 .....	52
Figure 14. Employment 1998 – 2005 (thousands.).....	53
Figure 15. Exports of Goods and services/GDP (percent).....	70
Figure 16. Distribution by Types of Education .....	79
Figure 17. Distribution by Types of education in Public Higher Educational Institutions.....	79
Figure 18. Distribution by Types of education in Non-Public Higher Educational Institutions.....	80
Figure 19. Institutions of education Quality Evaluation in the RoK.....	88
Figure 20. Results of Interim Control specialties.....	90
Figure 21. Accreditation Mechanism .....	91
Figure 22. Distribution of Grants “Best HEI Professor” by Age.....	93
Figure 23. Theses Defended to Obtain Scientific Degrees in Kazakhstan, 1997 -2005.....	93
Figure 24. Graduate Employment, Vacancies and Wages by Sectors.....	95
Figure 25. Positive influence of labour market.....	96
Figure 26. Negative influence of labour market.....	96
Figure 27. Expenditures of Higher Education in the Basic and Parallel systems (percent).....	99
Figure 28. HEI: Average Budget Expenditures .....	100
Figure 29. HEI by operating and capital expenditures.....	100
Figure 30. Dependence of Investments on HEI size.....	101
Figure 31. Growth of the number of HE colleges and number of students.....	110
Figure 32. Entrants enrolment by category (percent) .....	113
Figure 33. Ratio of degrees awarded to graduates in 2003 .....	118
Figure 34. Number of students per 10,000 of population .....	136
Figure 35. Number of entrant students at tertiary education institutions (‘000).....	136
Figure 36. Number of students graduated from tertiary education institutions (‘000).....	137
Figure 37. Number of tertiary education institutions and number of students.....	137
Figure 38. Enrollment of girls under the President’s Quota.....	143
Figure 39. Share of women in the total number of TEIs’ students.....	143
Figure 40. Demand for and Supply of workforce .....	148
Figure 41. Consolidated budget expenditures for education and vocational training (% of gross domestic product).....	150
Figure 42. Share of expenditures for higher education in the sphere of state education expenditures.....	150
Figure 43. State expenditures in the education sector per on trainee/student (Somoni).....	151
Figure 44. Changes in the number of students in 1990-2005 .....	161
Figure 45. Number and characteristics of teachers and professors in 1991-2005.....	161
Figure 46. Admission to doctor and post-graduate schools.....	171

## Boxes

Box 1. The collapse of the Soviet Union.....	13
Box 2. The Global Competitiveness index .....	26
Box 3. Jobs and Education.....	54
Box 4. Income, jobs and poverty.....	57
Box 5. Mobility of Students .....	83
Box 6. Anti-Corruption Measures.....	83
Box 7. Youth Initiatives .....	84
Box 8. Quality – an entrepreneur’s statement .....	91
Box 9. Total Quality management .....	91
Box 10. How does the labour market influence the quality of education? .....	96
Box 11. Higher Education Support .....	98
Box 12. World Trade in Educational Services .....	105

## Introduction

The purpose of this introductory essay is to explore the current challenges facing higher education in Central Asia using the recent case studies of Kazakhstan, the Kyrgyz Republic, Tajikistan and Uzbekistan prepared under the World Bank initiative “Analysis of the Situation of Higher Education in Central Asia”<sup>1</sup>.

If there is a common purpose that links the four government’s approach it is that tertiary education should contribute to the consolidation and modernization of their societies. These four nations or areas had a reasonably successful education system – using quantitative indicators such as literacy, primary and secondary coverage and research - under the Soviet Union and a part of this legacy remains. Yet that legacy is irrevocably part of history leaving the political elite with the task of creating new educational systems for the new countries. Suffice it to say that such a task is likely to involve challenges that go beyond education to questions of national identity and globalization with responses – however inconsistent or fragmented – driven by different doses of principle and pragmatism. The four countries have not followed the same model, but there is enough similarity between the problems that they face coupled with their geographical proximity, to compare their different responses.

These responses will differ and in a sense be conditioned by the human and physical resources at the nation’s disposal. Uzbekistan is the most populous country with 27m followed by Kazakhstan with 15m and Tajikistan and the Kyrgyz Republic with 7 m and 5m respectively. However the value of Kazakhstan’s gross domestic product is greater than the other three countries combined principally because of petroleum and gas. In addition, the geography of the four countries varies substantially together with the economic distribution of goods and services within each country. While in all countries the rural population tends to be poorer, it is the size of that population and its opportunities for attending schools that define the educational challenges and which are then transferred as policy options into the higher education system.

The first section of this introduction surveys these issues with a brief examination of the transition process, which is both ongoing and one of the principal determinants of the emerging higher education system in the four countries. The section points out the need for greater policy clarity about why higher education matters at this stage of the transition and how difficult, without a consistent policy structure, it will be to build national higher educational systems. The section also discusses the value of a comparative approach involving three generic issues – the national education system, management and resources, and the multiple dimensions of successful market integration, particularly as ‘competitiveness’. These issues from the substance of the following three sections (II-IV) are based on a reading of the national reports. These pioneering and valuable reports, it should be added, are English abstracts of documents written in other languages and so it is possible that the present authors have unintentionally misunderstood aspects of this sector and for which apologies are due. The introduction points to the need for greater policy clarity about why higher education matters at this stage of the transition and how difficult, without a consistent policy structure, it will be to build national higher educational systems.

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<sup>1</sup> Throughout these four republics will be described as the Central Asian Republics or CARs even though, unless otherwise indicated Turkmenistan is not included. RF refers to the Russian Federation.

## ***I. Approaches to Higher Education***

The collapse of the Soviet Union had a strong impact on the education of each of the four countries, noticeably higher education which was more fully integrated across the Union than primary and secondary education. For the education system as a whole independence has invoked both prosaic questions about infrastructure and human resource availability and difficult issues such as its contribution to the economy, its role in building a national identity – closely related to instructional languages - and overall social and economic values.

If higher education was not at the forefront of policy making immediately after independence, the transition process itself (and attitudes for and against) have had an impact on national approaches and particularly toward the privatization of higher education. Further as relatively poor landlocked economies trade has always been their path to growth; this implies openness to both technology and investment, which in turn encourages globalization and new skills and knowledge for successful producing and trading operations. Thus as economies become more global, higher education and the knowledge economy will have greater policy importance for the four countries.

Despite their common origin, each higher education system in Central Asia today is evolving its own national education context or environment and which consist of three dimensions. *First*, higher education is part of a national education system and responds to the demands of secondary education. *Second*, education is closely related to and influenced by the labor market. In a market economy graduates sell their skills to employers in contrast to command economies where ministries often sponsor undergraduates and then place them in a predetermined department. Now the labor market is in flux. Not only are employers, particularly private and foreign employers, demanding different skills – for example management rather than engineering - but the production structure has changed dramatically. The number of large (employment generating) manufacturing firms has fallen and existing producers face competition from technologically sophisticated imports based on consumer choice rather than producer decisions. These changes have been understood and absorbed by leading universities and undergraduates, illustrated by the increasing demand for law, the social and information sciences at the expense of education and engineering. *Third*, national competitiveness requires an economy that can produce and sustain a broad range of skills particularly associated with science and technology. During the Union, it was the national academies and not universities that undertook most scientific research and technologies associated with large manufacturing complexes. Many countries, particularly in Eastern Europe, have attempted to integrate Academies into higher education as a way of reducing costs and bringing research closer to the market and so increasing their competitiveness for globalization.

These three dimensions – the national education system, labor market demands and international competitiveness – are the determinants of higher education in each of the Central Asian Republics (CARs.) They have been influenced by the political and administrative inheritance (briefly discussed in the next section), transition policies and performance.

### **a. The new reality – change and continuity**

While the process of creating a new education system may not be unique – many developing countries were faced with this task after the departure of their colonial masters – it was both unexpected and for some of the cadres, unwelcome. The Soviet Union left an unsustainable legacy for independent countries which had now to set their own policies, a combination of continuity and change.

(i) The immediate impact

The collapse of the Soviet Union brought economic, social and political challenges that the autonomous republics – now separate countries – were ill prepared to meet. While there has been strong political continuity, in different forms, the economy was no longer part of a broader production system, governments no longer received transfers for social programs (health, education, housing) nor subsidies for training, education and research (see Box 1). The four countries had to forge a new nationality, with new institutions and policies.

The weight of the four Central Asian Republics inheritance cannot be overestimated, nor can the challenges of an international and global economy. Indeed it is this deep mismatch – between an authoritarian command economy, (that was in theory coordinated from Moscow), and the demands of globalization that have made the transition so difficult. While there was agreement about moving to market economies, only lip service was offered to creating democracy and there was little or no overt discussion about the nature of the social contract that was to replace the Soviet welfare system.

**Box 1: The Collapse of the Soviet Union**

The mid term effects of the disintegration of the Soviet Union

While there was immediate general euphoria about the demise of the Soviet Union, scholars and analysts are taking a more cautious view about the economic effects of its collapse particularly on those countries which formed part of the Union rather than Eastern Europe or the South East Europe (i.e. former Yugoslavia). The Central Asian Republics (CARs) were particularly hard hit because they not only faced systemic political and economic change but, equally important, the disintegration of the ‘spatial dimension’, the economic area in which Soviet production was conceived.

These have been helpfully listed by Johannes F. Linn\*, now at Brookings, but previously a Vice President of the World Bank, as

The collapse of the integrated payments system and formal and informal inter-enterprise links;

The end of budgetary and investment subsidies from Moscow

Price support or subsidies, such as energy, eliminated.

Formal customs and trade barriers introduced

Transport prices raised and transport services re-oriented, particularly the regularity of air and rail services;

Integrated power grids, including water systems, collapsed

Migration of Russians from the new republics to Russia (see accompanying Chart, 1.B.1) Collapse of Union security framework without replacement

Although the most direct effect was on Central Asian enterprises and their output which depended on key inputs from other parts of the Soviet Union, the effects were much broader and had a grave impact on systems which was integrated across the Soviet Union, like scientific research. University staff not only had to find a new relationship with colleagues, but administrators were faced with finding hard currency for the simplest products – paper, ink – that could not be produced at home. If this was difficult for HEIs, how much more difficult for primary and secondary schools which had little potential for raising income.

\*See his “Economic (Dis) Integration Matters: the Soviet Collapse Revisited”, The Brookings Institution, October 2004. Some of these points are also made in the Central Asia Human Development Report and which he directed, (UNDP, 2005)

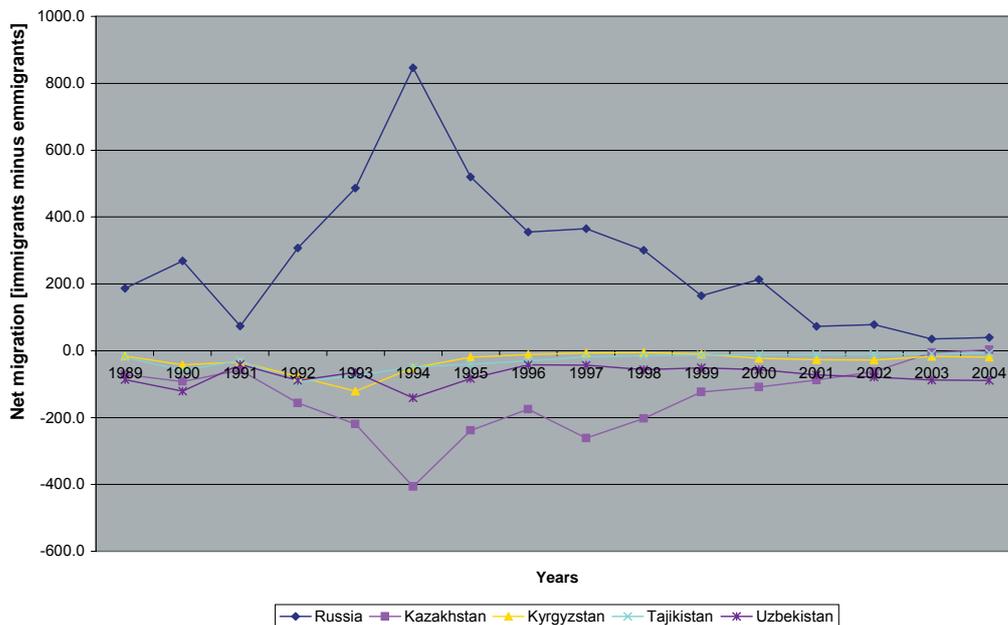
And as none of the four countries has a homogeneous population or single dominant language, this unsettled social contract has become a current educational issue at all levels.

(ii) The transition indices – an exploration

Any major economic shift, like the transition from a command to market economy, can be analyzed as policy and/or process. Policy can be described as being about public intentions and public instruments (to achieve the given policy) while process consists of the actions and consequences of transition. Both are important to understand in terms of higher education which involves first, institutional renewal and changes to the legal framework; and second, the demands of new or changing economy caused by the structural consequences of the transition. This short discussion of the transition examines the nature of the transition as an indirect element for understanding the challenges and opportunities of higher education. The following section looks briefly at growth performance.

The transition reforms have taken place against a background of turbulent political change (including a civil war in Tajikistan), human resource seepage and reduced government resources. Net migration rates show an overall decline for the Central Asian Republics and the rapid growth of net Russian migration, reaching a peak of almost a million in 1994<sup>2</sup>. Kazakhstan was the most seriously effected by the withdrawal of foreign, particularly Russian labor, and its energetic exploration of human resource alternatives, particularly connected with the hydrocarbon sector where Russians played an important role, stems from this period. By 2004, it was the only country of the four CARs with positive net migration flow.

**Figure 1: Central Asia and the Russian Federation – net migration**



Source: UNICEF – Trans Monee data base.

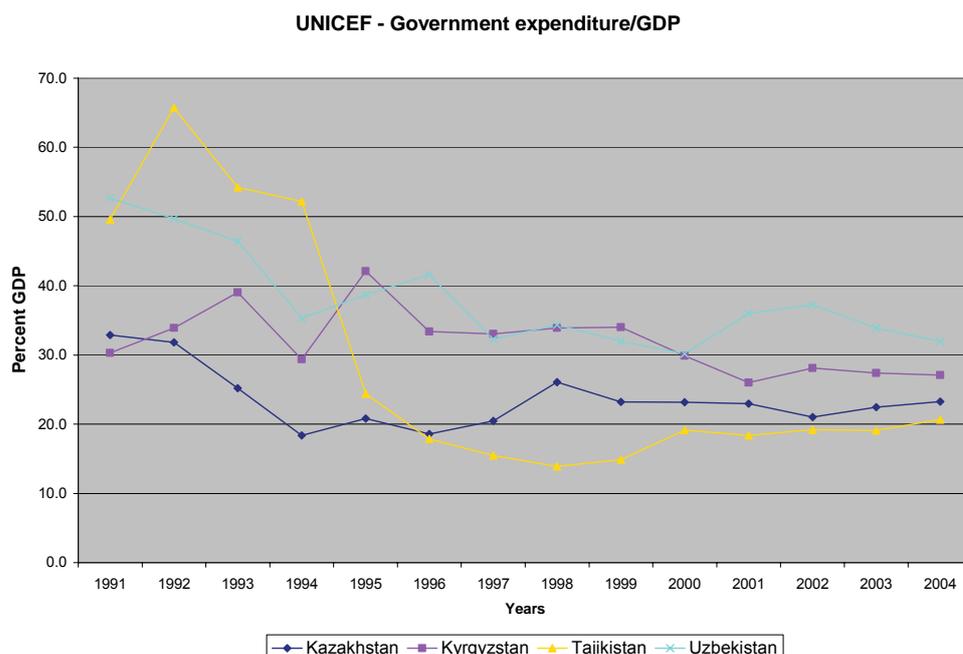
The second major feature that conditioned the first phase of the independence period was sharply reduced public resources – as a result of transfers being terminated and the breakdown in tax collection mechanisms<sup>3</sup>. The reduction of public expenditures to GDP is shown in Figure 2. The most

<sup>2</sup> Russian migration came from many sources as Russians began to doubt their future in the CIS and the ‘near abroad’.

<sup>3</sup> The Central Asian Republics received grants & transfers from the Union budget of between 15-20 percent of their GDP as well as internal trade deficits, (although under administrated prices). In addition, according to the IMF, in 1992 the Central Bank of Russia was funding 91 percent of Tajikistan’s GDP; Uzbekistan (69.9 per cent); Kazakhstan, (25.5 percent) and

sudden was experienced by Tajikistan, itself the product of a political crisis, while both Kyrgyzstan and Uzbekistan attempted to maintain expenditures between 30 to 40 per cent of GDP. Kazakhstan's policy objective was to reduce government expenditures, although admittedly in a growing economy, as part of the reforms. These two dimensions had a direct effect on the four government's policy scope and therefore what was feasible for higher education. Migration and reduced public resources required governments to reinvent and re-orientate their central government and administration in the context of the transition reforms.

**Figure 2: CAR: Government Expenditure to GDP, 1991-2004**



Source: UNICEF – Trans Monee data base

The encompassing objective of the transition reforms are to promote markets, through price liberalization, the abolition of quotas and privatization and reduce administrative regulations, including unnecessary government ownership. The European Bank for Reconstruction and Development (EBRD), in agreement with and acting for other international donors, measures fourteen economic market dimensions<sup>4</sup>, to build a transition index for Former Soviet Union (FSU) countries which now covers 29 economies from 1989<sup>5</sup>. To repeat, the core of the transition reforms is to establish markets and adapt public institutions to the market process. It follows that public institutions should be either arms length from government (e.g. infrastructure) or with legally established distinct competences (e.g. central bank).

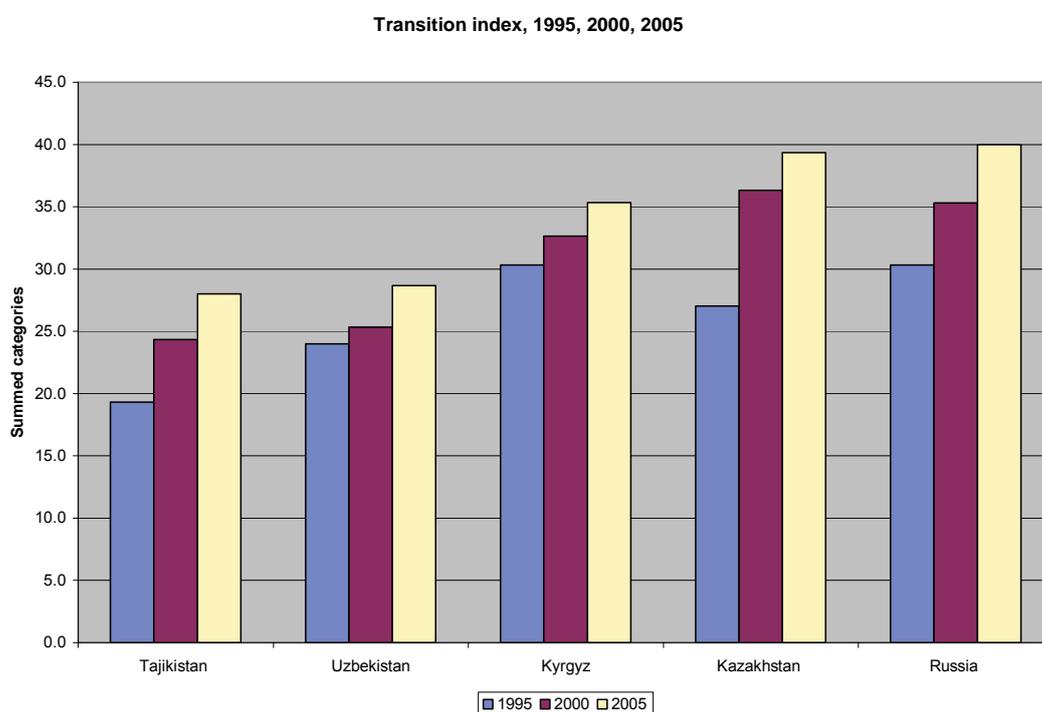
Kyrgyzstan (22.9 percent). See Aslund, A. How Russia became a market economy, Brookings, Washington, (1995), p. 108 f. and T.4-5, p.123 respectively.

<sup>4</sup> These are; price liberalization, trade liberalization, small scale privatization, large scale privatization, corporate governance and enterprise reform, competition policy, banking reform and interest rate liberalization,, securities markets and other non bank financial institutions together with utilities reform (telecommunications, railways, electric power, roads, water and waste water). See various issues of the EBRD annual Transition Report.

<sup>5</sup> These are measured by agreed indicators or assessed by expert opinion, using a scale from 1 (no reform) to 4 or more (market economy standards) when this is not possible.

Experience with and gains achieved by transitional reform provide a valuable background for assessing public reform capacity including higher education reform. First, it shows the degree of commitment to change and second, how CIS governments are dealing with independent public law and management. When measured as a simple index for 2006, the Russian Federation is the leading CIS reformer but is ranked at 12 of the 29 countries measured. If the four CAS countries are considered only, as a simple index, (Figure 3) the transition has been led by Kazakhstan, followed by the Kyrgyz Republic, Uzbekistan and Tajikistan<sup>6</sup>. However it should be recalled that Kazakhstan's reforms are superseded by 14 countries, beginning with Hungary which has a transition index number of 54.7. The other CARs are well below Kazakhstan – the Kyrgyz Republic (23), Uzbekistan (26) and Tajikistan (27).

**Figure 3: Transition indices**

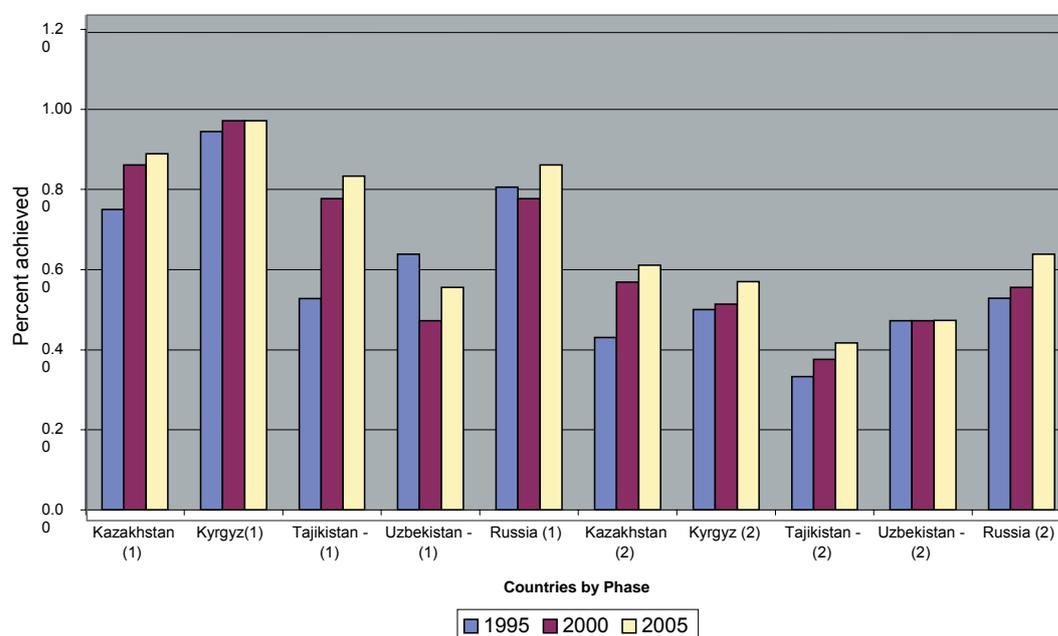


Source: European Bank of Reconstruction and Development

<sup>6</sup> The index is the sum of the 14 sub indices by country and year divided by 14. Hence the maximum score for any given year was 56 (4 x 14).

The component reforms are not equally complicated or administratively difficult, so it makes sense to distinguish between earlier reforms and later deeper institutional reforms<sup>7</sup>, shown in Figure 4 as first phase (1) and second phase (2) transition reforms<sup>8</sup>. The table shows that over five year intervals, reform appears to be progressive and cumulative, however slight, with the exception of first phase Uzbekistan reforms. The table confirms that a much smaller percentage of the second phase or ‘deeper’ reforms have been completed. Moreover if the four Central Asian Republics’ individual reforms are compared to the Russian Federation their major economic influence, as in Figure 5, then only Kazakhstan (trade and Forex, banking reform and some utilities) and the Kyrgyz Republic (trade and Forex, large scale privatizations) have superseded the Federation. In all other cases, they are behind or equal to Russia.

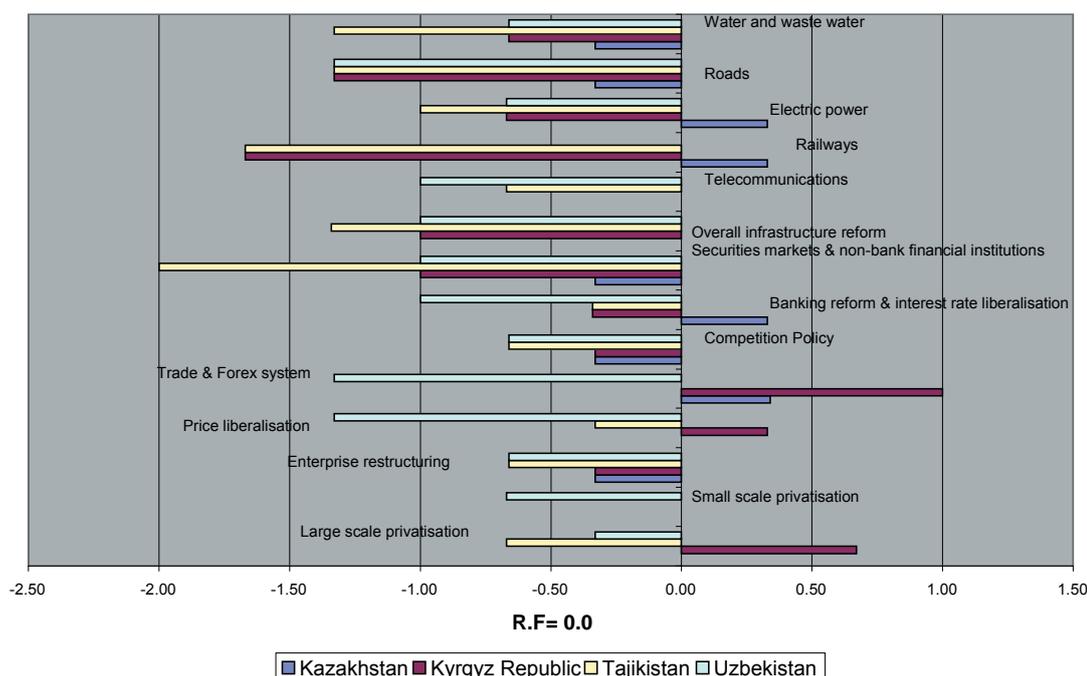
**Figure 4: First Second Phase Transition Reforms**



<sup>7</sup> Falcetti E., Lysenko T. & Sanfey P, “Reform and Growth in Transition; re-examining the evidence” , *EBRD Working Paper*, 90, March 2005

<sup>8</sup> The chart examines the three agreed 3 initial reforms - price liberalization, trade and foreign exchange liberalization, small scale privatization – and six second phase reforms – large scale privatization, governance and enterprise reform, competition policy, banking reform, non banking institutions and infrastructure reform, by the percent achieved given the total of 12 and 24 maximum scores respectively.

**Figure 5: Comparative transition to the Russian Federation (2006)**



Source: EBRD Transition indices (own calculations)

It is broadly agreed that the transitional reforms described here need a commitment to the practice and instrumentality of legal processes as well as political leadership<sup>9</sup>. Three legal areas - business environment and competition (4 items), Infrastructure (1) and the financial sector (1) – are evaluated by the EBRD legal department for all transition countries with the exception of Tajikistan. These countries show some advance, particularly securities market law, but there are concerns about secured transactions and the quality of concessions laws. The EBRD Corporate Governance Assessment exercise places Kazakhstan as showing high compliance to OECD Principles of Corporate Governance; the Kyrgyz Republic and Uzbekistan with medium compliance and Tajikistan with very low compliance<sup>10</sup> (see Table 1).

**Table 1: Legal quality in Central Asian Republics**

	Business environment and competition				Infrastructure	Financial Sector
	Competition office	Quality of insolvency law	Secured transactions law	Quality of corporate governance law	Quality of concession laws	Quality of securities market laws
Kazakhstan	yes	medium	inefficient	high	na	high
Kyrgyz Republic	yes	medium	some defects	medium	low	medium
Tajikistan						
Uzbekistan	yes	low	malfunctioning	medium	low	high
Russia	yes	medium	malfunctioning	high	medium	medium

Source: Structural indicators (SIB) , EBRD: Assessment of legal quality(commercial)

<sup>9</sup> See Nussbaumer M., “Assessing Legal Systems; a catalyst for reform”, *Beyond Transition*, Vol.16,2, (2005) p. 21-23

<sup>10</sup> The EBRD comments in the article above about the huge amount of legal work in all the countries that needs to be accomplished.

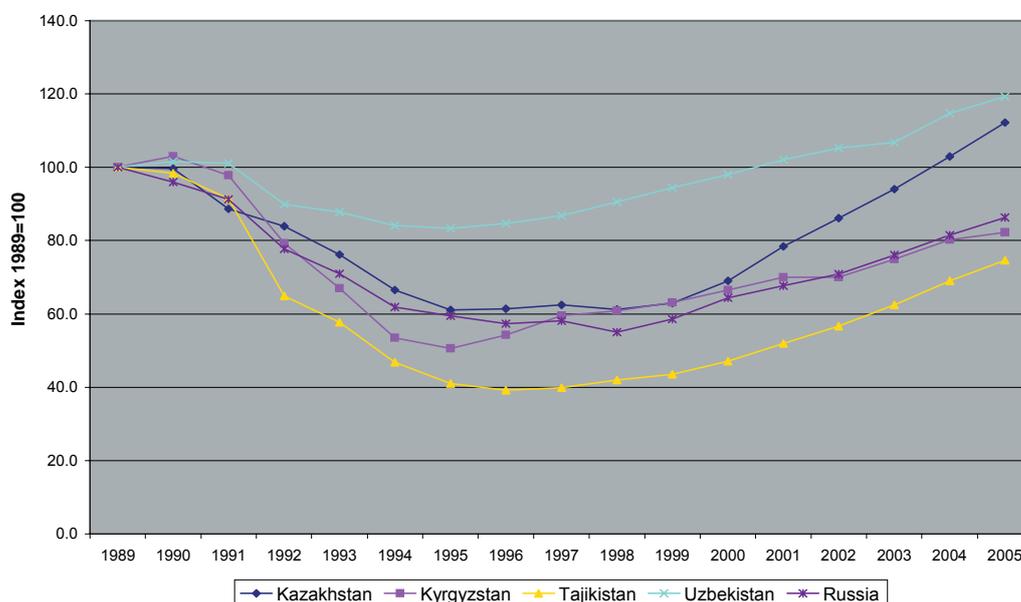
In summary transitional changes are altering the institutional structure of different countries. While it can be expected that national approaches to corporate laws etc, will be transmitted from corporate to educational policies, it must be admitted that some legal progress is slow. A stable legal structure available for all universities, especially private, is could help in their creation and independence.

(iii) Recent growth performance

Economic growth facilitates change – it is far easier to accomplish a transition if the economy offers the promise of wealth. The four CARs have been through at least two growth phases – recession and growth - since 1991, the date when the last of the Central Asian Republics declared independence from the Soviet Union<sup>11</sup>. The accompanying graphs provide the background.

The first Figure 6 looks at real GDP growth by using an index by setting 1989 output at 100 and then traces the annual value from that point to 2005. The worth of the five country’s output, including the Russian Federation which is used as a comparative benchmark in these and selected tables, fell dramatically and even today only two countries, Kazakhstan and Uzbekistan, have recovered sufficiently to reach and surpass their 1989 real GDP value recently. While there are questions about data and its interpretation there is little doubt that these countries were impoverished during the 1990s and the return to growth has increased the possibilities of strengthening the transition and reform<sup>12</sup>.

**Figure 6: Real GDP Growth (1989-2005)**



Source: World Bank/UNICEF

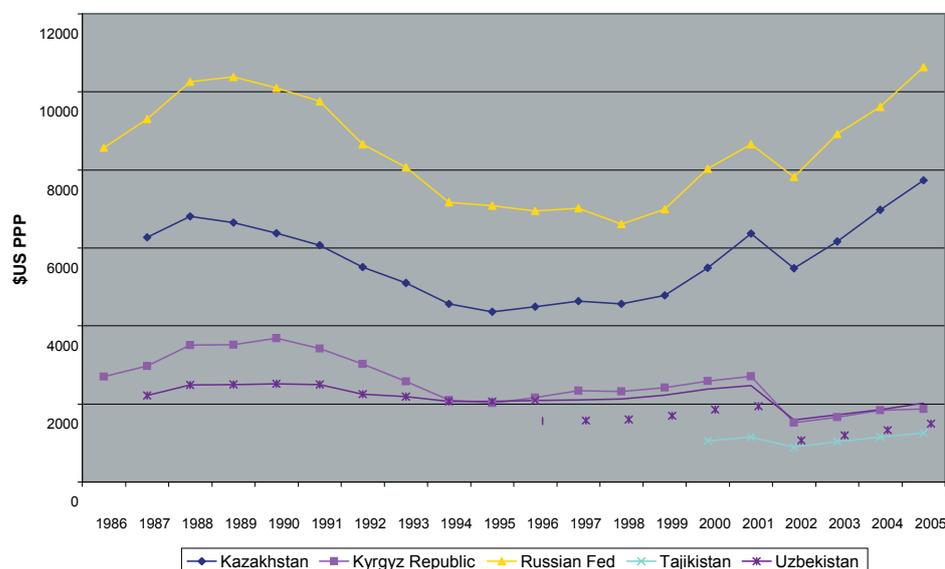
The second Figure 7 shows GNI per capita at international PPP prices, for Kazakhstan, the Kyrgyz Republic, and Uzbekistan from 1986/87, Russia from 1990, and Tajikistan from only 2000

<sup>11</sup> Turkmenistan, which is not a participant in this study, declared independence following a referendum, October 27, 1991.

<sup>12</sup> The important question as to whether this was caused by the transition reforms or growth facilitated the reforms is a topic that is not yet settled for all the economies. For further discussion, see below in section IV.

when their series commences. Only two countries, the Russian Federation and Kazakhstan, have surpassed their Soviet levels but with considerable volatility during this period.

**Figure 7: GNI per capita (\$US, PPP)**



In summary, first, countries experienced different growth paths and second, within each national path there have been considerable volatility. The phases of growth are more fully explored for growth, labor and educational indicators in Table 2.

**Table 2: Central Asian Republics: Growth and change**

	<b>Kazakhstan</b>	<b>Kyrgyz Rep</b>	<b>Tajikistan</b>	<b>Uzbekistan</b>
GDP growth index 1989=100	Reaches 100+ in 2004, then rapid growth	Lowest point in 1995, then slow but steady growth: 2005=82.2	Lowest point 1996(39.2), then slow uneven growth .005=74.6	Lowest in 1996(83.4) & in 2001 reach 102. In 2005=119.3
GDP Growth rates	Positive in 2000, then above 7.7	Inconsistent with rates rarely above 5	Higher rates at end of period, around 6	Highest in early volatile period but low since then and 2 negative
GNI per capita (PPP) – current international	Fell to \$4,570 (1998) from \$6,810 (1988) and now \$7,730 (2005)	Fell from \$3690 (1990) to \$2020 (1995) grew until 2001, whence it fell to \$1,520 (2002) & now \$1,870 (2005)	Series only begins in 2000 (\$1,060), fell to \$900 (2002) and now \$1,260, (2005).	From high of \$2,520 (1990) and before did not fall below \$2000 until 2002 (\$1590) and has grown subsequently to \$2020 (2005)
Official Unemployment %	Highest at 13.5 in 1995 & 7 years of double digit; now 8.1 (2005)	Highest in 2003 (9.9) – rarely above 6; now, 2004, (8.5)	Highest 3.2 in 1998. 2.1 (2005)	Always under 1 digit
Sectoral change - value added %	From relative agricultural to service (55.9) economy (2005)	Decline in manufacturing and increase in services (45.0)	Declines in industry and agriculture/ growth in services (49.8)	Relative decline in all sectors but services (43.2)

Sectoral change – employment	Added employed in agriculture. Fall in industry	Added employment in agriculture and shift to services	Added employment only in agriculture	Added employment in services
Government Expenditure %	Fell to 18.6 (1994) and unevenly risen to 23 (2004)	Lowest point is 27 (2004). Gradual reduction in government expenditure from 42 (1994)	Over 50 until 1994, then declined to 13.9 (1998) and now at around 20 (2004)	Lowest point was 30 % (2000) since when fluctuated around 35 percent.
<b>Education Enrollments – coverage by age</b>				
Primary (Basic) (7-15)	Lowest 93.8 (1993) now over 100%	Lowest 85.6 (1995) and currently 95.2%	Lowest 85.5% (1993) & now 95.4%.	Lowest 87.3%
Upper Secondary (15-18)	Fell from 1989 by 24% to 52% (2000) & now 68.8 (2004).	Fell by 29% to 36% (2000) and now 45.3%	Fell by 35% to 24.7% (1998) and currently 28.8% (2004)	Fell by around 22% to 47.7% (1996) and now 74.8% (2004)
Tertiary (19-24)	From 18.1% (1989) to 16.2% (1996) and growth to 44.7% (2004)	Decline by 2,5% to 10.7% (1993) and now 36.2% (2004)	Imperceptible decline by .1% to 11.4% (2000) and now 14.4 % (2004)	From 15% (12989) to low of 6%(1998) and now 8.5%(2004)

Sources: Asian Development Bank, UNICEF, World Bank series as noted in other tables.

(iv) The CIS – current structure

The four CAR countries, which are the subject of this report, are often compared to other FSU economies. These, it is worth recalling, consist of the EU-8, - those which have entered the European Union - the eight or so countries that make up South East Europe, (SEE)<sup>13</sup> – two of which have recently become members of the EU (Bulgaria, Romania), and the Commonwealth of Independent States (CIS) which are formed of the previous constituent republics of the Soviet Union with the exception of the three Baltic countries. The 12 CIS countries are conventionally divided into four (developing country) middle income countries, (that includes Kazakhstan)<sup>14</sup> and eight low income CIS countries which include the Kyrgyz Republic, Tajikistan and Uzbekistan<sup>15</sup>. Even within CIS countries, let alone the wider sample, countries began their independence with very different resources, initial conditions and institutional structures which effect long term opportunities and so higher education. Where possible, this introduction will only use examples from CIS countries even though the data for poverty and jobs is set among the FSU countries which can help with useful comparisons.

The most striking aspect of Table 3 is the wealth disparity among the CIS countries. Kazakhstan like Russia is an oil exporter and it is predicted that by 2010 it will be one of the ten largest in the world, with oil revenues of \$99bn over the next 45 years<sup>16</sup>. The other CARs are among the poorest in the CIS in terms of per capita income, with Uzbekistan's twice that of Tajikistan (\$1,260) and the Kyrgyz Republic (\$1,870). Kazakhstan's GDP and exports are worth more than the other three countries together; this considerable difference is likely to alter the possibilities of higher education reform. A further distinction between middle and low income CIS countries is percentage of exports to GDP, (particularly if Turkmenistan is excluded) and the absence of high technology exports as a

<sup>13</sup> EU-8: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia; the South East Europe countries – Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic (FYR) of Macedonia, Romania, Serbia and Montenegro, including Kosovo.

<sup>14</sup> The other middle income CIS countries are Belarus, the Russian Federation and the Ukraine.

<sup>15</sup> The remained five countries are Armenia, Azerbaijan, Georgia, Moldova and Turkmenistan.

<sup>16</sup> See Najman B., Pomfret R., Raballand G & Sourdin P., "How are oil revenues distributed in an oil economy? The case of Kazakhstan", School of Economics Working Paper 2005-18, University of Adelaide, Adelaide, (2005).

component of manufacturing exports. While there are advanced technology enclaves (particularly for mining and hydrocarbons) these seem not to be spilling over into the national or regional economy.

**Table 3: CIS - current data (2005)**

	Per capita (US\$)		Pop (m)	Net Migration) [2000-2005] (000s)	Value GDP US\$ m	Exports US\$ m	X /GDP (%)	X/ Mfg (%)	Of which Hi tech (%)
	Atlas	PPP							
The Russian Federation	4,460	10,640	143	400	764,762	245,255	32.1	21	9
<b>Kazakhstan</b>	2,930	7,730	15	-600	56,088	27,849	49.7	16	2
Belarus	2,760	7,890	10	-10	29,566	15,992	54.1	60	3
Ukraine	1,520	6,720	47	-700	81,664	34,287	42.0	67	5
Armenia	1,470	5,060	3	-100	4,903	950	19.4	62	1
Georgia	1,350	3,270	4	-248	6,395	867	13.6	37	38
Azerbaijan	1,240	4,890	8	100	12,561	4,346	34.6	11	2
Moldova	880	2,150	4	-40	2,906	1,091	37.5	36	4
<b>Uzbekistan</b>	510	2,020	27	-300	13,667	4,706	34.4	na	na
<b>Kyrgyzstan</b>	440	1,870	5	-75	2,441	672	27.5	43	2
<b>Tajikistan</b>	330	1,260	7	-345	2,326	909	39.1	na	na
Turkmenistan	n.a	n.a.	5	-10	6,774	4,935	72.9	na	na

Source: World Development Indicators, 2005.

The promise of technology is one of the reasons for the government's interest in higher education and the expectation that it can bring prosperity to the CARs. Policy makers hope that a re-orientation of university education to make it more practical will bring long term benefits.

b. The functions and purpose of higher education

Each of the four countries has written laws with preambles and concept papers about the importance and value of education to their new state. Behind these documents are general ideas or visions which should be taken into account when discussing higher education policy. For without an overall vision it is difficult to undertake convincing policy, garner support and even more difficult to judge its success or failure. If no vision – understood as a comprehensive purpose – can be developed, then it is quite likely that one cause is disagreement within the ruling elite. Better in such cases, particularly with new nations, to settle for a low consensus than inspiring but divisive words. However even in the post modern world, higher education can be expected to play a formative role in new nations, either independently or as part of the complete educational cycle. Three possibilities follow;

(i) culture - the role of language

Education and higher education in particular can be used to spearhead a cultural renaissance or renew or create a national history and literature. The probabilities of such an approach increase when a state changes its national language or has an historic tongue made the official language. The Soviet Union preserved the idea of 'nation' and national cultures in 'ideologically narrow and historically incomplete ways'<sup>17</sup>. The great literacy campaigns of the 1920s and 1930s used local languages and primary education gave the appearance of fostering 'national self determination'. Further each republic

<sup>17</sup> M.S Johnson, "The Legacy of Russian and Soviet Education" in Heyneman S.P & De Young, A. J., The Challenge of Education in Central Asia, Information Age Publishing, Greenwich, 2004, p.32.

had its national *nomenclatura* and indigenous cadres, which quickly became a rallying point for ethnic or regional opposition to the reforming Soviet state<sup>18</sup>.

National language policy is one of the most divisive issues for post FSU states, particularly where there are substantial Russian minorities<sup>19</sup>. All the four countries changed their official languages but only Kazakhstan and the Kyrgyz Republic retained Russian as an equivalent legal language<sup>20</sup>. Uzbekistan followed an aggressive language policy with Russian becoming a minority language.

There is academic work that examines ethnic and language divisions or fractionalization and the quality of institutions and policy making. In these countries there is considerable tension between setting national objectives, the ethnic mix and inclusiveness<sup>21</sup>. This is part of a broader development debate which correlates the strength of social institutions with social cohesion, and an explicit social contract between citizens of different ethnicities. The authors conclude that,

“..building social cohesion – through the construction and maintenance of high quality institutions pursuing the common good, and through the lowering of economic (and other divisions) – has been and remains a vital task for countries wrestling with development. *Ethnic divisions make it difficult – although not impossible - to develop the social cohesion to build good institutions*”<sup>22</sup> (emphasis added).

This approach has direct relevance for the CARs and their education systems and the contribution of higher education to development outcomes.

A new language (and alphabet in those countries abandoning the Cyrillic) raises fundamental questions for education. *First*, to what degree should it represent the identifying element of the new nation and how exclusive should this be?. If it is the essential prerequisite for nationality, it will continue and expand political, economic and social divisions (which may, of course, be the point). If on the other hand there is no legal pressure or the pressure is not applied, the new language policy could become little more than folklore. *Second*, there are serious practical issues about the supply and organization of national language school materials, textbooks, and language teachers which have yet to be resolved. *Third*, while it would be impossible to continue with the Russian language as the principal official language, it continues to be, as this project shows, the *lingua franca* of the region<sup>23</sup>. Further, the social consequences of language teaching may well differ between urban and rural areas and between the elite and the ordinary citizen without school options or choices<sup>24</sup>. One possible social consequence is the opportunity and quality of tertiary entrants and the response of HEIs to the new demands.

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<sup>18</sup> Writing before the breakup of the Soviet Union, Geoffrey Hoskins called attention to “..the whole dynamic of glasnost and democratization (which) has propelled ethnic factors to the centre of the Soviet political stage. That which totalitarianism repressed has surged powerfully to the fore, uniting people of disparate social backgrounds and career paths. An explosive realignment of loyalties and political structures has resulted”. The Awakening of the Soviet Union, Harvard, (1990) p.76-77.

<sup>19</sup> There were 25m ethnic Russians living in the former Soviet, principally in the Ukraine, Kazakhstan and Belarus see Aslund, A. How Russia became a market economy, Brookings, Washington, 1995, p.104.

<sup>20</sup> Kazakh was declared the state language in 1993 and Russian an official language in 1996. Kyrgyz was declared the only language in 1989 and Russian, the language of higher education and diplomacy, recognized in 2000.

<sup>21</sup> See Alesina A., Devleeschauer A., Easterly W., Kurlat S. and Wacziarg R., “Fractionalization” Journal of Economic Growth, 8, 155-194 (2003) and Scott Radnitz “The Tyranny of Small Differences: the relationship between ethnic diversity & democracy in the former Soviet State” Democratitizyva, 575-606, (2003). The appropriate charts are to be found as **1.11** and **1.12** respectively.

<sup>22</sup> Easterly W., Ritzan J. & Woolcock M. “Social Cohesion, Institutions and Growth”, Working paper, Center for Global Development, Washington, August, 2006.

<sup>23</sup> See UNDP, Central Asian Human Development Report, Bringing Down the Barriers: regional co-operation for human development and human security, for an eloquent discussion about its present and future value p.153.

<sup>24</sup> See Korh B. “Education and Linguistic Division in Kyrgyzstan”, in Heyneman S.P & De Young, A. J., The Challenge of Education in Central Asia, Information Age Publishing, Greenwich, 2004, who writes “ The societal division into Russian and Kyrgyz speakers is not only reflected but also partly formed through the clearly divided language tracks. What makes this situation problematic is that these differences in theory aiming at contributing to linguistic diversity in fact lead to inequality.

Tertiary institutions face complex teaching and ethnic choices. The principal language of instruction, for Kazakhstan and the Kyrgyz Republic is Russian, 58 and 67.9 per cent respectively, (Table 4) even though the reports identifies ethnic Russians as making up 21.5 and 11.8 per cent of the student body (Table 5) Tajikistan and Uzbekistan teach 29.6 percent and 14.1 per cent of their students in Russian and the only other languages identified, apart from the national languages, is Uzbekistani.

**Table 4: Higher Education: language of instruction (recent dates)**

Location	HEI - language of instruction (percent)						Total
	Russian	Kazakh	Kyrgyzstan	Tajik	Uzbek	Subtotal	
Kazakhstan	58.0	39.5			0.5	98.0	747,104
Kyrgyzstan	67.9	0.1	30.0		1.3	99.2	199,124
Tajikistan	29.6			68.0	2.2	99.8	107,570
Uzbekistan	14.1	0.5		0.2	81.4	96.2	278,674

Source: national reports

**Table 5: Higher Education: ethnicity**

Ethnicity	Ethnicity						
	Russian	Kazakh	Kyrgyzstan	Tajik	Uzbek	Subtotal	Total
Kazakhstan	21.5		69.6		1.4	92.5	747,104
Kyrgyzstan	11.8	3.0	69.6	0.8	9.5	94.6	199,124

Source: national reports

The debate over language teaching and instruction is as yet unsettled and is likely to remain so for a long time to come. However, from the evidence presented in the reports, the nationalist mission is an important but not the central purpose of today's universities. As private universities become more common, this may change, when religious foundations are allowed.

(ii) instrumentalism

Apart from research institutes and academies, tertiary institutions are in the process of developing a separate identity from the government. As might be expected, they tend to follow the government's overall strategic goals which are written as administrative rules and sets of obligations and responsibilities. While admirably pragmatic, they are the e reverse of revolutionary or visionary even though cast in that rhetorical style. A representative example is that of a senior Kazakhstan educational official who writes of the two basic fundamental aims of higher education (2003):

“ The first aim is that (the) higher education system should be considered as a basic mechanism translating historically cultural, social, scientific, educational values of folk, society and the State; the second aim is preparing specialists for the State system of management and national economy<sup>25</sup>”

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Russian educated students have greater chances in professional life, while Kyrgyz educated students are linguistically and academically less prepared than Russian educated students”, Chapter 7, p. 97-111

<sup>25</sup> R.Bekish, Director of the Institute of the Laboratory of the Institute of Higher Education at the Kazakh Academy of Education, quoted by Medeuov Z.K. “The Reform of Kazakhstan’s Education System”, Heyneman S.P & DeYoung, A. J., *The Challenge of Education in Central Asia*, Information Age Publishing, Greenwich, 2004, p. 360.

Higher education, by this view, is best achieved by following stringent rules and procedures for the administration and organization of higher education, teaching content and all educational standards.

This appears to be the dominant approach to higher education by the four CARs. The language may hint at pluralism but seeks conformity. Even private universities, if they truly exist, are expected to follow most of these directives if they wish to receive government support.

(iii) competitiveness – a criteria for change?

Neither the cultural mission nor instrumentalism can build effective comparisons and, it could be argued, help bring tertiary education into the global century. Thus, for practical reasons, this essay will use the idea of competitiveness which can be understood as a particular configuration of modernization. The advantages are that the idea is relatively neutral, consistent with globalization and part of the overall discourse involving the governments of the four Central Asian Republics (CARs) and higher education. The assumption here is that the government's overwhelming objective is to improve national competitiveness and the more explicit the policy, the more the government will involve itself in higher education and provide support under relatively stringent conditions. Higher education and its institutions are as much about business as learning, about income generation as much as grants and about management as much as intellectual leadership.

An authoritative definition of competitiveness describes it as “a *set* of institutions, policies and factors that determine the level of productivity of a country” and it is the “level of productivity...that sets the sustainable level of prosperity that can be earned by economy”<sup>26</sup>.

Thus improving productivity growth is the goal of most economies and competitiveness is the method by which this is achieved. This broad definition of competitiveness – as a set – indicates that many human and physical factors contribute to productivity growth. The World Economic Forum (WEF)'s Global Competitiveness Index identifies 12 dimensions (Box 2); each pillar consists of subjective and objective sub-indices which are then formed into scores per country. Unfortunately it was not possible to construct a similar index for this introduction.

Education forms part of the Human Capital dimension, itself divided into two sections bridging the first five or basic dimensions which are key to factor driven economies to the following stage known as efficiency enhancers (6-10). It is a feature of this index that its authors claim that one stage cannot easily be jumped to reach another, later, stage. Whatever the validity of this claim, competitiveness has given education and higher education in particular a new role as key facilitator in the distribution of knowledge and skilled practices.

It is not yet clear that all governments accept competitiveness as their higher education policy goal – there is always going to be competition from those who (understandably) advocate a cultural mission or rely on instrumentalism. Equally a move to competitiveness requires not only more effective teaching and research, but greater tolerance and pluralism particularly between the ministry and HEIs together with a greater sense of experimentation.

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<sup>26</sup> See, Sala-i-Martin, Xavier & Atardi Elsa V. “The Global Competitiveness Index”, WEF Competitiveness Report, 2004, Chapter 13, They continue “... productivity also determines the rates of return obtained by investments in an economy. Given that rates of return are the fundamental determinants of aggregate growth rates of the economy, a more competitive economy is one that is likely to grow at larger rates over the medium to long run”. p.51.

## Box 2: The Global Competitiveness index

### *The Global Competitiveness Index*

The authors, Xavier Sala-i-Martin and Elsa V. Atardi, define productivity as a complex process which depends on the foundations or pillars of competitiveness. These are,

1. Institutions
2. Physical Infrastructure
3. Macro Stability
4. Security
5. Human Capital
6. Goods market efficiency
7. Labor market efficiency
8. Financial market efficiency
9. Technological readiness
10. Openness and Market Size
11. Business sophistication
12. Innovation

Further productivity follows a series of successive improvements or stages. The first basic phase, built on 1-5, is the “*factor driven stage*” where firms compete on price; the second is described as the “*efficiency driven stage*” reflecting that “efficient production processes determine the productivity of firms in this phase”, (5b-10) and finally the *innovation driven stage* where firms produce and market non standard products in special ways (11-12). The authors given different weights to different pillars depending on the stages but recognize that ever factor matters in terms of competitiveness. Rather without prior phases it is difficult to proceed satisfactorily to later phases and thus policies.

Xavier Sala-i-Martin and Elsa V. Atardi, “The Global Competitiveness Index”, Chapter 13, p.51-80, WEF, Competitiveness Report, 2004.

### c. The key instrument – the market and institutional pluralism

The transition economies are moving to market systems, recognizing that these relations are often unclear and describe markets that range from price competition to ‘crony capitalism’. Many of the new markets are quite imperfect but they are clearly not part of the command economy. In the case of the social services (health, education, pensions) there is the need for a new term to describe the disintegration and reconstitutions of delivery mechanisms – ‘institutional pluralism’.

The term is intended to take into account the many organizational forms generated by the transition process. Many were only created recently and respond to both political commands and market exchanges. They fall between the command and market institutions without necessarily being easily labeled as one or the other. They may, for example, be nominally constituted as private companies or arms length public agencies but are used by governments to offer favors or block alternative initiatives. Further ‘institutional pluralism’ is intended to describe not only relations between nominally independent organizations but also relations within organizations such as, for example, universities. The differential responses from different departments, personnel or teachers to the market are a good example of a plural institution which does not react with a single response.

The existence of institutional pluralism can help explain the stop-go nature of the transition because there is no overwhelming/encompassing commitment to the market as there was, for example, in Poland and for a short time in Russia. The Central Asian countries have been far less committed to

immediate market solutions than those of Eastern Europe<sup>27</sup> as was discussed with regard to the transition index. Hence new institutions – perforce created for new countries – were not necessarily committed to full marketization. Many preferred to take their cues from the government as the government perhaps intended. Institutional pluralism is the background to the current policy issues in the CARs.

To make higher education a dynamic force for these economies and societies, two steps are necessary. First, the higher education ‘system’ must increase the number of enrolled tertiary students and move from an ‘elite’ to a ‘mass’ system. Given the current conditions in the four countries, the full potential of this expansion will only be satisfactorily achieved by founding autonomous independent colleges or universities. This has not been followed in the CARs where the growth of the systems has been principally achieved by charging students to attend public or state HEIs. The system may achieve the numbers – an instrumentalist response – but this quasi-privatization has confusing implications.

The second step for a dynamic and successful tertiary sector is, as implied, the creation of more autonomous educational institutions. At the present moment in all four countries, there are a range of quasi- autonomous arrangements that continues some aspect of bureaucratic centralization, limiting the potential possibilities of public and private education. The set of relations appears to be very similar to those described by János Kornai in that,

“..the bureaucracy behaves ambivalently toward the private sector in the reform phase. Sometimes it reassures and assists it and sometimes it undermines its confidence and hinders its operation. The ambivalence may take the form of the support for the private sector in one branch of the bureaucracy coupled with the obstruction of it in another, or of an alternation of periods favorable and unfavorable to the private sector”<sup>28</sup>.

This ambivalence continues when setting higher education targets which might appear to be little more than government commitments to support state students but which have implications for a higher education institutions capacity and expected income. The range of these relations between the government and the tertiary education sector is the principal subject of section III.

There is another step or half step that has become increasingly important for the growth and learning of tertiary education institutions - internationalization and the presence of foreign universities in the four countries. These not only represent historic (Russian) or cultural (Turkey) ties but together with US or European universities examples of modern universities (curricula, approaches,) which are possibly helpful as examples to national institutions. They also provide global links – one of their major selling points – which could act as a competitive stimulus to local institutions.

The final section of this introduction (IV) briefly discusses the impact of tertiary education on society and the economy and their future requirements. The first subsection looks at the changing labor market, the structure of employment and the demand for new skills. The second subsection reviews the current status of research and development (R&D) and its relationship both to future growth and university teaching. The third subsection returns to competitiveness as the justification for additional educational investments and reiterates the importance of flexible, independent tertiary institutions to respond to new educational and training requirements.

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<sup>27</sup> See for example the discussion in Pomfret R. “Economic Diversification of the New Independent Central Asian Countries”, (2001).

<sup>28</sup> János Kornai, The Socialist System: the Political Economy of Communism, Princeton, (1992) p. 450 f.

**Table 6: Fractionalization Indices**

	Date	Ethnic	Language	Religion
Obs.		180	185	198
Average		0.435	0.385	0.439
Kazakhstan	1999	0.6171	0.6621	0.5898
Kyrgyzstan	2001	0.6752	0.5949	0.4470
Tajikistan	2001	0.5107	0.5473	0.3386
Uzbekistan	1995	0.4125	0.412	0.2133
Russia	1997	0.2452	0.2485	0.4398

Source: Alesina et al. *Journal of Economic Growth*, 8, 155-194, (2003)

**Table 7: Ethnic and Cultural Fractionalization**

	EF	CF	2DIFF	FH	Polity IV
Kazakhstan	0.664359	0.616434	9.2	3	6
Kyrgyzstan	0.679358	0.619684	34	4	7
Tajikistan	0.513434	0.489964	39.9	3	9
Uzbekistan	0.454775	0.439031	63	1	1

Source: Radnitz, S. "The Tyranny of Small Differences: the relationship between ethnic diversity & democracy in the former Soviet State" and where EF = Ethnic fractionalization; CF = cultural fractionalization; 2Diff is the difference between the two largest ethnic groups

## ***II. The Higher Education System: select issues***

The patterns of higher education growth, shown by the four countries, can be examined from two simple perspectives. First, Kazakhstan and the Kyrgyz Republics are expanding their university enrollments to become 'mass' systems, while, Uzbekistan and Tajikistan with slower growth appear to be willing to remain elite systems. These latter countries continue to support technical-vocational education – reminiscent of centralized planning strategies – as a key building block for skills. Second, the decision to expand the higher education system depends on links to secondary education. After all, tertiary education is a component part of the education system – its size and scope depends on a satisfactory flow of secondary students who compete for first year enrollment at universities or institutes. The secondary system in turn depends on a successful primary system that is able to transfer students from primary to secondary levels. Thus the growth of higher education depends on educational policy in general as well as the changes to primary and secondary education that will have a direct, if long term, effect on tertiary education. While foreign universities can contribute to improving the quality of domestic teaching, research and management, student and staff exchanges are likely to have a bigger impact. As the sections in the reports show, there was considerable enthusiasm for these exchanges but this would seem to have cooled somewhat because of costs and ensuring student returns. The Bologna process, which has enthusiastic supporter in the CARs is expected to yield high returns in terms of higher education integration.

This section compares quantitative aspects of the four countries and the implications for policy and the education system in general.

a. Elite and Mass education

The categories elite, mass and universal education, are a simple but powerful way by which to compare higher education systems<sup>29</sup>. While the initial categorization refers to size, (i.e. number of enrolled students), the increase in the number of students has profound implications for the purpose, organization, teaching and institutions that make up higher education. As the total number of students grows, so the system becomes less exclusive and more inclusive; attitudes change from regarding higher education as a privilege, then as a right and finally to an obligation, a required step to adulthood and employment.

The value of these ideal types is their internal coherence, in the sense that as numbers increase so they have a knock-on effect, not always recognized, on other key dimensions. For example, the increases in student numbers have an obvious impact on costs and so funding but also an indirect impact on the curriculum. If, as is often the case, the government supports higher education as part of the public budget, say with a per capita grant, and the number of students double, then the government's choice ranges between raising the grant or maintaining the existing amount, that is doubling or halving the 'unit of resource'. If the full amount is not covered, either the student (or family) must contribute, or the university reduces its fees and if the student has to raise income by part time work, then the higher education system (through all or some institutions) might wish to accommodate these changes by altering its teaching mode (for example, using modules or credits, restructuring the balance between class, library and on-line time, rescheduling classes to make them more flexible etc.). As the proportion of partly employed full time students increases so these arrangements will become more common and the undergraduate courses (which make up the bulk of students offerings) show greater flexibility. The principal point is that expansion brings a whole range of changes from student and social attitudes to the organization of learning and the way that the constituent institutions (universities, colleges etc) are run. Further, as the total number of graduates or diploma holders increases, a credential becomes a useful and then necessary ticket for the job market.

These categories, it should be emphasized, are not intended to be accurate descriptions of concrete stages but rather to guide analysis and help policy making. These are not watertight categories, but for transition countries raise interesting issues.

The first issue is what is meant by an elite and their relationship to higher education. The Soviet elite who ran the Union were the leading cadres in the Communist Party. They were educated as much through the party as through the education system because the principal test was loyalty as much as knowledge. Competitive examinations, such as they were, took place within the party – they were not open to all citizens – and were tests of ideology and doctrine. The Party, not universities, formed the political elite. Nor, given the tripartite research structure, did universities form the scientific elite which were principally undertaken in specialized institutions or academies. Soviet universities were advanced training centers. They shared the technocratic vision of education and concentrated on different levels of technical training, often closely associated with different ministries or state enterprises. For some university departments there was such a close relationship between enterprise recruitment and graduates that there was little or no chance to develop an understanding of labor markets. While it is well understood that one of the challenges for the CAR universities is to reform themselves as research and teaching universities, it is not yet clear if they are likely to be the incubator for the new national elites. National elites are not simply well educated students with a degree who can expect to command a wage premium – rather, and particularly with new countries, they embody the mission of the new country.

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<sup>29</sup> Introduced and developed by Martin Trow who explores them as "ideal types". See his "Reflections on the Transition from Elite to Mass to Universal Access", ed. Forest J.J.F. & Altbach P.G. International Handbook of Higher Education, Vol. 1, p.243-280, Dordrecht, (2006).

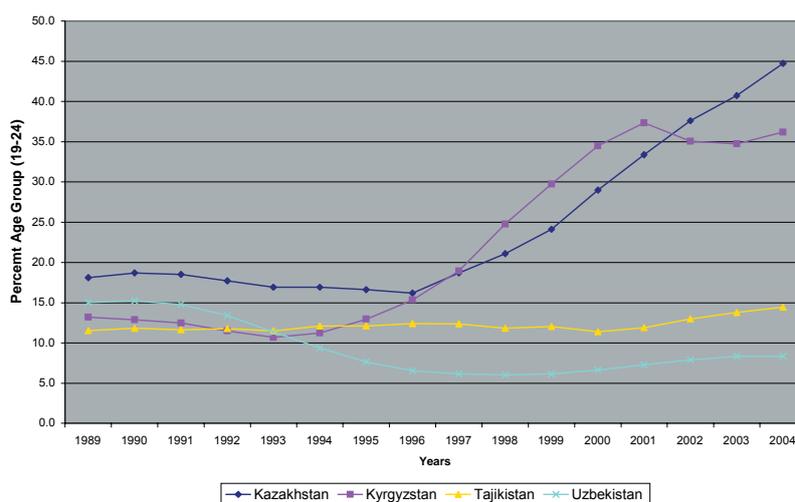
The second issue that requires special attention is the role of international universities working within the four CARs. Here the national universities are directly challenged by institutions that have a strong research tradition (i.e. Moscow University), strong cultural links (the Turkish universities) or offer an immediate globalization passport in new disciplines such as management, often in English, to a select group of students. They are select – an elite - because they have to pay and speak another language. Their presence is a witness to the interest of the governing elite in encouraging links with Europe or the United States, just as the closure of different institutions (such as the Open Society Institute in Uzbekistan) is a sign that for some government’s globalization is selective. The presence of the branch of an international HEI or a regional university, such as the American University of Central Asia located in Kyrgyzstan are likely to influence tertiary education policy as examples and perhaps competition.

b. Size and structure

The region has seen a rapid growth in the number of students attending higher education since the end of the Soviet period, particularly in Kazakhstan and Kyrgyz. Using Martin Trow’s benchmark, that between 15 and 50 per cent of the 19-24 age group participate in higher education, then these two countries now have mass higher education systems. A system with less than 15 percent coverage for the same age group is described as elite while above 50 percent the system is called universal. The coverage rates for the four countries are; Kazakhstan, 44.7 percent, the Kyrgyz Republic (36.2) and Tajikistan and Uzbekistan with coverage rates of 14.4 and 8.3 percent respectively<sup>30</sup>.

Perhaps the most remarkable aspect of this coverage is the speed with which it has occurred, as can be seen from Figure 8 which shows that the four countries began with a range of no more than seven coverage points, (11.5 to 18.1 percent) between enrolment rates in 1989 and that has now widened to 36 points. Moreover both Kazakhstan and the Kyrgyz Republic did not begin their rush to growth until 2000, the point at which they attained 20 percent coverage. In contrast, Uzbekistan’s coverage fell from 1989 to 6 percent in 2000. Tajikistan’s coverage has been relatively consistent and ranged between 11.4 and 14.4 percent for the fifteen year period.

**Figure 8: Higher Education Enrolment Growth compared**



Source: UNICEF data base

<sup>30</sup> Among the CIS countries Kazakhstan joins Russia, (46.7), Belarus (45.4) and the Ukraine (44.8) with high mass coverage to be followed by Kyrgyz Republic, Georgia (39.6), Moldova (27.7) and Armenia (23.3). The elite systems, that is less than 15 percent coverage, are led by Tajikistan, then Azerbaijan (13.2), Uzbekistan and finally Turkmenistan, (2.5 percent).

c. Why growth?

Why these disparate patterns of growth between countries and periods? How much, to follow the categories used in the introduction is due to continuity and how much to policy?

The first explanation concerns the linkage between the secondary and tertiary systems. If there has been a breakdown in primary and secondary education, then the number of applications for tertiary education will fall or fail to expand. A number of reports raise concerns about the general state of education in the Central Asian Republics. First, the UNDP considers the education systems are “in distress” with primary and secondary enrollments, completion rates and budgets in decline<sup>31</sup>. Second, contrary to the official data, which shows almost one hundred per cent secondary coverage, a UNESCO survey for Tajikistan shows almost 20 percent of primary age school children were out of school<sup>32</sup>. Third, in their broad survey of Eastern Europe and the countries of the Former Soviet Union, the World Bank cautions against the regressive impact of these changes and expenditure priorities;

“...the low income CIS group need to stem the decline in primary enrolments and the quality of education, in particular by ending the situation in which staff is underpaid and complementary expenditures (on textbooks, heating and repairs) are underfinanced, while at the same time, employment and in some cases, facilities remain well above standards common in much richer countries”<sup>33</sup>.

The most direct way to look at how the school system has influenced tertiary enrolments in each country is to compare them with secondary enrolments for the 15-18 age group. The most obvious case would be if secondary enrolments decline followed by tertiary enrolments, so that it can be assumed that the weak performance of the former is influencing the latter (Figure 9 a-d). The most obvious case of poor secondary performance is Tajikistan, which has fallen from coverage rates of 60 percent (1989) to around 25 percent (1998) and by 2004 had yet to regain levels of 30 percent coverage. So even if Tajikistan was in a position to expand its tertiary enrolment it would have difficulty in doing so. Uzbekistan presents an almost opposite case with high and growing secondary enrolment coverage currently (2004) above the level found in 1989. Secondary enrolments in Kazakhstan never seem to have fallen below fifty percent and this has not limited the rapid expansion of university coverage – they are now growing as rapidly as university enrolments, while Kyrgyzstan’s tertiary education also grew on basis of broad secondary coverage, despite falling at one point to 40 percent but now growing again. In summary secondary education performance has limited tertiary expansion in Tajikistan, while in Uzbekistan it would appear to be a conscious policy decision to make secondary rather than tertiary education a priority. This is partially confirmed by Figure 10 which shows Uzbekistan’s vocational-technical secondary education increasing as a proportion of general secondary education and general studies, in contrast to Kyrgyzstan which has shown rapid tertiary expansion although recent years it has remained at around 32 percent coverage because of changes in school requirements.

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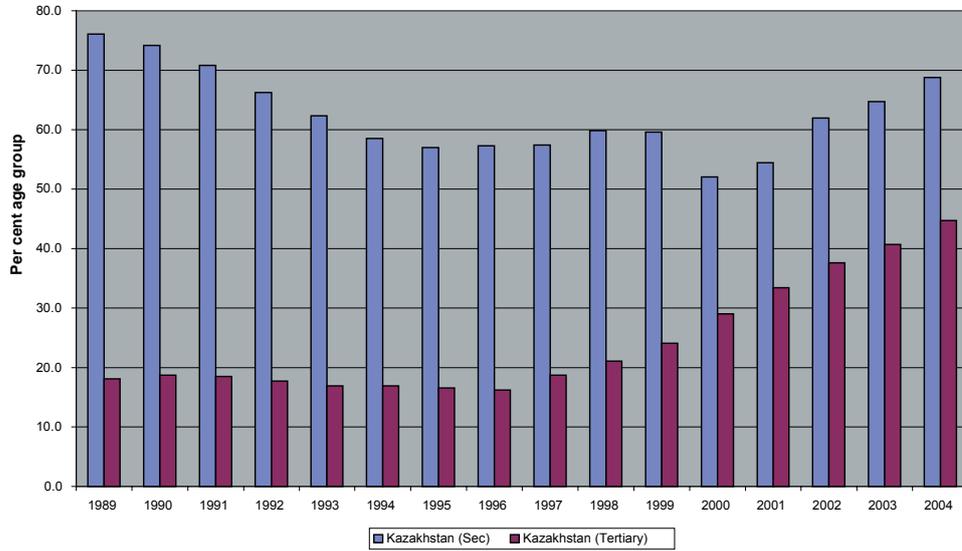
<sup>31</sup> Central Asia Human Development Report, (2005) p. 149 f. These, of course vary by country, but it noticeable that even in the wealthiest of the four countries, Kazakhstan, over eighty per cent of pre-schools are reported as having been closed.

<sup>32</sup> See T.2 Asian Development Bank, Special chapter, Key indicators for Developing Asian and Pacific Countries (2006) on the measurement of health and educational impacts, p. 9. The same table reports that 1.3 per cent of Kazakhstan’s appropriate age group were out of school.

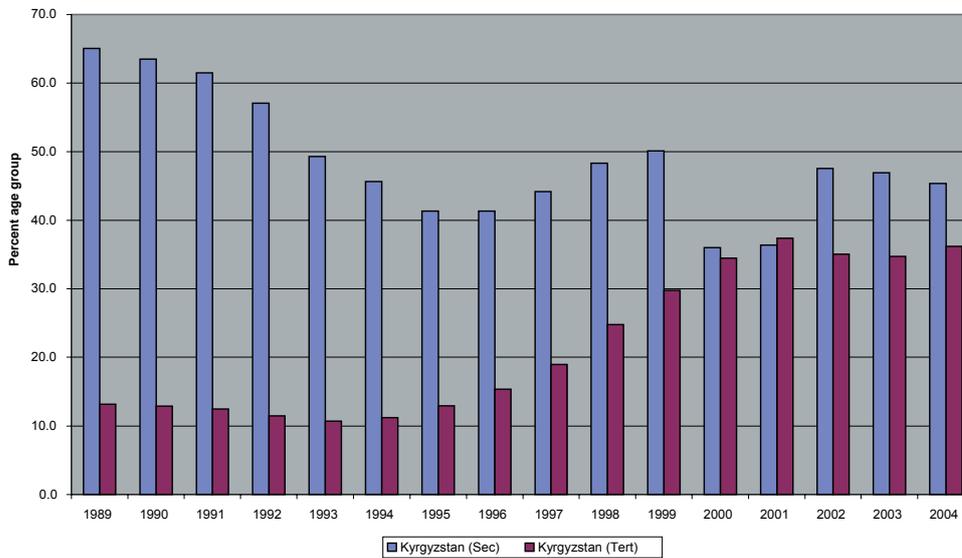
<sup>33</sup> Growth, Poverty and Inequality, Washington, (2005) p. 37.

**Figure 9: Secondary and Tertiary Enrolment (a-d)**

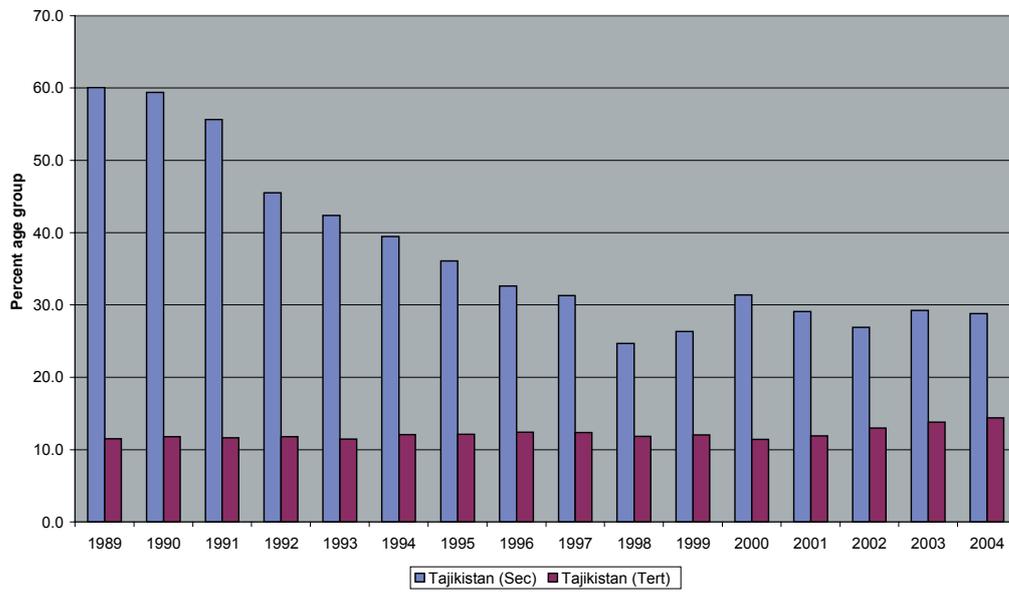
(a) KAZAKHSTAN: Secondary and Tertiary Enrolment Rates 1989-2004



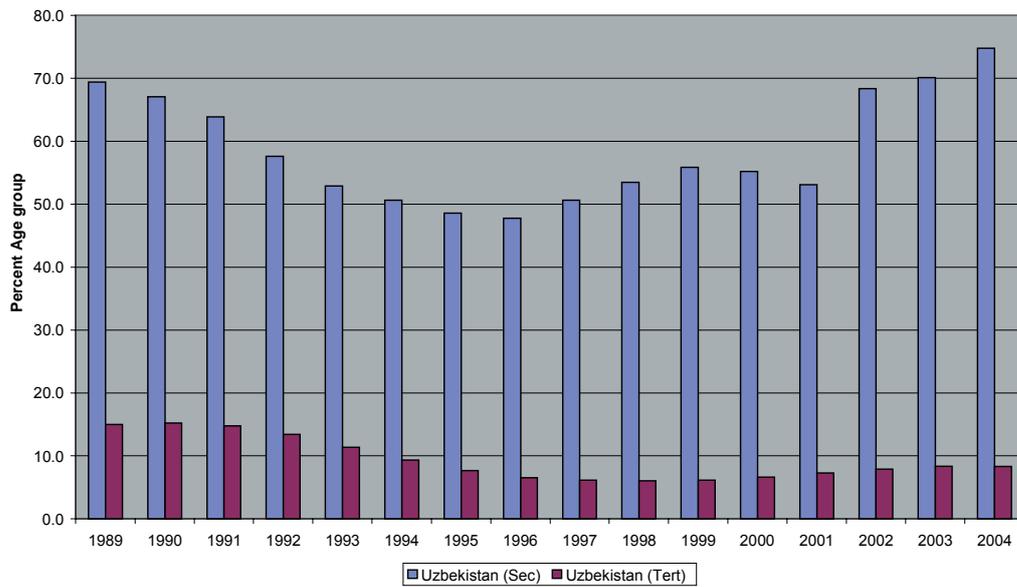
(b) KYRGYZSTAN: Secondary and Tertiary Enrollment rates, 1989-2004



(c) TAJIKISTAN: Secondary & Tertiary Enrolment rates, 1989-2004

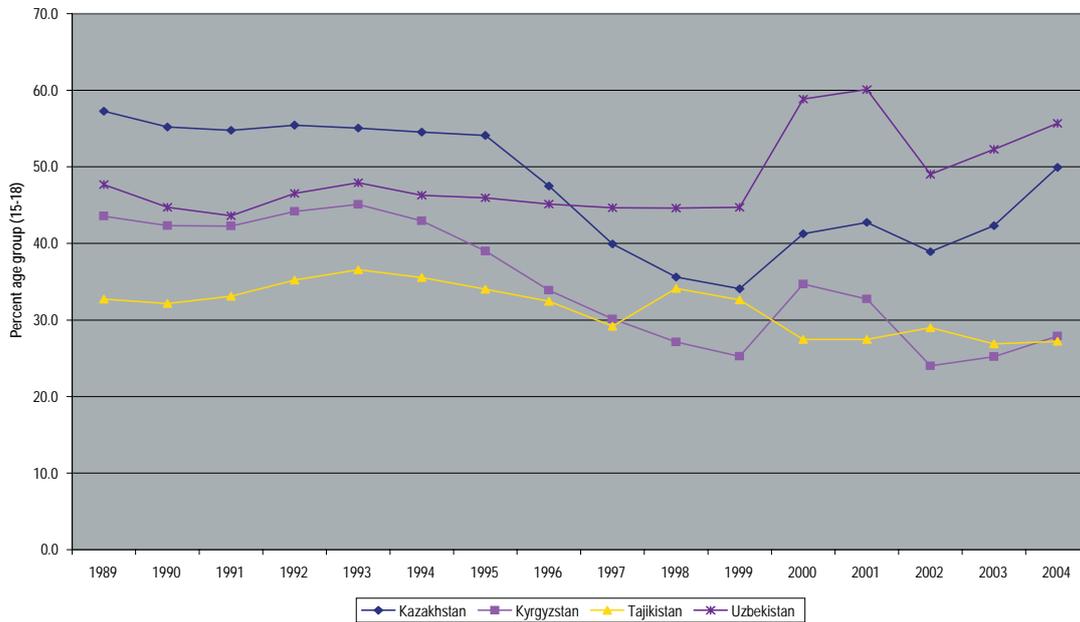


(d) UZBEKISTAN: Secondary & Tertiary Enrolment Rates



Source: All tables, UNICEF data base

**Figure 10: Vocational – technical education as percent Secondary**



Source: UNICEF data base

The link between secondary coverage and tertiary expansion shows the importance of continuity but not how the system expanded. There are two possibilities – an increase in the number of institutions and/or an increase in the students per institution. Table 8, demonstrates that increased coverage has only taken place in those countries where private tertiary institutions have been established as they have dramatically in Kazakhstan and solidly in the Kyrgyz Republic. Given that Kyrgyzstan is a relatively poor country, the decision to encourage private institutions coupled with their decision to invest indicates a more friendly institutional environment than in Tajikistan and Uzbekistan for private providers.

**Table 8: Higher education: number of tertiary institutions**

	1998/99	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
<b>Kazakhstan</b>								
Total			170	185	177	180	181	181
Public			24	59	50	46	51	51
Private			146	126	127	134	130	130
<b>Kyrgyz Republic</b>								
Total	41	39	45	48	46	47	49	49
Private	13	13	15	16	15	16	16	17
<b>Tajikistan</b>								
Total	29	30	31	33	38	38		
<b>Uzbekistan</b>								
Total	60	61	61	61	61	61	62	62

Sources: Reports

However the role of private institutions is not straightforward. A distinction must be drawn between private institutions and fee paying students because they are quite different types of 'privatization'. First, while the number of paying students has increased, not all such students attend private institutions – that is to say paying students might or might not be classified as private students depending on presentation and statistical definitions. This distinction is best appreciated for 1998-1999 for Kyrgyzstan in Table 9, where the number of students attending private institutions is 8,726 or 6.7 percent, doubling to 17,500 or 7.6 per cent in 2005-2006. The report comments that these students are 'marginal' to the system. However 72.5 percent of the 120 thousand students attending state HEIs are 'contract' or paying students. That is they do not attend private but public institutions but in a quasi private capacity. This quasi *privatization* of tertiary institutions is a principal instrument for reducing state contributions with loosing control. With its ambiguous contribution to greater autonomy it is a good illustration of 'institutional pluralism' and could become one of the most pressing policy issues facing the CARs, to be discussed in more detail in section III. Second, it is not clear in other systems if private students should include all paying students or only those attending private institutions. The different reports have different descriptions and it is difficult, without greater knowledge, to know how far 'commercial' (Kazakhstan), 'contract' (Kyrgyzstan), 'contract based' (Tajikistan) are similar and whether there are such students in Uzbekistan, but which have not been mentioned because of different definitions. What is clear is that in all cases where there is relevant data - *the expansion of the system has been due to paying rather than state supported students*. Further it also seems that in Kazakhstan private institutions have driven expansion at least as much the number of paying students in contrast to the three other CARs.

**Table 9: Higher Education: Enrolment by status**

	1998/99	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
Kazakhstan (2.23) (thousands)								
Total			440.7	514.7	597.5	658.1	747.1	775.8
Government contract			125.6	118.2	115	116.8	119.6	123.3
Commercial students			315.1	396.5	482.5	541.3	627.5	652.4
Percent commercial			71.5	77.0	80.8	82.3	84.0	84.1
Kyrgyz Republic								
Total	129,712	159,209	188,820	207,420	199,124	203,002	218,300	231,100
Private	8,726	13,213	14,341	15,513	14,245	15,082	15,806	17,500
Percent	6.7	8.3	7.6	7.5	7.2	7.4	7.2	7.6
State (App.11)	120,986	145,996	174,479	191,907	184,879	187,920	202,494	213,600
- Budget (%)	27.5							
- Contract	72.5							
Tajikistan (thousands)								
Total	75.5	79.2	77.7	84.2	96.6	107.6	118.4	132.4
Contract based				36.6	42.2	52.5	63.2	73.7
Percent				43.5	43.7	48.8	53.4	55.7
Uzbekistan								
Total	158,690	168,500	183,750	208,210	229,171	253,184	263,858	285,134

Source: Reports

d. Flexible systems

The size of the system is also an unresolved question for it depends on how the time status of students is to be treated. The reports provide information about full and part time students as well, in some cases, of correspondence students. In all cases, when considered as a percentage, the number of full time students shows a slow decline (Table 10). The exception is Uzbekistan where their proportion

has grown from 53.8 per cent of the total number of enrolled tertiary students to 73.0 per cent. It will recall that this country appears to have a relatively restrictive HEI access policy. However when the actual number of full time students is examined, as Figure 11 shows, there is an increase in full time students, such that in 2004/2005 there were 380 thousand FT students in Kazakhstan, 188 thousand in Uzbekistan, Kyrgyzstan (117.7 thousand) and Tajikistan (74 thousand) all higher than 1998/99. Thus not only have all students increased but contrary what might appear by examining percentages, so have the absolute number of full time students in the four CARs. If higher education systems were measured by FT students only, then Uzbekistan would be the second largest system following Kazakhstan.

**Table 10: Full time students (percent total students)**

	1990/ 1991	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006
Kazakhstan*				58.3	57.0	50.2	47.7	47.1	49.0
Kyrgyz Republic		58.0	55.9	53.7	53.0	52.0	53.3	53.9	53.6
Tajikistan		66.1	63.9	61.6	60.9	62.2	63.2	62.9	63.7
Uzbekistan	53.8	75.4	75.7	79.4	76.3	75.6	68.8	71.3	73.0

\* includes day and evening form

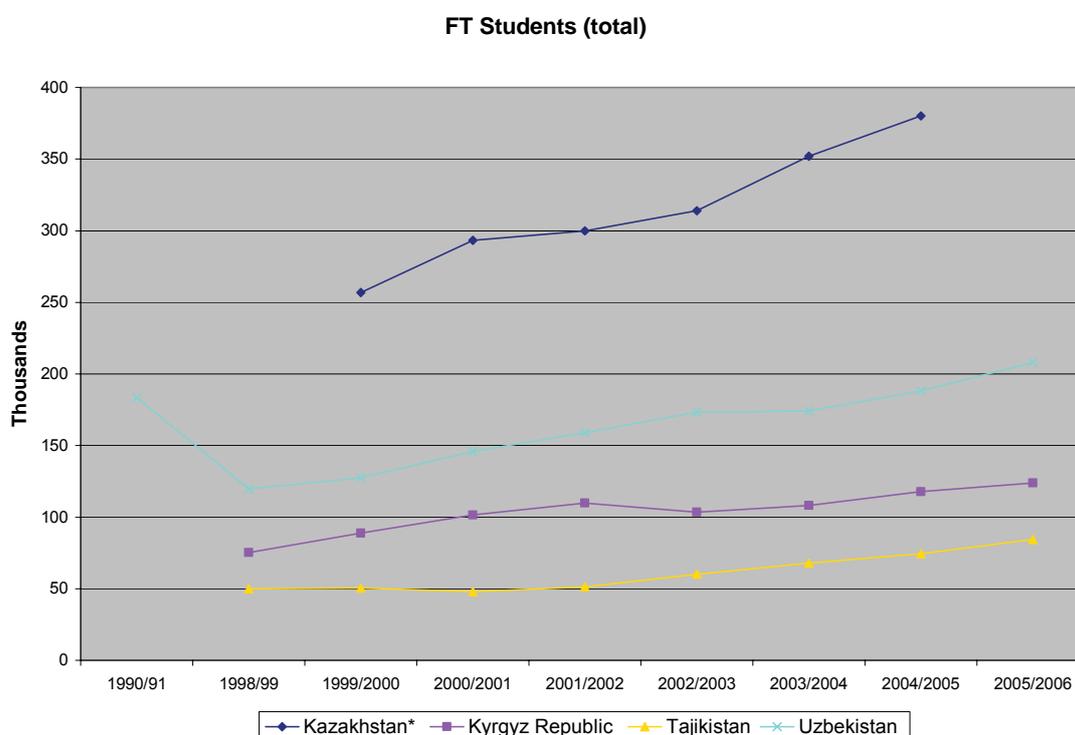
Source: Reports

**Table 11: First year students –total and proportion of all enrolled students**

<b>First Year (Admission and percent total students)</b>									
	1990- 1991	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006
<b>Kazakhstan*</b>									
Admission				135.5	155.7	174.1	183.1	221.7	207
Percent admission				30.7	30.3	29.1	27.8	29.7	26.7
<b>Kyrgyz Republic</b>									
Entrants				50.9	50.9	36.1	35.6		
Percent admission				27.0	24.5	18.1	17.5		
<b>Tajikistan</b>									
Entrance Students	13.3	16.1	17.1	16.3	20.1	24.2	28.1	27.9	
Percent admission		21.3	21.6	21.0	23.9	25.1	26.1	23.6	
<b>Uzbekistan</b>									
Enrollment	61.4	37.2	44.8	50.7	49.3	55.8	78.1	75.8	77.1
Percent admission	18.1	23.4	26.6	27.6	23.7	24.4	30.8	28.7	27.0

Source: Reports

**Figure 11: Full time students – growth of absolute numbers**



Source: Reports

What about the part time students? While some may be taking a staggered version of the FT degree courses, the majority of part time students were involved in ‘distance’ education (Kyrgyzstan), and correspondence courses in Tajikistan and Uzbekistan<sup>34</sup>. Although there have been doubts about the educational value of such courses, it is noticeable how quickly they have grown, doubling in Uzbekistan, nearly doubling in the Kyrgyz Republic and increasing by 87 per cent in Tajikistan since 1998/99. The benefits of correspondence/distance education is that it can reach geographically widespread locations and encourage students, who may not have thought of additional qualifications after dropping out or with a secondary diploma, to upgrade their skills. The costs are in organization, curriculum and language as many of these courses were originally in Russian. It now appears that Uzbekistan has cancelled correspondence courses, (2004), principally on cost grounds just as it ended evening classes in the 1990s.

The irony of these decisions is that as systems move to mass and later universal higher education, they require a range of flexible delivery methods which would include evening classes, correspondence (and modern media) to achieve life time learning. In this case it might be that quasi privatization could lead to greater rigidity, limiting students to contact hours only.

e. From systems to institutions

As higher education systems expand (moving from elite to mass) and hopefully modernize, their component parts - universities, academics, professional groups, students – have a propensity to become more autonomous and carry greater weight to the point that they share policy for the system

<sup>34</sup> The information for Kazakhstan states only they are studying in a ‘part time form’.

rather than the system (government) setting policy for them. Thus higher education policy evolves into a conglomeration or muddle of policies (as it is in most European countries) dealing with excellence, research, relevance, access, gender, and equity etc., through various prisms and where policy is as much about rights and process (e.g. is it fair?) as about overall national goals. Further, if the primary 'components' are the direct participants as teachers, researchers, students etc. there is a vitally important second, indirect group that represent a broad range of higher education interests - enterprises, employers, business associations, taxpayers, etc., with opinions about the direction, price and quality of higher education. University expansion strengthens this second circle as graduates become more and more common in the workforce.

Perhaps the most important component of the higher education system is the individual university or college. Indeed it is one, although not the only one, of the meeting places of the direct and indirect higher education interest groups, when appointed to boards of management or trustees. Why are most universities and colleges relatively weak forces within higher education? The reason is how universities or colleges are funded because they are dependent on the four governments' principal funding instrument – public awards or scholarships to a specific but reduced proportion of students – and which is both limited in its value (financial caps) and reduced in its educational scope (only fund certain subjects). However the fees are indispensable for both public and private universities and make up a substantial proportion (60 to 70 per cent) of their cash flow with the result that expansion is not only a social goal but a financial goal too. More students equals more tuition which means greater income.

If under this financing regime – principally one relatively inflexible instrument - the Central Asian Republics' higher education components are restricted to four players, namely the state, the government, institutions (i.e. university) and students it should come as little surprise that universities have the least leverage. The state sees higher education as a public not private good; the government would like to achieve high quality with low costs reflected in its average scholarships; the universities/colleges want higher student grants and students (and their families) want low costs. The result is not difficult to foresee – universities attracting as many students as possible, with tuition fees fluctuating around the government scholarship rate – underpaid staff and poor or deteriorating equipment. While there are exceptions, current funding cannot provide for full time professors as teachers or researchers. As the Reports amply demonstrate, professors have to teach in one, two, three or more institutions to earn a professional salary.

So, while it might appear that the system is becoming more privatized, it is happening by way of administrative rather than market privatization. This reduces both the risk and initiative associated with market privatization. While administrative privatization may, according to the Kazakhstan government, bring competition and reduced costs, cash flows for most universities are not sufficient to build a long term research and teaching faculty. This needs state funds, as institutional investments and providing teaching support. Mass education could soon become dual education with national universities funded through student fees (enough, perhaps, for a surplus but rarely for long term investments) and private universities with very high but realistic fees presumably offering high cost, high quality (and returns) education but with students from high family income households. While meritocracy encourages a hierarchy of institutions it would be a contradiction, as well as a loss, to deepen divisions with a dual higher education rather like parallel lines, with limited mobility between both parts. Without strong state support, in low per capita income countries, this is always a strong possibility.

National public universities, under current funding arrangements, are absorbing most of the costs of higher education. There is a need for a greater range of educational alternatives at the tertiary level as well as stronger from government. But perhaps the most useful step would be to move past administrative to market privatization and allow greater HEI experimentation. Such experimentation

might include, as the Reports note, performance related financing (Kazakhstan); per capita funding mechanisms; special tax allowances (Tajikistan); improved financial incentives for the institution and staff together with budget/management autonomy.

### *III. Higher education: policy, continuity and priorities*

As in other fields, the four Central Asian nations have had to create a new policy framework while continuing educational services using its current (regional) structure, but with reduced resources. The first period after independence - up to the end of the 1990s – was one of cautious conservatism – an attempt to maintain the principal elements of the inherited structure and adapt it, where possible to new national principles. The Russian financial crisis (1998) and the subsequent recession showed that the post independence policies were neither fiscally nor pedagogically sustainable. There were not sufficient public funds to support an expanding system and centrally managed place allocation was failing to identify labor market trends.

The new policies are intended, in theory, to bring higher education closer to the market. But this reorganization was less a wholesale embrace of market principles as a pragmatic compromise about resources. Further, in most CARs the reorganization has ushered in an unstable phase in relations between national and institutional interests compounded by policy priorities which require greater rather than less state budgetary support.

CAR higher education policies involved some or all of the following strategies:

- Greater use of private (or ‘non public’) income and resources in the form of fees, contributions, including the creation of private institutions.
- Consolidation of present existing resources through the integration of different levels (for example last years of high school and vocational education) and the promise of international integration by the adoption of the Bologna process;
- Greater, but more selective, administrative controls to meet industrial enterprise goals and target specific professional support (teachers, doctors) which show national or regional shortages

The three strategies reflect the economic wealth and prospects of the four countries – hence it is no surprise that the richest country, Kazakhstan, supports broad privatization because its consumers have the wealth to choose private universities, including those that charge high fees. The other countries, even though they may encourage supplementary income for public institutions (under contract or private service agreement) have maintained a greater control over higher education funding.

However the four governments have attempted to resolve the pressure on higher education and funding, there is broad recognition that the principal issues facing tertiary education are,

- Educational quality (and teaching quality in particular);
- Educational relevance in terms of national goals (particularly the labor market) and international competitiveness (new skills)
- Access for poorer students (including those educated in rural and public schools).

These cases show that the principal issue is less the size of the sector than the quality of education received.

a. Government, system, institutions.

One of the most important policy goals is to find a settled relationship between state and private interests which benefit the long term development of higher education. A settled relationship is built on consensus about resources, the rights of private agents, and how the state and private agents are coordinated. In the CARs, higher education issues have rarely presented themselves as a stark choice between authoritarian or liberal policies; the stumbling block is attempting to convert principles into practice and where there are many possibilities of misunderstanding<sup>35</sup>.

When examining policy making and particularly priority setting, it is useful to distinguish between *first*, the residual power and actions of the government; *second*, the higher education system and *third*, the components of which the system is constituted, higher education institutions. The three levels – ministry, the higher education system and the HEIs – differ, for example, in the commitment to privatization, often thought of as a fundamental building block for markets. But as CARs tertiary education shows, it depends on how the privatization is undertaken “for in certain circumstances it can close off market options”. This is the reason to distinguish between administrative and market privatization. Above, (Table 9), data showed the increase in private students albeit as a result of two different processes. Even though both nominally add to the total of private students, a government or Ministry that sells private places at public universities should be distinguished as *administrative privatization* in contrast to *market privatization* where, unlike the former, it is the institution not the government that decides on the size and conditions of the offer.

The tripartite division of government, system and institutions is helpful in describing comparative policy options which are, *first*, establishing a legal framework, particularly the power and responsibilities of the leading state body, normally but not always the Ministry of Education, charged with managing the educational process and where some of the principal policy issues – the role of private agents, access, and equity – are nominally settled; *second*, how the educational system is to be financed, particularly the contribution of state funds and alternatives; *third*, the social and policy implications of these policies with reference to educational opportunities and access; and, *fourth*, the increasingly important issues of educational standards, transparency and improving quality.

In the four countries, the relationship between the system, its components and the Ministry or government is complex and cannot be represented along simple lines. Rather it would seem that the four CARs are working out a new set of relationships for higher education policy which requires better data and further analysis to be fully understood.

b. The policy framework

The most important legal and policy issue for higher education is the relationship between the state and private agents.

(i) Background

The initial post independence period, to recall, was dominated by economic dislocation and adjustment, a ruble crisis and hyperinflation. In addition there was internal unrest which led in the case of Tajikistan to civil war. Government actions have been conditioned by this environment and reflected

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<sup>35</sup> See the discussion in Reeves M “Cultivating the Citizen of a New Type; The politics and practice of educational reform at the American University in Kyrgyzstan” in ed. Heyneman S.P & DeYoung A.J. The Challenge of Education in Central Asia, Greenwich, 2004. Chapter 21, who argues that the contrast between market and command is ‘overdrawn’ and is understood in quite different ways by participants who have, in any case, to negotiate their meaning from quite different backgrounds, (for example, contact hours).

in the different phases of higher education policy making. (Table 2) above. In general, governments attempted policy continuity with changes driven by the search for funds as much as educational objectives. Each country has followed a different path, depending on its national wealth, political environment and educational resources.

The CARs policy framework has been strongly influenced by Russian thinking and practice, commencing with the Law on Education (1992). In Russia, the state is the guarantor of educational standards and performance and there are similarities in the respective legal frameworks, administrative organization, finance and standards<sup>36</sup> and ‘modernization’ which is likely to be followed with great attention in the CARs<sup>37</sup>.

(ii) Legal framework

The legal framework of higher education is set out in a series of laws and administrative rulings that tend to fall into two types, which in turn reflect the different phases of the system’s evolution. First, the generic laws which establish the importance and value of education for the republics and second, resolutions, revised laws and administrative rulings which are specific to higher education. In almost all cases the initial laws set out the rights and principles while the later set, as might be expected, deal with administrative practice (as decrees or resolutions) as the result of experience. A list of the key laws are found in each of the reports. A number of the countries describe policy making retrospectively in phases. For example, **Kazakhstan** sees the period 1991-94 as creating a regulatory basis, to be followed by a further process of modernization (1995-98); management decentralization and “expanding the economic freedoms of educational institutions” (1999-2000) up to the current period, which concentrates on quality and improved teaching, commencing in 2000. For **Tajikistan** (which suffered from a civil war) the first phase of higher education policy only began in 1996 ending in 2000, which concentrated on resource consolidation, improved teacher training in new fields and adaptation of education to a changing labor market. The second stage commencing in 2000 emphasized management, standards and improved administrative flexibility demonstrated by decentralization, partnerships and co-operative agreements with foreign and domestic private schools. Tajikistan’s third phase, contained in the National Education Development Strategy (2006-2015), is an ambitious program which if accomplished would bring the country’s higher education closer to the domestic market and more integrated into regional and global education. **Uzbekistan** is now in the third phase of its higher education planning. The first (1997-2001) codified current teaching, research and training as a basis for further reform. The second phase (2001-2005) called for a “comprehensive implementation of the national program” while the third phase, 2005 on, calls for the improved training with particular reference to the country’s economic goals and conditions

The national programs, with their grand designs, are accompanied by regulations which represent, to the outside observer, a surprising degree of control over items such as curricula, subject profiles, recommendations on teaching approaches and identifying courses by skill outcomes. In addition not all governments permit much discretion about managing the budget and particularly the off-budget or private funds<sup>38</sup>. In Uzbekistan there are few incentives – when extra budgetary funding

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<sup>36</sup> “ The role of the state is also emphasized as the government serves as the guarantor of the quality of educational programs and services delivered by educational institutions regardless of their legal status” See Smolentseva A., “Russia” International Handbook of Higher Education, Dordrecht, (2006) p. 954 f.

<sup>37</sup> The “path to modernization, involving experiments with state unified examinations (EGE), 12 year secondary schools, profile high schools, multilevel higher professional education, the development of information technology in education and other initiatives to improve the quality of educational practices and to integrate Russia into the global educational arena”, Smolentseva A., op.cit., p. 953.

<sup>38</sup> In Uzbekistan, for example, extra budgetary resources and principles of contracts/use of funds were set out by the cabinet of ministers, (1999) which allowed greater and stronger discretionary educational management, and the possibility of generating development funds, which are to be excluded from taxes. However it is apparently difficult to generate extra budgetary funds.

grows, then official budget funding appears to decline, while in Tajikistan there appears to be little or no control about the use of funds.

As systems expand and private support plays a potentially bigger role, so next generation of university leaders will push for greater autonomy.

c. Tertiary Education: budgets and expenditures

The reduction in public funds, discussed in section I, largely determined post independence public service commitments. This was compounded by the Russian financial shock (1998), when governments had added to their debt and, prior to the commodity boom, expressed an unwillingness to add to further long term obligations. There was an attempt to balance budgets, reduce unnecessary costs and look for substitute resources.

The most obvious alternative financial resource to the public purse for personal welfare is the individual or family pocket. Yet there was reluctance across the four countries as to how far and in which way to privatize social services such as education and to what level. This reluctance was both ideological and practical. Further, as the fiscal base of governments declined, so different departments and branches of state including the armed forces jostled for influence. The result has often been less than transparent allocation decisions. This tension between public objectives and inadequate resources is an important policy component throughout education systems.

This section continues by looking at the current resource constraints that face the different Central Asian Republics, the emerging policy structure and responses with particular attention to the role of private activities and initiatives; the issues of access and equity and concerns about the quality of national higher education systems.

(i) Public education budgets and expenditure

The four CARs educational expenditure fell immediately after independence, stabilized at the end of the decade with the exception of Kazakhstan, and since then has begun to grow as a percentage of GDP, illustrated by Figure 12, showing that the Kyrgyz Republic reached around 3.6 per cent and Tajikistan less than 3 per cent.

Information about educational expenditures is often confusing and inconsistent because it has to rely on different sources. A number of recent IMF reports contains information about public expenditure, social expenditure and education as percentages of GDP<sup>39</sup> ( Table 12). The table confirms the decade long decline of public expenditure and that from 2004 there has been encouraging increase, particularly in social expenditure and the education component<sup>40</sup>. From 2004, the IMF estimates that the Kyrgyz Republic's social expenditure will increase by 1.7 percent and educational expenditure by 0.6 percent to be 5.2 percent of GDP in 2008; in Tajikistan social expenditure will increase from 7.1 percent to 9.6 percent and education by 1.4 percentage points to 2006; and social expenditure in Uzbekistan from 10.9 percent (2004) to 11.5 percent (2007) with education account for 6.6 percent of GDP. It is worth noting that educational expenditures are expected to account for 41 and 57 percent respectively of social expenditures in Tajikistan (2006) and Uzbekistan (2007). In contrast, the same

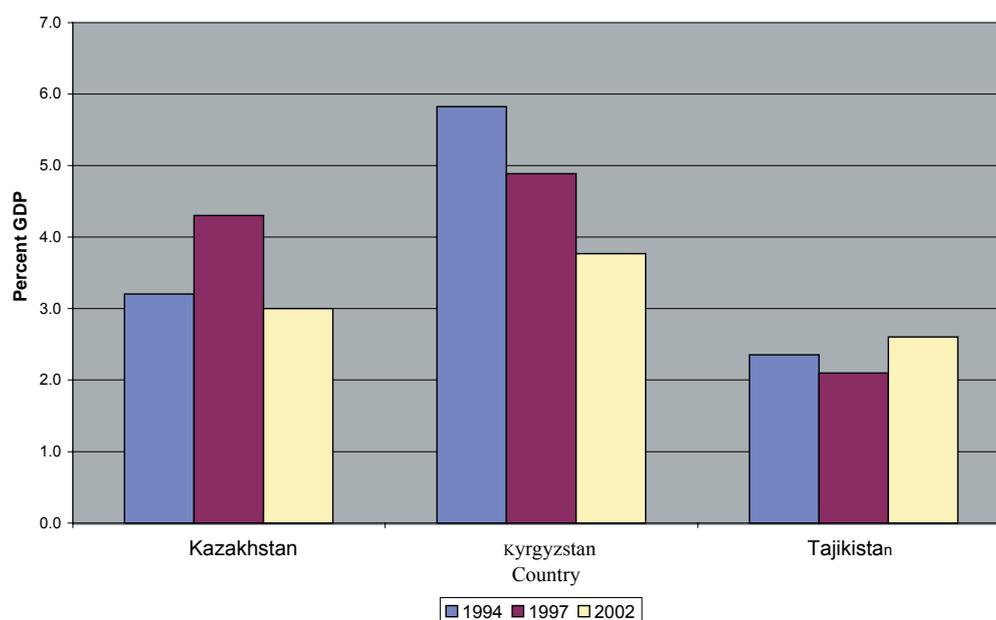
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<sup>39</sup> IMF, Country Reports 06/244, Republic of Kazakhstan, 2006 Article IV Consultation; 06/235 the Kyrgyz Republic: Second review under the three year Poverty Reduction and Growth Facility – Staff report; 06/62 Republic of Tajikistan; sixth review under the Poverty Reduction and Growth Facility – Staff report; 05/160 Republic of Uzbekistan; interim poverty strategy reduction paper, (20005)

<sup>40</sup> For continuity, the ADB data base is used to provide public expenditure information, 1990-2004. The IMF information for the Kyrgyz Republic and Tajikistan shows public expenditure as higher in 2004 than the ADB and about the same for Uzbekistan.

table shows educational expenditures are projected to make up about a third of social expenditure in the Kyrgyz Republic (2008) and this lower ratio is partly the result and cause of a more energetic search for private funds for education.

**Figure 12: Government educational expenditure/GDP (selected years)**



**Table 12: Current and projected educational expenditure, 1990-2008 (select countries)**

	1990	1995	2001	2003	2004	2005		2006		2007	2008
Percent GDP					Act.	Prog.	Act	Prog.	Rev. Prog.	Proj	Proj
<b>Kazakhstan</b>											
Public Expenditure	35.6	25.7	22.3	22.2	21.9		26.1				
<b>Kyrgyzstan</b>											
Public Expenditure	37.2	27.8	17.7	20.6	20.4		20.5				
					27.2	27.5	28.3	26.6	27.1	26.7	26.7
Social Expenditure					14.0	15.1	14.6	15.5	15.0	15.4	15.7
Education					4.6	4.5	4.9	4.7	5.0	5.1	5.2
<b>Tajikistan</b>											
Public Expenditure		17.4	14.8	16.2	17.7		19.6				
					20.3	23.2	22.6	23.1			
Social Expenditure					7.1	8.8	9.1	9.6			
Education					2.6	3.5	3.4	4.0			
<b>Uzbekistan</b>											
Public Expenditure		32.6	25.5	24.8	23.5						
					22.6	22.9		20.9		20.3	
Social Expenditure					10.9	11.5		11.5		11.5	
Education					6.3	6.6		6.6		6.6	

Notes: Act = actual, Prog=programmed and Proj=projected; public expenditure refers to total public expenditure unless other defined in the reports. Source: IMF Reports, listed in references

Some preliminary estimates of higher education's portion of the national public education budget, garnered from the Reports, is set out as Table 13, but it is not clear how comparable this data really is. However if tertiary level educational expenditures are measured as a proportion of all educational expenditures, then the Kyrgyz Republic spends 20.5 percent, followed by Kazakhstan, (7.89 percent), Uzbekistan (6.4 percent) and Tajikistan (5.27 percent) of the total education budget(2004)<sup>41</sup>. The tertiary proportion of educational expenditures only appears to be increasing for the Kyrgyz Republic; in the other three countries, the proportion is declining. These proportions are consistent with the enrolment data discussed in the previous section – that tertiary education has a high public priority in the Kyrgyz Republic in contrast to the much lower one accorded to it in Tajikistan and Uzbekistan. With a rapidly expanding economy, Kazakhstan is likely to maintain its current real level of higher education expenditure and continue to target excellence and quality.

**Table 13: Higher education estimates (per cent)**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Kazakhstan											
TPHEE/PEE						9.97	9.07	9.9	8.53	7.89	
PEE/TPE						14.1	14	14.5	13.9	14	
PEE/GDP						3.3	3.2	3.2	3.2	3.4	
Kyrgyz (%)											
TPHEE/TEE	8.2	13.6	15.7	19.2	16.1	14.7	17.2	21.4	19.8	20.5	20.1
THEE/GDP	0.54	0.71	0.82	0.99	0.71	0.49	0.72	0.96	0.85	0.94	0.98
Tajikistan											
THEE/PEE						5.82	4.83	5.15	5.16	5.27	5.49
PEE/TPE						15.9	16.6	16.6	15.4	16	19.4
Uzbekistan											
TPHEE/PEE						6.9	6.6	6.7	6.6	6.4	6.45

Source: Reports.

Notes: PEE Public Expenditure on Education

TEE Total educational expenditures

TPE Total Public expenditure

TPHEE Total public higher education expenditures

THEE Total higher education expenditures

## (ii) State Funding

In almost all countries there has been a shift in tertiary education's support from governments to individuals and households<sup>42</sup>. While some governments provide block grants for research or capital costs (such as repairing laboratories) fees are now one of the most important sources of HEI income<sup>43</sup>. Fees can be set in two ways; first, by the government according to a formula and second, by the institutions in terms of costs or their own institution based formula. The relative proportion depends on the degree of privatization and the powers or rights of each institution in comparison to the government.

<sup>41</sup> The discussion assumes that Total Public Higher Education Expenditures (TPHEE) and Total Higher Educational Expenditure (THEE) are more or less the same and PEE and TEE are equivalent, which of course they are not.

<sup>42</sup> The World Bank includes education as a component of its aggregate consumption surveys which shows the average family in Tajikistan spends 4.1 percent on education, followed by Kazakhstan (2.0%), Kyrgyz (1.6) and Uzbekistan (0.3) compared to Colombia at 6.3 percent. The highest CIS country was Armenia 5.1 and lowest Macedonia/Uzbekistan, Growth, Poverty and Inequality (p.224).

<sup>43</sup> This principle was accepted in Kazakhstan in 1999.

All four countries award scholarships on the basis of competitive entrance examinations. The scholarship generally provides full tuition support or partial support with government credit facilities when available (Kazakhstan). The total number of scholarships is limited and the subject areas available for support tend to be earmarked by the government. Further its overall value, as noted, is less than the previous scheme. Hence government support to universities is indirect and through the attending student. Some countries, like Uzbekistan, continue the practice of state enterprise sponsorship of students but this has not yet found its contemporary form. Private oil companies have close ties with Kazakhstan universities and institutes but there appears to be no legal formula which allows tax deductions for philanthropic contributions.

Students who accept government support may find their selection of universities or subjects or both limited and could be required to undertake social work (Uzbekistan) in exchange.

Once the total number of government supported students is established then either the Ministry of Education or the universities themselves can set out the number of paying students they wish to attract. For example, the number of publicly supported students is limited to around 5,705 in Kyrgyzstan. These targets appear to be the essence of tertiary public sector planning. Publicly supported students are 'on budget' while fee paying students are on 'contract'. In theory when attending the same university, they should receive the same education but the reports note, on a number of occasions that this is not always so and that private students at public universities are better treated<sup>44</sup>. Thus at its most extreme there could be a dual system within the public university which can only be divisive and detrimental to morale.

Perhaps the key long term policy issue in the CARs, is the rate at which governments wish to genuinely 'privatize' tertiary education. Each country will make its own decision, but if the decision was made to move to a non governmental tertiary education system (private or independent public corporation etc) the government could strongly mould the timing and form of the outcome. This process depends on two policy issues which need to be settled; first, that all HEIs are equal and that the government is not using other administrative controls to support other Ministry determined priorities. In Kazakhstan, for example, the government is in the process of divesting itself of some public universities (by making them joint stock companies) while nine have been reserved as state universities<sup>45</sup>. In Kyrgyzstan grants are provided on a competitive basis. Second, that tax laws provide incentives so that when philanthropists or companies provide gifts or make grants, then they and the institution are not penalized. In the Kyrgyz Republic, the growing costs of higher education have led to calls to privatize public universities in order to build up strength and quality; encourage development of private colleges which implies a reexamination of the tax system. Third, the government's student awards should be as transparent as possible to avoid the feeling that they are rigged for cronies sons and daughters. Hence the insistence that awards are the result of public examinations.

In summary there appears to be no disagreement about private funds supporting students – almost all public universities in the four countries have a large proportion of fee paying or contract students, larger than government sponsored students. The difference between the countries is in the degree of autonomy of private institution from the government. One indicator is whether private institutions can set their own rules or have to seek approval and follow national educational goals. In the case of Tajikistan it would appear that the rules are self defeating (i.e. institutions must have a license to teach but cannot receive one unless they have a track record) and in Uzbekistan, where there are no private domestic institutions. Private institutions appear to have greater scope in Kazakhstan,

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<sup>44</sup> by 2005 around 76 per cent of state HEI support came from private and the remainder was 'budgetary financing'. One implication is that state students receive poorer teaching than budget students or are unable to attract experienced teachers. ("not only creates injustices but promotes educational quality deterioration").(see Report).

<sup>45</sup> This divestiture was taken because state could no longer support HEI (after Russia crisis) and required a change in the law; 12 universities were made companies – a kind of quasi public form of HEI, and 9 have been reserved as state universities.

which has adopted an accreditation/licensing policy and which has resulted in private institutions either being suspended or losing their right to educate.

(iii) University income and expenditures

The principal source of most CAR public university income is derived from tuition fees charged to students. The price and costs vary between country, between private and state HEIs and within institutions depending on profession or program being followed.

*Value of fees*

In the **Kyrgyz Republic** fees range from US\$60 (education) to \$US 150/200 for professional programs while elite schools could ask for as much as \$600 per year. The American University of Central Asia costs around \$2000 per year. The Kyrgyz government provided scholarship support for an average US\$ 90 (p.a.) until 2002 for the 5,705 state supported students, and which was then raised to US\$120 and which only covers minimum living costs. Private university costs are estimated to average around \$375 but can be much higher and amount to \$1,500 with the justification that they support new disciplines. Fee levels are set by the Anti Monopoly Commission and cover only costs, not additional expenses. The report comments that the “establishment of tuition fee levels on non-commercial basis leads to inadequate financing of the HE college capital expenditures”. In **Tajikistan** per student costs are estimated to be US\$44 for secondary and \$48 at tertiary levels. Fees are between US\$50 (education) to \$1,000 (for example law at TNU) with small differences in university costs by subject but with apparently high expenditures. The average fees in **Uzbekistan** are reported to be around US\$900 per annum, but to be accepted by the university there are often substantial prepping costs and what the report calls “unofficial payments”. The relatively high cost of fees (recall that per capita income was US\$330 by the Atlas method, see Table 3, above) accounts for the growing gap between acceptances and attendance. In **Kazakhstan**, the Ministry calculates student support as the average minimum cost for student education without allowing for the different professions. However the average student scholarship is estimated to be \$53 and for medical scholarships, the highest award, around US\$188. These per student grants, which act as vouchers, are allocated on the UNT results to HEIs that meet standards and have received accreditation.

*Importance of fees*

In **Kazakhstan** it is reported that, on average, 79.1 percent of university incomes comes from educational services (principally as fees), originating with the state, grants, households or the sale of educational services. In the **Kyrgyz Republic**, counting private colleges and public universities, an estimated 76 per cent was private and the remainder was ‘budgetary financing’. Private college students account for 8.7 per cent of all students of which around two thirds are Uzbek, regarded as a useful income source<sup>46</sup>. Moreover because of the large number of universities in the Kyrgyz Republic, the amount per college is very limited and only pays for salaries and deductions for the social Fund, and possibly small amounts for heating and electricity.

*Private administered fees*

As the total number of state supported students are known (and at the price they will bring), the only differential income from this source is the number who attend a given university for a supported specialty. However specialties as programs or degree courses have to be approved by the Ministry of

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<sup>46</sup> However, there are tax anomalies between private and state universities for the amount that can be discounted prior to tax. Lack of tax incentives reduces investment in education.

Education so it is unlikely that their income will make a substantial difference to any particular university. Hence funds from contract or private students become crucial for current university finances and planning the new courses that attract new fee paying private students. Indeed in some cases they are managed as a separate group and with apparently separate privileges. In **Tajikistan** – from paid contract groups which must be used for university activities including salaries. There seems to be no record and/or little transparency about private investments and their use. In the **Kyrgyz Republic** one implication is that state students receive poorer teaching than budget students as able to attract experienced teachers so that it “not only creates injustices but promotes educational quality deterioration”. In **Uzbekistan** universities are encouraged to pursue cost recovery operations, as the institutions do have tax privileges in certain fields, although their use of funds is restrictive and future activities based on the number of grant based students, student quota, fixed assets.

#### *Current costs*

The most important current or capital cost for any HEI is that for teaching staff and researchers. In the Central Asian Republics, when compared to universities in Europe for example, these budget items are proportionally low. Academic wages are estimated to be around 40 per cent in **Kazakhstan** and 58.2 per cent in the **Kyrgyz Republic** of institutional budgets. The Kazakhstan authorities appear to use this salary data to classify HEIs into four different groups. The **Kyrgyz Republic** spends around 58 per cent for salaries and around 5.4 per cent for utilities. The public HEIs or colleges have two separate budgets and can only retain funds for special activities but these appear to be subject to permissions from different ministries (credit administrators.) In **Tajikistan**, salary costs fell from 70 to 48 per cent and more money was spent on much needed repairs and maintenance.

#### *Educational quality*

There is a growing recognition by stakeholders that university education requires improvement and upgrading. The frequent complaints about the deterioration of public universities physical plant and lack of infrastructure, which in **Tajikistan** extends to a lack of equipment and books, makes independent study very difficult. In **Uzbekistan** the government continues to pay for general and scientific infrastructure and research in particular. In some cases universities and HEIs have never owned property and even today its use is highly circumscribed.

While there has been an attempt to upgrade aspects of public universities including fashionable proposals for performance related funding, the key features of a successful educational infrastructure are far simpler and well known. First to support committed teachers and researchers (which means they are retained and paid satisfactorily so they do not always walk away to the private sector); and second, to utilize the educational promise and potential of modern communication technologies. These, in the words of the Tajikistan Report, “goes hardly and at poor level”. Much depends on the diffusion of mobile technology and its multiple uses. Given the backward stage of Central Asia’s communications, they have tremendous promise for education and society in general (Table14).

**Table 14: Technology and communication indicators**

Year	Index Per		KAZAKHSTAN	KYRGYZ	TAJIKISTAN	UZBEKISTAN	RUSSIA
2003	Mn	Researchers in R & D	744	413	660	1,754	
2003	1000	Telephone mainlines	141	76	37	67	253
	1000	Cellular subscribers	64	27	7	13	249
2003	1000	Internet Users	38	15.7	1	19	40.9
2000	1000	Newspapers		15	20	3	105
2003	1000	Radios		110	141	456	418

2003	1000	TV sets	338	49	357	280	538
2003	1000	Cable subscribers	6.6	3.6	0.1	3.7	76.7

Source: UNDP, Central Asia Human Development Report (p.154 f)

In addition there will be a continuing (and sometimes uncomfortable) interest in maintaining internationally acceptable standards. Thus Tajikistan is introducing a standard exit examination in 2007 and discussion about making the HEI evaluations more independent with the inclusion of external advisers rather than relying on domestic expertise at present. In **Kazakhstan** authorities cancelled the operating licenses of 59 higher educational institutions: also note the evaluation & licensing Committee revoked the licenses of 33 HEIs in 159 specialties and suspended 32.

#### d. Policy Choices

The underlying policy choice which cuts across all higher education issues in the Central Asian Republics concerns the degree of present and future, administrative and market, privatization.

##### (i) Access and equality

All four countries proclaim their citizen's right to education either as part of the Constitution or contained in other laws. However this guarantee does not mean that the education will be publicly supported at the tertiary level. As the university system expands from elite to mass, so do the opportunities for attending higher education institutions, providing that the student can find the fees. With rising costs, fees – the foundation for university funding - and supplementary (living and other) expenses are also increasing. A major challenge is ensure both equality opportunities and access.

*State support* in all countries includes and is often limited to the following categories. State support includes both the payment of tutorial fees etc. and waving fees or costs but rarely includes living expenses.

- Those who have passed the national or university entrance examination or both.
- Priority students – those studying education and who intend to become teachers (Kazakhstan, Kyrgyz Republic) or those with Presidential scholarships; in Tajikistan, the recipients are classified into excellent, good and special.
- Priority groups such as those who speak a particular language (Kazakh) or rural areas (Tajikistan) or athletes. In Uzbekistan, for example, apart from the military, (who receive extra points) there are a number of other special groups not least sports people who are enrolled on “non competitive” basis, without tests and professional (creative) examinations
- Kazakhstan offers state support for 30 percent from rural areas, 2 percent to Kazakh nationalities, etc;
- Traditional privileged groups such as the members of or sons/daughters of the armed forces, retirees etc. (NB may not pay fees, thus distinct)
- Quotas – i.e. informal restrictions on certain language or other groups.

*Access and national examinations* - state supported students have to pass an examination to attend public HEIs. The four tertiary education systems employ different processes for university access and/or scholarships and awards. **Kazakhstan** uses the Uniform National Test (UNT) (Russian and Kazakh) which is taken in parallel with the Comprehensive Tests (CT) for other languages with the top students obtaining scholarships. These are awarded by competition in special disciplines and language divisions and grants awarded according to established rules. There are Presidential scholarships for post graduates and promising last year students. The **Kyrgyz Republic** uses the General National Examination for both entrants and grants, with additional examinations for special departments which have Ministry priority. Students hoping to attend private universities/colleges may

need additional examinations at the discretion of the private college. 70 per cent leave school and go directly to HEI. **Tajikistan** appears to have no uniform national examination and the HEI continues to have discretion about type of examination or supplementary tests they might wish to add. The government has recently introduced a new examination with reference to the national script. In **Uzbekistan**, the government either through the Cabinet of ministers or Ministry sets quotas based on number of students (per discipline or institution) and then on the number of awards. These are competitive and distributed on merit while others can attend as private (contractual students). In addition there are complimentary examinations by profession and HEI with a similar process for post graduates. The process begins with a published list of places (general admission quota) and so planned grant and contract based admissions. The national report comments that there is a lack of competition with ancillary financial services for loans and that the lack of competition – because of higher prices – reduces the number who can afford to go to university. As it is, it seems that poorer students have 50 per cent of interest rate costs paid by state.

The main features of access in the CARs are that the state emphasizes merit rather than need awards. If the student is not awarded a government place (funds or special loans) then he or she can apply to public or private universities, knowing that a private place is likely to be more expensive. Even if they do receive a government award, it is unlikely that, for example in **Kazakhstan**, it covers housing and urban costs. Unless the student comes from the wealthy family or lives in the same locality, then he or she must arrange a loan and this is increasingly understood to be a specialized market. Until recently, loans were facilitated by the government, but have now been transferred to a bank and joint stock company with its own independent funds. This appears to be the beginning of an incipient market relationship, unlike Uzbekistan where there is recognition that students require greater financial support and educational services, but which are largely in the hands of state bodies.

Increasing costs and the pattern of privatization are forming a higher education market. The market is incomplete for it does not provide institutional responses to equity and fair access. There are growing concerns about the educational disadvantages faced by disadvantaged families (see below, Table 18) (who cannot afford the pre university preparation) and those living in rural locations, which have noticeably less well equipped and consistently taught schools in a possibly changing language [see above section I (b)]. In Kazakhstan, access is increasingly restricted by income structure. At the same time, part time and correspondence instruction - the traditional alternatives to full time tertiary education – appears to have been reduced in Kazakhstan and Uzbekistan for cost/market reasons [see II.(d)].

Thus the two most important challenges are to build facilitating institutions which ensure greater fairness in terms of access to higher education and funds at a reasonable rate. These bridging institutions could be either state or non governmental. Such institutions do not simply evolve, but require, particularly during an extended period of transition, active policies and leadership across the educational spectrum.

#### (ii) Educational and Institutional Quality

There is a widespread belief that Central Asia's tertiary education has lost quality or is poor and deteriorating and not simply because of reduced state funding. Independence and the market have brought a new set of priorities in terms of skills, jobs and knowledge to which higher education is finding it difficult to respond. The need to have closer links to the market sometimes supersedes equally important relationships that cannot be put into this framework but need a more comprehensive understanding of the value of knowledge, such as the links between science and universities and which the Uzbekistan authorities describe as 'all broken'. Some of these points will be discussed in the following section.

All the CAR governments have responded to concerns about educational quality by setting up agencies to review both programs and institutions. **Kazakhstan** currently uses a government body, the Committee for Supervision and Accreditation in Education and Science within Ministry of Education and Science, and which by 2010 will become the more independent NSEQE, National System of Educational Quality Evaluation. In addition there is the Republic's Commission for the Licensing of Educational Activities (licensing), Accreditation Commission (accreditation). **Kyrgyz** established the Central Educational Quality Control Department in the Ministry in 2003 as well as promoting evaluation offices within the HEI themselves with an agreed set of indicators. The government has set itself an ambitious set of activities from setting standards to computer applications. The Education Institutions Certification Department was established by the Ministry of Education in **Tajikistan** to conduct external evaluations from the perspective of national policy, specialist training and efficient financing. The government has now returned to the three stage process of licensing, (1-5 yrs), certification, - with several criteria – and State Accreditation which when approved allows the HEI to issue 'state-standard documents to its graduates'. In **Uzbekistan** there appears to be a very broad group of line and sector ministries involved in evaluations.

Their criteria reflect a range of different approaches. The most elaborate monitoring is planned by **Kazakhstan**. At present the Interim State Control (ISC) midterm evaluation allows for a broad set of evaluation criteria which include region, types of ownership and specialties as well as standard items like percentage of full time staff etc. New criteria are likely to expand the rules of accreditation to include financial stability, international co-operation and employment of graduates. The Commission will no longer allow diplomas if the institution is not accredited nor the final state approved degree. A certain proportion of process is self assessment but there is some skepticism as to how this is carried out. In **Kyrgyz** the report calls attention to 'a lack of effective monitoring' which is coupled with the 'deterioration of quality of educational services' because of poor legislation, equipment, failure of staff upgrading, student motivation, selection, and poor secondary schools, etc In **Tajikistan** evaluation includes 'mental, physical and moral development'. There appears to be an emphasis on internal quality control, which varies by institution. There was a period of two years, (2000-2002), when the (i) licensing, (ii) certification and (iii) accreditation process was abandoned and quickly renewed because the consequences were so chaotic). Now in Tajikistan the higher education system uses a standard final examination called the State Tertiary Educational Standard, and this is partly to compensate for the effect of low wages which the Report admits leads to bribery and "the corruption existing in the educational system is one of the causes of the low level of knowledge abilities and skills of students". **Uzbekistan** evaluates staff quality and resources together with "relevance of educational programs to contemporary requirements of the labor market, (and) providing employment to TEI graduates" The report claims that each TEI has a marketing/labor department and that demand for graduates is part of the evaluation process as is preparations for the (expected) transition to two tiered process (Bologna) and self study.

Perhaps the most critical issues facing higher education concern the salary, preparation and rewards to the professional teaching and research staff. In **Kazakhstan**, staff in national universities is paid less than teachers in private universities (US\$250-1000). The government has established a teacher student ratio of 1:8 but it is now much higher in part because of outflow of staff to the private sector. Even though the percentage of full time staff is a criterion for accreditation, it is difficult to attract young staff who leave for private sector or private universities. In the **Kyrgyz Republic**, while there is a public competition for position, it is quite common to charge additional costs to private groups (i.e. 'non budgetary'). In common with other countries, qualification upgrading is seen as urgent. In **Tajikistan** 72 per cent of staff has not received a retraining course in 10 years. Staff is selected by competition but the state does not have the funds to appoint them all. Even so, it is difficult to keep staff, as "many of staff with academic degrees move to other jobs with good salaries when the opportunity occurs" At university they earn up to US\$15/20 (per month), but can obtain as much as US\$60 with bonuses for contract based teaching. The authorities in **Uzbekistan** are concerned about

the decreased demand for professionals and lack of student and young professionals' motivation. Appointment is by competition and then approved by cabinet. One of the criteria for full time appointment is that of scientific research which is currently considered to be 'very low' and building stronger links between science and industry. Research as well as teaching be made more attractive by providing facilities for simple tasks, including, it appears, writing paper) ,etc The report authors see repairing the link between science and industry as an important test of Uzbekistan's higher education policies.

#### ***IV. Higher education and competitiveness***

Higher education is not only valued for producing learned men and women (an elite or meritocracy) but because it teaches broad skills which are valuable, perhaps essential, for the functioning of the contemporary state and modern society. An example is modern electronics, software and its application to communications. To make knowledge useful requires not only good teaching, practical facilities and promising students but mechanisms that transfer such knowledge into practice. The links between higher education and its applications are part of a socially specific process which involves institutions and methods for assigning people, knowledge etc. If under the Soviet system the methods depended on a plan backed by the command economy, the current system is moving to a greater use of the market, the feedback between supply and demand. However the four economies are in the middle of evolving new rules of the game – so that the link between higher education and social and economic demands are in flux because the institutional rules of the game are not yet settled. This section explores how higher education in the CARs is attempting to forge a new set of institutional links with employment (labor market), science and technology (knowledge market) and economic growth. For without a strong institutional base – laws, norms and procedures – the transfer of education to a modernizing society will be difficult and frustrating.

It was suggested in section I that 'competitiveness' was (and is) a common benchmark for the CARs and where higher education plays a key role. The four national economies depend on world commodity prices and trends for their exports, so that reducing costs and improving quality and services are important for opening, maintaining and expanding markets. As transition economies, the CARs face increasing competition for their products and services. International competition then depends on marketing, efficiency and productivity, all linked to applied knowledge and learning and so to higher education. Thus the pattern of the CARs higher education is not only formed by social and resource transitions (the move to mass systems and the introduction of private or quasi-private institutions) but by creating new market based institutions which can, over time, sustain these changes.

This section looks briefly at three areas where higher education has a potential impact - employment and the labor market, research and development and international competitiveness - and where in turn the demands of each, influence higher education. The adjustments between the higher education system and these key areas are increasingly market rather than command or bureaucratic relations. Unlike higher education institutions under the command economy, present day universities, however reluctantly, must take account of employment trends and the demand for different subjects or diplomas or become an anachronism. Understanding the labor market – however difficult - is particularly important for HEIs as they move closer to becoming market organizations. Further, the expansion of enrolment and the increase in the number of graduates present new policy challenges and which require new, qualitative instruments. The second area is the new role of research and development and its place in current tertiary education and government policy. Finally the section examines the CARs international trade position and their potential for future growth. All three dimensions can have a close relationship to tertiary education leading to growth based on productivity and competition.

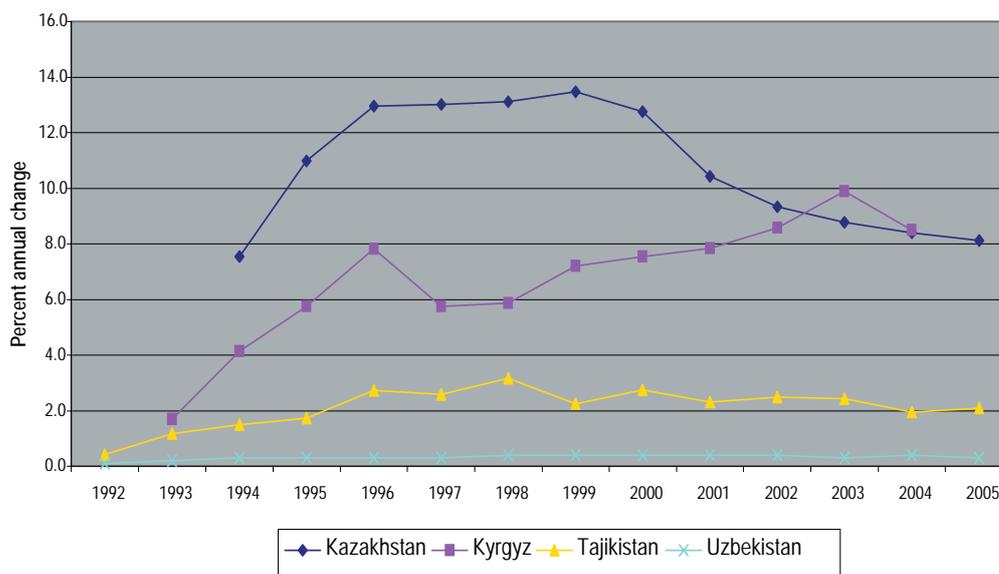
a. Employment and labor market

The CIS labor markets have been characterized by a lack of dynamism, relatively high underemployment, strong sectoral shifts, and growing segmentation by educational level. This section looks at the changing relationship between education and unemployment; the long term shifts in occupations; graduate employment and its wage effects. The picture is mixed

(i) Employment and unemployment

One immediate effect of the “disintegration shock” was the rapid increase in the official unemployment rates for Kazakhstan and the Kyrgyz Republic compared to Tajikistan and Uzbekistan (Figure 13). In Kazakhstan unemployment reached over 12 per cent of the labor force and remained there until the resumption of stronger growth in 2002. The Kyrgyz Republic unemployment rate grew by fits and starts although after 1998 there was a constant upward tendency. Uzbekistan demonstrates its singularity in this and the following table, which shows the total number employed (Figure 14) increasing slowly but constantly from around 7 to 10 m officially employed. In contrast Kazakhstan, a larger economy, shows greater fluctuations and although it should be recalled that as many as an estimated 3m ethnic Russians and Germans left in the years immediately after independence. Uzbekistan’s employment and unemployment stability is surprising. Both Tajikistan and the Kyrgyz Republic maintained their magnitudes of employed.

**Figure 13: CAR: Unemployment rates 1992-2003/05**



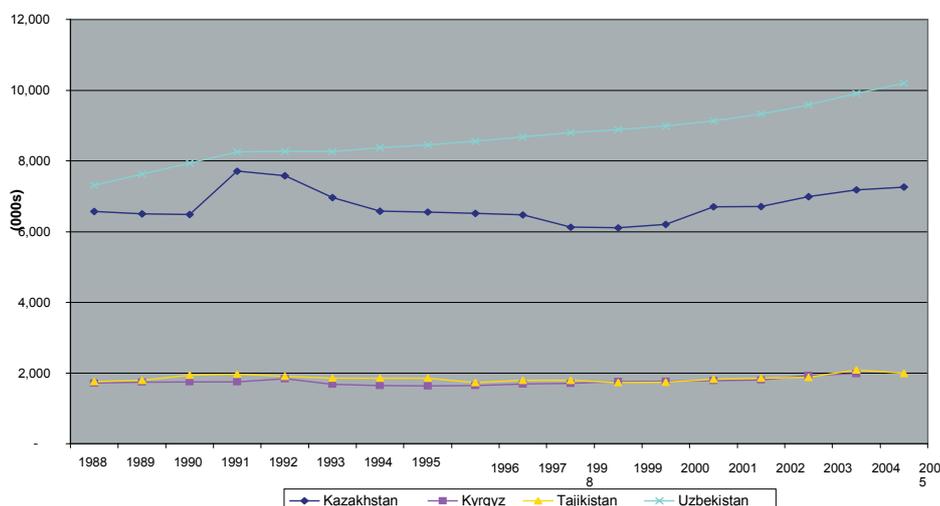
Source: Asian Development Bank

The employment and unemployment data not only shows the broad differences in social policy pursued by the four governments, but unsatisfactory relationship between transition and employment. According to the World Bank’s major employment overview, the principle challenge facing the East European and former Soviet Union economies is that of job creation which depends on the generation of new firms and the destruction of the old, an illustration of ‘creative destruction’<sup>47</sup>. If employment

<sup>47</sup> The World Bank, *Enhancing Job Opportunities: Eastern Europe and the Former Soviet Union*, Washington (2005)

shows stability, then it is likely that this process is muted or not taking place. However the distinction between employment and unemployment offers too little and perhaps misleading information, because the labor market is far more segmented and the internal dynamics more complex.

**Figure 14: Employment 1988-2005 (thousands)**



The segments can be categorized in a number of ways. First, the expanding number of those employed in the informal sector (without official contract or employer paid social security) which show at best an incipient market structure and at worst, a mismatch between regulated supply and demand. Admittedly heroic calculations estimate that 50 percent of workforce in Kazakhstan and 35 percent in the Kyrgyz Republic and Uzbekistan respectively<sup>48</sup> are employed in the informal sector. A recent report puts Uzbekistan’s informal sector at around 29 percent (2003) and which it expects, through government policy, to reduce to 25 percent in 2010<sup>49</sup>. A second category is ‘hidden unemployment’ which the same source estimates as being about 5 percent of those in industry and around 3 percent in transport, communications and construction<sup>50</sup>. The third category is the growing number of the self employed associated in the CIS countries with subsistence agriculture<sup>51</sup>. In summary, the CIS’s “ low open unemployment and high employment rates hide significant problems; delayed enterprise restructuring with persistent overstaffing and especially in low income CIS countries, the dominance of low productivity jobs in the informal sector to earn subsistence income”<sup>52</sup>.

<sup>48</sup> See *Enhancing Job Opportunities* Fig. 2.6 p.94. The figures refer to the informal sector as a percentage of employment 1998/1999.

<sup>49</sup> IMF/ Republic of Uzbekistan, *Interim Poverty Reduction Strategy Paper*, Washington, (2005), p. 55.

<sup>50</sup> “Each quarter the number of employees sent on involuntary leave by employers because of production reasons amounts to around 60, 000 people or 1.2 percent of those employed’p.14.

<sup>51</sup> See *Enhancing Job Opportunities* p. 95

<sup>52</sup> *Enhancing Job Opportunities*, p. 12

### Box 3: Jobs and Education

<p><b><i>Jobs, growth and business constraints</i></b></p> <p>Job creation depends on enterprise creation (including the restructuring of older firms) according to the World Bank's recent report on Eastern Europe and the Former Soviet Union. Private employment has grown because of successful privatizations, firm productivity resulting in competitive output and products, and the formation of new enterprises. New investments depend on a successful investment climate which the WB lists as the result of,</p> <ul style="list-style-type: none"><li>• <i>Macro economic policy setting</i></li><li>• <i>The cost of doing business</i></li><li>• <i>Wage flexibility</i></li><li>• <i>Employment protection legislation</i></li><li>• <i>Social benefits</i></li></ul> <p>and where the CIS countries and particularly the low income CIS countries (which includes the Kyrgyz Republic, Tajikistan, and Uzbekistan) have particular disadvantages. Commenting on the role of business obstacles by region, the report calls attention to the administrative obstacles (licenses, taxes, inefficient regulations) that predominate in the middle income CIS countries (which includes Kazakhstan) compared to the "...the low income CIS countries, (where) the constraints are more basic ranging from unreliable infrastructure to underdeveloped institutions of a market economy", (p.30). So without an improved investment climate, it will be difficult to expand job opportunities other than in particular segments related to the urban service sector. While the start up cost index (p.178) appears relatively low for the CIS countries, the real lesson appears to be that job creation has to go beyond the labor market and include issues of regulation, credit and corruption. The presence or absence of a skilled work does not appear to be a serious disadvantage or substantial advantage at this stage.</p> <p><u>Enhancing Job Opportunities: Eastern Europe and the Former Soviet Union</u>, Washington, (2005)</p>
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Any expansion of the number of new jobs will depend as much on a renewed 'business friendly environment' – that is the slow process of building a small and medium sized sector – as the creation of new industries. The dynamic sectors may not be creating jobs or adding significantly to employment. The experience with Kazakhstan's oil industry partly confirms this view; the sector only employs 50,000 people including those working in the refining sector. The authors of a recent study note that "oil production only expands construction activities and only on a temporary basis"<sup>53</sup> although, of course, it generates sufficient income, which if invested appropriately, can generate new job opportunities. They also point out that possibly as much as 43.5 per cent of households are part of the informal sector<sup>54</sup>.

While unemployment rates tend to be lower for graduates, this does not always appear to be the case. In Kazakhstan, the report states that "unemployment has been increasing among graduates of higher educational institutions since 2002" for which the authors provide two not entirely consistent reasons (a) poor quality of graduates and (b) their high cost such that "the low level of skills is more attractive for employers". Kyrgyzstan shows high unemployment if secondary and higher education levels are combined but when disaggregated graduate unemployment makes up a very small proportion

<sup>53</sup> Najman B., Pomfret R., Raballand G., and Sourdin P. "How are oil revenues distributed in an Oil Economy? The Case of Kazakhstan", School of Economics Working Paper 2005-18, University of Adelaide, (2005), p.10. They note that "... in 2002 the unemployment rate in all producing regions were situated above the national average" .

<sup>54</sup> Informal employment is identified on the basis of household income/expenditure when it is assumed that if expenditure is twice income that cannot be explained by either higher wages or social transfers then it must come from another (informal) source. op.cit. p. 15.

(around 9.8 per cent compared to 80.4 per cent for completed secondary education) reconfirming the value of tertiary education in the marketplace. The Tajikistan unemployment rate is around 8.4 per cent but graduate unemployment rates are only 4.3 a reduction from 7.6 per cent.

Higher education could be an important catalyst for business providing other institutional features are in place.

(ii) Employment Shifts

The four countries – no longer the recipients of federal transfers or planned demand – have seen substantial adjustment to their value added and employment profiles since 1990 (Table 15). This data shows increases in the service sectors in all economies consistent with increasing urbanization and the post Soviet acknowledgement of its economic value. Kazakhstan's agricultural value added dropped dramatically from 34 (1990) to 6.5 (2005) percent and although that for Tajikistan declined from 32.9 (1990) to 24.2 (2005) per cent, it together with the Kyrgyz Republic and Uzbekistan remain important agricultural producers. The manufacturing sectors' proportion of total value added declined in all countries between 2000 to 2005, with the exception of Uzbekistan; this sector has been particularly volatile in Tajikistan but in Kazakhstan has continued to grow, albeit slowly.

**Table 15: Sectoral shifts (Value added), 1990, 2000, 2005**

Shares of Major Sectors in GDP (percent)				Change 1990/2005	Change 1990/2000	Change 2000/2005
	1990	2000	2005			
<b>Kazakhstan</b>						
Agriculture	34.0	8.1	6.5	-27.5	-25.9	-1.6
Industry, of which:	32.6	37.8	37.6	5.1	5.2	-0.1
Manufacturing	20.5	32.6	30.2	9.7	12.1	-2.4
Services	33.4	54.1	55.9	22.5	20.7	1.8
<b>Kyrgyz Republic</b>						
Agriculture	33.6	36.7	34.1	0.6	3.2	-2.6
Industry, of which:	35.0	31.4	20.9	-14.1	-3.6	-10.5
Manufacturing	27.1	19.5	14.1	-13.0	-7.6	-5.4
Services	31.4	31.9	45.0	13.6	0.4	13.1
<b>Tajikistan</b>						
Agriculture	32.9	27.4	24.2	-8.6	-5.5	-3.2
Industry, of which:	37.0	38.5	25.9	-11.0	1.5	-12.6
Manufacturing	24.7	36.2	26.6	1.9	11.5	-9.6
Services	30.1	34.1	49.8	19.7	3.9	15.7
<b>Uzbekistan</b>						
Agriculture	32.9	34.4	28.1	-4.8	1.5	-6.3
Industry, of which:	33.2	23.1	28.7	-4.5	-10.1	5.6
Manufacturing	22.8	14.2	20.7	-2.1	-8.6	6.5
Services	33.5	42.5	43.2	9.7	9.0	0.7

Source: Asia Development Bank, Key Indicators, T.12.

Sectoral employment shifts show different and unexpected patterns (Table 16). *First*, while there are no consistent patterns in the employment changes, industrial employment declined in all economies (1990-2005) although the Kyrgyz Republic and to a lesser extent Uzbekistan, showed a

small employment increase (2000-2005), the other two economies a slowdown in job reductions. While it might be expected that the service sector predominated, as in developing countries, it declined in the wealthiest (Kazakhstan) and poorest (Tajikistan) economies. When the service sector is divided into market (trade, finance, communications, transport) services and non market (education, health, government) services, the former has generated more employment, and has also shown itself to be more flexible than non market services in terms of expansion and decline and so, of course, as contributing to competitiveness. *Third*, labor shifted to the agricultural sector (which includes forestry) sector in all economies with the exception of Uzbekistan, surprisingly given its land reform and agricultural promotion policies. The expansion of labor in the primary sector is the result of self employment, confirmation of the inability of the economy to generate formal jobs. The Kyrgyz Republic illustrates the dramatic decline in manufacturing jobs and the shift to agricultural employment. The World Bank notes this could be a temporary phenomenon, but might “represent a more profound and long lasting reversion toward employment patterns more typical of countries with relatively low per capita income”<sup>55</sup>. In general it seems to be acting as a ‘safety net’ for countries which either do not possess them or where unavailable to a specific segment of the population<sup>56</sup>.

**Table 16: GDP Employment by sectors: percentage change**

	(Percent)			Change 1990/2005	Change 1990/2000	Change 2000/2005
	1990	2000	2005			
<b>Kazakhstan</b>						
Agriculture	18.8	31.4	32.2	13.3	12.6	0.7
Industry	21.0	13.9	12.3	-8.7	-7.1	-1.6
Others	60.2	54.7	55.5	-4.6	-5.5	0.9
<b>Kyrgyz*</b>			2004			
Agriculture	32.7	53.1	38.9	6.2	20.3	-14.1
Manufacturing	27.9	10.5	17.6	-10.3	-17.4	7.1
Others	39.4	36.5	43.5	4.1	-2.9	7.0
<b>Tajikistan</b>			2005			
Agriculture	46.4	64.9	69.8	23.3	18.5	4.8
Industry	13.6	9.0	8.8	-4.8	-4.6	-0.2
Others	40.0	26.0	21.5	-18.5	-13.9	-4.5
<b>Uzbekistan</b>			2005			
Agriculture	39.3	34.4	29.1	-10.2	-4.9	-5.3
Industry	15.1	12.7	13.2	-1.9	-2.4	0.5
Others	45.6	52.8	57.7	12.1	7.2	4.8

Source: ADB

<sup>55</sup> World Bank, *Enhancing Job Opportunities*, p. 13.

<sup>56</sup> Raiser M. Schaffer M and Schuchhardt J, “Benchmarking structural change in transition”, *EBRD Working Paper*, 79, (February 2003), p. 36.

#### Box 4: Income, jobs and poverty

##### Measuring Poverty in Eastern Europe and the former Soviet Union

Understanding poverty and income dynamics has been helped by the World Bank's sponsorship of household surveys in almost all the countries that make up Eastern Europe and the former Soviet Union. Surveys are reported for Kazakhstan, (2001, 2002, 2003), the Kyrgyz Republic (2000, 2001, 2002, 2003) Tajikistan, (1999, 2003) and Uzbekistan, (2000, 2002, 2003) in the Bank's recent publication Growth, Poverty and Equality: Eastern Europe and the Former Soviet Union, (2005).

In this report, the absolute poverty or deprivation level is set at \$2.15 per day, rather than that used for developing countries of \$1 per day, because of the cost of 'basic needs' in a cold climate, and the increasing requirements, particularly health, associated with an aging population. Income comparisons are based on year 2000 purchasing power parity rates. A second measure is set at \$4.30 per day to identify those 'vulnerable' to increased poverty because of unemployment and low savings.

The number of deprived (that is living on \$2.15 or less) varies among the CIS countries and even more so among the Central Asian Republics with Kazakhstan (21 per cent) and Uzbekistan (47%) under 50 per cent and the Kyrgyz Republic and Tajikistan with over 70 per cent of their populations classified as deprived. When adding the proportion of vulnerable population, the results are of considerable concern for only 4 per cent of the Kyrgyz Republic and Tajikistan are *non vulnerable*, followed by Uzbekistan's and Kazakhstan's non vulnerable populations at 14% and 34% respectively.

The report, which examines a broad range of countries, shows that poverty has decreased in the CIS countries as a result of high growth, but the authors are not confident that the momentum can be sustained if economies fail to generate employment opportunities.

While there are variations across and within countries, the incidence of poverty tends to increase for,

- Young people,
- Rural dwellers
- The unemployed
- Those with low education levels
- And certain aspects of ethnicity

These are present in the four CARs and are discussed in the body of this introduction.

Source: Growth, Poverty and Inequality - Eastern Europe and the Former Soviet Union, Washington, 2005.

These shifts represent a shakeout of staff and production units while illustrating how quickly the economies have had to adapt to external and domestic markets. The rapidity of change can have serious consequences for laborers and skilled professionals and which has led to demands for practical training and retraining. The employment shakeout will remain an educational and particularly higher education challenge for the long term. As the scope for reallocation narrows – labor and investment move from less profitable sector (s) to newer and more profitable sectors, so growth will depend on intangibles like productivity, greater efficiency, as well as science and technology. Further the skill content of jobs has changed although most of the changes have effected men rather than women. These are inputs which depend on human capital – that is education – as much as industrial or economic re-organization.

(iii) Education and employment

The four CARs are showing increasing wage disparities and these are likely to be the result of (a) job segmentation and (b) increasing advantages that commanded by certain types and levels of education. Both changes are having an impact of equality and poverty. First, the evidence shows increasing wage inequalities are linked to both the transition itself and the speed of market reforms. This process is closely related to,

“ technological progress and structural shifts such as that from the manufacturing sector to the service sector raise the relative demand for and thus wages of, white collar skilled workers”.<sup>57</sup>

Recent revisions to per capita Gini co-efficients show that inequality has not been as extreme as first feared. When using consumption rather than income, Gini inequalities reached their peak 1997/98 for the Kyrgyz Republic and Uzbekistan – the only two more or less continuous series – but in all four cases are today (2003) lower than when at their most unequal (See Table 17). However given current trends it is more than likely that inequalities will grow, not least because as new graduates enter the workforce, the educational premium for those with new skills will increase<sup>58</sup>.

**Table 17: Per capita Gini co-efficients**

	1987/90	1993	1994	1996	1997	1998	1999	2000	2001	2002	2003
<b>Kazakhstan</b>											
Official	0.297		0.33								
Consumption	0.257	0.327		0.353					0.346	0.33	0.318
<b>Kyrgyz Rep</b>											
Official	0.308	0.353			0.47	0.411	0.399	0.41	0.377	0.382	0.342
Consumption	0.260	0.537		0.523	0.405	0.360	0.346	0.299	0.290	0.292	0.276
<b>Tajikistan</b>											
Official	0.334						0.470				
Consumption							0.289				0.327
<b>Uzbekistan</b>											
Official	0.351		0.330								
Consumption	0.250	0.333				0.453			0.355	0.326	0.354

Source: Mitra & Yemtsov see footnote 56

Second, “unemployment rates in transition economies are particularly high for less educated workers”<sup>59</sup> and this leads to the cycle of greater poverty and marginality. In a market economy it is to be expected that the better educated are better protected from poverty and/or vulnerability. This is a useful test of education’s current value to populations without effective safety nets.

With sectoral adjustments together with recession, inflation, currency muddles and transition policies, it is not surprising that poverty -measured by national or international lines - increased in all

<sup>57</sup> Also according to the same report, in the CIS countries “..the gap between workers at the bottom of the wage distribution and those at the top have become dramatic” Enhancing Job Opportunities, p.89. As above n.56, p.92.

<sup>58</sup> Mitra P. & Yemtsov R. “Increasing inequality in Transition Economies; is there more to come?”, Research Working Paper, 4007, World Bank, Washington (2006). Their answer is yes, without strong policy measures, and identify the drivers of inequality as being more than the education premium to include the following processes; (i) wage decompression and the growth of the private sector; (ii) restructuring and unemployment; (iii) fiscal adjustments; (iv) price liberalization, inflation and arrears; (v) asset transfer and the growth of property income and (vi) technological change, increased mobility and globalization. (See page 11).

<sup>59</sup> Enhancing Job Opportunities, p. 12

the CARs. Initial calculations that compare 1990 and 2003, showed the proportion of people living on or under \$2.00 per day had increased in all countries with the exception of Kazakhstan (see Table 18). During these thirteen years, poverty increased by twenty (Kyrgyz Republic), thirty (Tajikistan) and as much as fifty per cent (Uzbekistan). By 2003 Tajikistan and Uzbekistan were registering poverty increases at on or under \$1 per day, a level of poverty absent in 1990.

**Table 18: Poverty rates**

Source	WBDI		ADB		WB - Household Surveys									
	GNI per capita/PPP		1990	2003	1999		2000		2001		2002		2003	
P.D rate (US )	1990	2003	\$2	\$2	\$2.15	\$4.30	\$2.15	\$4.30	\$2.15	\$4.30	\$2.15	\$4.30	\$2.15	\$4.30
Kazakhstan	6,380	6,170	11.7	3.7					31	71	26	73	21	66
Kyrgyz Republic	3,690	1,660	0	22			78	97	74	97	73	97	70	96
Tajikistan		1,040	3.3	34.4	91	100							74	96
Uzbekistan	2,520	1,720	10.6	63.1			54	89			42	86	47	86
Russian Federation	10,100	8,920			21	59	17	54	11	47	9	41		

Source: Asian Development Bank, World Bank, *Growth Poverty and Inequality*, (2005)

In the mid-1990s the World Bank sponsored a series of household surveys which has led to a substantial revision of poverty levels. Kazakhstan continues to be the country with the lowest degree of deprivation, followed by Uzbekistan, Tajikistan and the Kyrgyz Republic although it should be noted that deprivation fell in all countries, even if by only a few percentage points. Unfortunately for the vulnerable population (less than US\$4.15 per day) their initial position has changed little in the four CARs. Vulnerability fell by five percent in Kazakhstan over three years; Uzbekistan by 3 percent in four years; the Kyrgyz Republic by 1 percent over four years and Tajikistan by four percent over five years.

The relationship between deprivation and education is explored in the two Tables 19a and 19b. The first, (19a) shows the poverty rate by educational level (5), while the second, (19b) shows the distribution of deprived people by educational level. In all four countries poverty rates were less for those with tertiary education than other educational levels. For example, in Kazakhstan (2003) 7 percent of those with tertiary education lived on less than \$2.15 per day, while 19 percent of those with no education or unfinished primary had to do so. The figures for the other countries are Kyrgyz Republic 41 and 92 percent; Tajikistan 50 and 75 percent and Uzbekistan, 24 and 48 percent, (tertiary/unfinished primary). Moreover, *ceteris paribus*, it would be expected that poverty rates among those with tertiary education declined more rapidly than other educational levels<sup>60</sup>. This is the case for Tajikistan, (-29), and the Kyrgyz Republic (-15) but not for Kazakhstan (-6) and Uzbekistan (-6) where other sectors show greater poverty (deprivation) reduction.

The second table (19b) shows the educational structure of those living on or under the \$US 2.15 poverty line (the deprived). As expected, those with tertiary education have not increased as a proportion of the total poor. However there are interesting variations when contrasting the earlier with the later profiles. For, if education is a great protection against poverty because of the skills engendered, then over time, the more educated should make up a smaller proportion and the less educated a greater proportion of the poor/deprived. The data shows a trend but no overwhelming

<sup>60</sup> The exercise uses the greatest number of years for which there is information by country, which are unfortunately inconsistent.

pattern, with for example secondary/special education not tertiary education being reduced by 4 points (2000 to 2003) in the Kyrgyz Republic and 8 points in Tajikistan (between 1999 and 2003). The least educated make a smaller proportion of the poor in all countries with the exception of Kazakhstan.

**Table 19: Poverty and Education**

Poverty Rate by Education (a)						Structure of Poverty by Education (b)				
Poverty indices	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
Percent receiving US\$2.15 per day or less						Percent receiving US\$2.15 per day or less				
<b>Kazakhstan</b>										
None/Unfinished primary			25	23	19			7	8	7
Primary/basic			32	27	22			15	17	16
Secondary/Gen			36	31	26			43	43	45
Secondary/Special			24	19	14			29	27	26
Tertiary			13	9	7			7	5	5
<b>Kyrgyz Republic</b>										
None/Unfinished primary		80	67	66	92		2	1	2	1
Primary/basic		75	71	72	65		13	14	15	16
Secondary/Gen		80	75	74	74		54	52	56	56
Secondary/Special		69	67	62	57		22	24	18	18
Tertiary		56	49	48	41		9	9	10	9
<b>Tajikistan</b>										
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
None/Unfinished primary	91				75	13				7
Primary/basic	91				76	18				20
Secondary/Gen	91				75	46				58
Secondary/Special	88				63	17				9
Tertiary	79				50	6				6
<b>Uzbekistan</b>										
None/Unfinished primary		57		46	48		5		4	3
Primary/basic		51		40	44		16		16	15
Secondary/Gen		58		45	52		57		56	59
Secondary/Special		43		33	37		16		19	18
Tertiary		30		20	24		5		5	5
<b>Russian Federation</b>										
None/Unfinished primary										
Primary/basic	17	14		7		6	6		5	
Secondary/Gen	19	15		8		38	40		46	
Secondary/Special	15	12		6		40	40		38	
Tertiary	10	7		3		16	14		12	

Source: W.B. Growth, Poverty & Inequality, Various appendices

In summary, while deprivation at this stage of the transition is slowly being reduced, the vulnerable population continues to be greater than expected even in economies such as Kazakhstan (2003). Whereas the number of deprived with tertiary education is smaller than other educational stata and has declined with growth, the total number of deprived with higher education remains above 20 percent in Uzbekistan and above 40 percent (2003) for the Kyrgyz Republic and Tajikistan. Either for market or policy reasons, higher education does not yet appear to command an income premium high enough to move its holders out of deprivation that is earning more than US\$2.15 per day. This seems to indicate that the role of education is changing as part of the transition and sectoral adjustment and has greater potential in Kazakhstan.

(iv) Graduate education and the market

Whatever the obstacles in terms of entering a university and completing a degree, there is a widespread belief that a university credential or degree offers greater security and employment appeal than the technical vocational diplomas. Indeed, in common with many countries, young people are rejecting technical diplomas and industry training for professional degrees (medicine, law) and business and the social sciences. These subjects are demand driven and HEIs often have to scramble to meet market demand.

The total number of university graduates entering the labor market as graduates has been growing in all countries. Information found in the Reports show that between 2000/2001 and 2004/2005 the total number of graduates increased by ninety percent (Kazakhstan), seventy per cent (Uzbekistan and the Kyrgyz Republic) with Tajikistan as almost static. The Table 20 shows the increase in graduates as a percentage of the total enrolled study body and as an estimated proportion of the labor market. For the former, graduates to enrolled students, values range from 12 to 22 across countries and the proportion student enrolment increases suggesting increased pressure and efficiency.

**Table 20: HEI graduates as percent of enrolment and annual employment differences**

	1998/99	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
<b>Kazakhstan</b>								
Grads (000s)			64.6	73.8	87.1	102.7	123.9	154.2
Enrolment %			14.7	14.3	14.6	15.6	16.6	19.9
Emp. diff %			13.0	738.0	31.6	52.1	156.8	
<b>Kyrgyz</b>								
Grads(000s)			15.1	17.9	22.5	26.3		
Enrolment %			9.5	9.5	10.9	13.2		
Emp diff %			77.3	91.8	18.2	43.8		
<b>Tajikistan</b>								
Grads (000s)	11.8	12.1	13.6	12.0	11.6	13.4	14.4	
Enrolment %	15.6	15.3	17.5	14.3	12.0	12.5	12.2	
Emp diff %	-20.0	151.3	16.2	42.9	41.4	6.6	-15.8	
<b>Uzbekistan</b>								
Grads (000s)	35.65	35.5	33.8	36.9	46.3	51.5	59.6	61.5
Enrolment %	22.5	21.0	18.4	17.7	20.2	20.4	22.6	21.6
Emp diff %	41.9	36.2	22.1	18.7	18.1	16.0	20.9	

Source: Reports, ADB

An earlier version of the Uzbekistan report records, perhaps with some frustration, that “the labor market is largely spontaneous and unbalanced” and does not allow for appropriate planning. Yet planning certainties must now be replaced by flexible market institutions able to bridge a gap between graduate supply and enterprise demands. HEIs much learn to liaise better with firms, employers and past students to build up a picture of current market conditions.

The Reports illustrate the changing attitudes of parents and students to HEIs. Their views and expectations will influence how the market functions and so the new institutions which form the bridge between HEIs and consumers. Some of the emerging characteristics of the new higher education market are likely to be:

- *Pragmatic knowledge*; growing demands for more pragmatic and job related knowledge which is altering the degree structure of universities. In Kazakhstan, there is increasing popularity of

the humanities and social sciences, economics and the law in contrast to engineering and the sciences. In Tajikistan there is a growing demand for studies connected to tourism, the power industry and agriculture; in Uzbekistan the popular subjects are law, healthcare and economics. An interest in these subject areas is often a result of economic crisis with the decreased demand for conventional university subjects taken within a five year professional structure. Tajikistan, for example, shows a decline in the areas of transport and communications where graduate employment was buffeted by overall employment declines and it is thought that the market will only recover when economic growth is restored. Around 65 per cent are in demand, but “insignificant” compared to 1991. While parallel to the market structure, the new pragmatism can be strongly influenced by a government’s willingness to provide scholarships or state subsidies for particular subject areas such as education.

- *Flexibility*; the ability of HEIs to identify and respond to new demands such as information technology (IT) and management skills. This characteristic requires greater adaptability from universities and better information about the labor market. An example is provided from information sciences where the current professional structure of higher education may not be flexible enough to meet urgent and current needs. In Kazakhstan, after the huge migration of professionals to Russia and other countries, companies were willing to employ diploma students and today skilled second or third year students are being recruited by companies who need IT and management professionals. The report authors see this as “the devaluation of higher education as such” but it is equally an illustration of the lack of effective interaction between rather rigid institutions and firms, as they also point out. The Kyrgyz report states that the “rigid state supervising function over HE colleges impede the prompt response in delivery of educational services by HE colleges to the labor markets’ changing demands”. A number of industry or sector wide planning boards have been proposed in Uzbekistan to estimate demand, needs etc. with the possibility of contractual agreements with the firms and agencies involved.
- *Outreach*. Current HEI outreach practice often clashes with the new pragmatism as it has yet to switch from the government to the student (or his or her family) as consumer. Outreach is too often confused with placements and then placements which are government rather than HEI defined. In Kyrgyz, the HEIs no longer place graduates in firms or enterprises except for teaching. The lack of teachers is becoming an acute problem and it is for this reason that the state supports a “Young Teachers’ Deposit program” and the influence of this program on other socially necessary professions. Tajikistan attempted a graduate assignment plan but it seems to have been a failure because 65 percent of the graduates did not turn up. Uzbekistan has job placement program for publicly supported graduates for three year period.
- *Information and co-operation*; the key to higher education’s greater public relevance is better communication between HEIs and Ministries, and HEIs and employers. The latter complain they have not been consulted about changing classifications, nomenclatures and the shift from five to three year degrees following the Bologna recommendations. In addition, while it is the Ministry of Education or equivalent that might recommend such changes, it is the HEI themselves that must implement them and they may not be party to the decisions. Thus there is a real need for great information and discussion about the content of new degrees between employers, their associations, the government and HEIs in the Kyrgyz Republic, for example, the new three or four year Bachelors is considered by employers as “incomplete higher education”. In Tajikistan there is “no mechanism for information exchange between higher educational institutions and the labor market”. And in Uzbekistan, it is noticeable how it is the Ministry that is expected to take the lead.

The new institutional structure of a market based higher education would hopefully come to terms with these issues. However, at present, whatever the quality of institutional and market relations,

there is every reason to expect, as Mishra and Sementov point out, that educational wage premiums are likely to become more important as a cause of wage disparities<sup>61</sup>. Early analysis of household survey data showed that higher household expenditures are most closely associated with the head of household having advanced education (as well as other dimensions such as living in a capital city). Most important, “college educated individuals did relatively well while vocational training lost value during the 1990s”<sup>62</sup>. A similar conclusion was reached when two Kazakhstan surveys, (1996 and 2002), were compared and it was shown that the most important determinants for per capita expenditure were the level of human capital, the number of household members and the location of the household<sup>63</sup>. The results for 2002 show that “having a university or *Tecnikum* educated person in the household is associated with 6-7 percent higher per capita household expenditures...” They also found, rather to their surprise, that the education premium had diminished when compared to 1996. The same authors also found that the estimated returns in the Kyrgyz Republic were far higher, around 25 per cent. The results show that there was “no return to secondary education without additional training. The large returns to college education provide an incentive for children to complete secondary school and advance to post secondary training”<sup>64</sup>.

(v) Short summary

The labor markets of the four Central Asian countries continue their long process of adjustment to the post transition economies. The transition has altered the relationship between schooling, training and employment, because decisions about each – whether to go to school, and for how long (a particularly important question for rural families and girls), how to select training and subsequent employment (rather than it being allocated) – are now being organized through rules (such as fees) that give greater primacy to the market. The only exceptions would appear to be for priority professions, discussed above. Further the labor market has performed differently in each country; a distinction can be drawn between Kazakhstan, which has commenced a different and stronger growth path based on hydrocarbons, and the other economies. Even here there are differences as the employment and unemployment data shows, with Uzbekistan, in contrast to Kyrgyzstan and Tajikistan, showing low unemployment and stable employment growth.

b. Research and Development

During the final period of the Soviet Union, research and development were synonymous with science and technology. Social science and policy research were undeveloped and there was only a very functional relationship between teaching and research, often sponsored through specific ministries. Finding a way to harness the undoubted skills of scientists and the Academies to national goals will require market based bridging or facilitating institutions and a different attitude toward the potential role of science to productivity. As the CARs international trade expands, it will not only find more opportunities but technologies that will serve incipient industries. The task of scientists and engineers will be as much about technology transfer as creating their own experimental culture and will in the relatively short run alter the role and functions of science in the economy<sup>65</sup>.

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<sup>61</sup> See article cited above n.58.

<sup>62</sup> Pomfret R., “Economic Diversification of the Newly Independent Central Asian Countries”, International conference Brunei (2001) reporting on previous research, p. 12.

<sup>63</sup> Najman B., Pomfret R., Raballand and Sourdin, (2005) p. 11-13.

<sup>64</sup> See Anderson K.H., Pomfret R., & Usseinova N.S., “Education in Central America during the Transition to the Market Economy”, in Heyneman S. & De Young A.J. The Challenge of Education in Central Asia, Greenwich, Con, (2004), p.145. They add, that “...the cost of post secondary training increased over the transition period so that for many households the net benefit from completing high school and going to college fell” p. 145-146.

<sup>65</sup> One possible model would be the Foundation Chile which has shown itself to be an effective conduit for converting technology transfer products into applied domestic skills.

Universities and technical institutes were one of the three pillars around which Soviet Science and technology was organized, the others being the Academy system and the ministerial research establishments<sup>66</sup>. They were financed by block grants from the central government and to this core financing Academies and universities could receive supplementary funding for military, technology and other applied activities. The Academies however could sign external contracts only up to 25 percent the value of total income; this restriction did not apply to universities, some of which became highly dependent on this alternative source. Neither source of funds survived the end of the Union exacerbating the financial problems of tertiary institutions<sup>67</sup>.

The universities were not, under the Soviet science system, at the center of research but post 1991, with its emphasis on mass tertiary education, the balance between university and academy has altered. In summary this reconfigured balance places a much greater emphasis on research as part of the education process and its contribution to applied technology as it does to pure science and weaponry. However the national role of scientific research cannot be an abstract discussion because applied science is expensive. While the principal discussions in the four countries have been about, (i) the value and cost of research and its overall contribution to national goals, economic growth and competitiveness; and (ii) whether and how research should be integrated into universities, so ending the dual system, the question that overshadows both is (iii) who should pay and how?

First, the external demand for science and technology depends increasingly on the market (private companies) rather than public enterprise, while internal demand is increasingly an issue of education (between higher educational institutes and the Academy). External demand has to be created and requires government support. **Kazakhstan**, the only government with substantial guaranteed long term income, has seen absolute, although not relative, increases in funds. Support for science and technology research was erratic until 2000 but has now become more stable. The main sources are domestic (around 94 percent) with companies increasing their funding from 7.5 per cent to 18.3 per cent (2004). The government has recently helped form a new initiative, the Foundation of Science, which provides grants allocated by competition. Although 60 per cent of R&D is carried out by scientific research institutes and 20 per cent by HEIs, the new Regional University Complexes (RUC) are an attempt to harness university expertise to local business. The government's new policy statement is set out in the Law, "On Innovative Activities", which deals with funding and training and has been followed by the *Strategy of Industrial and Innovative Development, 2003-2015* which in turn is part of Kazakhstan's economic development program for competition and globalization. **Uzbekistan**, the most populous country and one which undertook important research in the USSR, has reorganized its programs as competitive funds through the Ministry of Education (MTSVE) and funding through the National Scientific and Technical Program, (NSTP) and National Program for Fundamental Research (NPF) and the National Innovation Program of the Science and Technology Center as competitive funds. The Center has a US\$5m budget and grants to universities are made through the MTSVE; these institutions are also responsible for research contracts for about US\$1.9m and received extra budgetary funds in 2005 for US\$430 thousand and \$2.4m (2003-2005). Uzbekistan supports the integration of university research centers into the Academy's Scientific Research Institute. The other countries, the Kyrgyz Republic and Tajikistan, are without, as yet, clear policies not least because of lack of funding. For example, the **Kyrgyz Republic's** support for science decline from 0.7 per cent of GDP in (1990) to 0.2 per cent. (2005) and in consequence does not appear to support university research, although the

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<sup>66</sup> The USSR Academy of Sciences headed the academy system which included specialized institutes and the academies of the republics and policy co-ordination was the responsibility of the State Committee on Science and Technology (GKNT). Loren Graham describes them as three pyramids which gives some indication of their independent power and the difficulty of combining pure and applied research even in a command economy, see his *Science in Russia and the Soviet Union: a short history*, Cambridge, (1993), p. 180-196.

<sup>67</sup> In the 1980s some institutions and academies formed joint ventures with private foreign companies to market their skills and compensate for the already declining state revenue. In the 1990s some scientists and academics created private companies for the same purpose.

integration of physics into the Kyrgyz National University (KNU) was considered to be successful. There is greater use of annual competition and review in association with the Finance Ministry; in general activities are conditioned by what can be afforded. **Tajikistan's** R&D budget constitutes no more than 0.13 per cent of GDP (2005) of which a proportion is distributed by the Ministry of Education as supplementary funds to universities. This amounts to US\$ 70,790 in 2005 for 53 subjects. This lack of resources strengthens the system's unwillingness to make rapid changes and to shift the research balance further in favor of universities.

Second, the demand for overall scientific or technical research may not be as important at this development stage as building up the social sciences, particularly economics, and the policy sciences such as management. In **Kazakhstan** universities, for example, undertake only 20 per cent of national scientific research but 70 percent of all research. In the **Kyrgyz Republic** universities only carry out 7 per cent of research, with 70 per cent of funds allocated to the Academy of Science which then distributes to its own members. Universities have to apply directly to Ministry for permission to apply for Academy funds while the remaining 20-25 per cent is subject to competition, run by the Ministry's Department of Science. Again in **Uzbekistan** well over 60 per cent of scientists are now working at universities, which run 43 per cent of 144 post graduate courses, and train 917 research students. Staff is expected to spend 200-400 hours undertaking research. In **Tajikistan**, scientific research activities are shared with the Academy but the Report admits that division between universities and Academy is awkward and 'slows down' science, which could be helped by greater competition. The government assumes that academic staff will spend around 20 per cent of their time in research.

For the foreseeable future, broad social and domestic demand for science and technology products may be as strong as the search for scientific knowledge. So, there are strong reasons, given resource scarcity, to reduce costs and merge scientific and technological research capacity into universities. The **Kyrgyz Republic** is not the only country to see that merging the Academy with universities will improve university infrastructure. The **Tajikistan** Report comments that "Unfortunately at the present, the economy of the Republic undergoes difficult times; the industry virtually stands idle and therefore the scientific relations between tertiary institutions and industry, except for the aluminum plant have been lost". The demand for R&D is changing and policy makers expect external funds, linked to foreign direct investment (FDI), to grow. Today Uzbekistan's universities receive funds in Euros and dollars for around \$5m while a number of Kazakhstan's universities receive off budget funds that include international clients.

The last ten years have shown that research can continue to play a role when it is able to respond to markets as part of education and local business needs. This modest view of research and development is at odds with those who see science and technology as a valuable platform for innovation and future economic growth. However commercial innovation does not depend on science and technology alone – however good – but on a range of supporting and interacting activities which together (and with difficulty) builds the innovation system. A recent World Bank examination of commercial innovation in transition economies concludes that policy will only be effective if it is adequately supported in four multidimensional prerequisites that are economic incentives, higher education, effective innovation and information infrastructure. The combined index of the four dimensions (KEI score) allow the classification of countries into three groups. The four CARs are placed in Group I, (see Table 21) with the recommendation these countries should not consider extensive public commercial innovation programs<sup>68</sup>. The indices show that the CARs are well above the world average with the educational dimension but well below in the other three dimensions.

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<sup>68</sup> "Countries with a KEI score below 4 should likely, for the time being, concentrate on reforming other areas of their NIS, and only after significant advances have been made in that sphere should they consider public support programs to foster commercial innovation", Goldberg I. et al, Public Financial Support for Commercial Innovation, Regional Working Paper Series, January 2006, p. 48.

However, it must be acknowledged that the indicators are not sophisticated enough to be a foundation for policy (see Table 22).

**Table 21: Knowledge Economy Indicators**

	<b>KEI</b>	<b>Economic Incentives</b>	<b>Innovation</b>	<b>Education</b>	<b>Information Infrastructure</b>
Tajikistan	2.18	1.71	1.22	5.36	.43
Uzbekistan	3.26	1.40	3.77	5.64	2.23
Kyrgyz R	3.53	3.09	1.79	6.53	2.70
Kazakhstan	3.92	1.47	4.07	7.11	3.05
World	5.63	4.80	7.15	4.26	6.33
Russia	6.05	3.01	7.47	7.85	5.88

Source: Goldberg I. et al, Public Financial Support for Commercial Innovation, Europe and Central Asia, Chief Economist's Regional Working Paper Series Vol.1, no 1, January 2006

**Table 22: Knowledge Economy Index**

<b>Pillar</b>	<b>Components</b>
Economic Incentive and Institutional Regime	Tariff and non tariff barriers Regulatory quality Rule of Law
Education and human resources	Adult literacy rate [15 and above] Secondary enrollment Tertiary enrollment
Innovation system	Researchers, R&D, per million population Patent applications granted by the USPTO per million population Scientific and technical journal articles per million population
Information infrastructure	Telephone per 1000 persons [mainline and mobile] Computers per 1000 persons Internet users per 1,000 persons

Source: as above.

Research and development is a multi-dimensional activity of which education is a component and that on its own is unlikely to create a dynamic toward applied science technology and products.

c. Competitiveness and the longer term

The challenge that faces the three relatively poor CAR landlocked economies – the Kyrgyz Republic, Tajikistan and Uzbekistan – is to increase their competitiveness by some specialization, service or set of products. In contrast, of course, oil and hydrocarbons will drive Kazakhstan economy well into the middle of the present century. Competitiveness will require relatively open economic policies, stronger trade and service links, a renewed commitment to regionalism and most important of all a substantial improvement in the human capital and its organization. Human capital improvements are synonymous with education, while a new educational order is likely to be based on meritocracy. One test of human capital is its ability to compete internationally and its contribution to international trade and long term growth.

(i) Current growth & outlook

The four CARs showed a marked contrast between their first decade 1990-2000, and the first half of the second, 2000-05 with growth being positive and likely to continue at different rates to 2008. The ADB sees the continuation of regional growth because of the oil sector (Azerbaijan and Kazakhstan) together with an increase in external remittances which made up around 14 per cent and 12.5 percent of Tajikistan's and the Kyrgyz Republic's GDP respectively<sup>69</sup>. The recent Asian Development Outlook Update believes, against the skepticism of other economists, that oil growth "...continues to have spillover effects into other parts of the economy by spurring expansion in activities of enterprises servicing the oil sector and by financing stepped up government expenditures – both current and development"<sup>70</sup>

The fortunes of the non oil exporting economies continue to depend on gold (the Kyrgyz Republic and Uzbekistan), aluminum (Tajikistan) and cotton (Uzbekistan, the Kyrgyz Republic). Their economies depend on world economic conditions and prices – at least the Kyrgyz and Tajikistan have been effected by higher fuel and transport prices. Again according to the ADB, for these two economies "growth will depend on diversification away from their traditional heavy dependence on gold and aluminum exports respectively; on continued inflows of remittances; and on attracting FDI"<sup>71</sup>

There have been a number of economic explanations which attempt to account for the resumption of growth after 1996/1998 (see Table 3 above) and which have relevance today. They are:

- the process of catch up that follows severe readjustments as current existing capacity is increasingly put into use;
- increasing productivity which result from the reallocation of resources among agriculture, industry and service sectors to improve efficiency<sup>72</sup>.
- the emergence of exports and investment as the principal drivers of growth, replacing domestic consumption which supported first phase growth<sup>73</sup>.
- the increasing impact of the market reform process which in those economies where it has when intensively applied, has diffused across economic sectors and positively influenced future growth. A recent analysis distinguishes initial and second phase reforms noting that "there is a strong positive link between the advance of transition in one year and growth in subsequent years"<sup>74</sup>. Most studies use the European Bank for Reconstruction and Development (EBRD) transition index (see above) consisting of eight or fourteen dimensions.

While it is likely that all played some part, only Kazakhstan shows any increase in output per employed person between 1995 and 2005 (own calculations) while the other three CARs actually saw output decline. Again, although there has been some improvement in capital output ratios and the residual (TFP), this does not appear to have been sustained. Total factor productivity (TFP) – often taken as an indicator of efficiency – appears to have improved since 1998, but any increase in manufacturing is limited to raw materials and simple processing<sup>75</sup>.

<sup>69</sup> See Fig.2.2, Migration and Remittances: Eastern Europe and the Former Soviet Union, World Bank, (2006) p.59.

<sup>70</sup> ADB Development Output Update, 2006 p. 24

<sup>71</sup> As above, p. 26.

<sup>72</sup> See Raiser M., Schaffer M & Schuchhardt J, "Benchmarking Structural Change in Transition", EBRD Working Paper, 79, (February 2003)

<sup>73</sup> Loukoianova E. & Unigovskaya A. "Analysis of recent growth in Low Income CIS countries". IMF Working Paper, (WP/04/151), August 2004.

<sup>74</sup> Falcetti E., Lysenko T. & Sanfrey P., "Reform and Growth in Transition: re-examining the evidence", EBRD Working Paper, 90, (March 2005).

<sup>75</sup> Loukoianova E. & Unigovskaya A., "Analysis of Growth in Low Income CIS Countries", IMF Working Paper, August 2004. "Industrial growth in the CIS-7 countries still depends on the production of raw materials and the manufacturing of goods with a low degree of processing such as...nonferrous metallurgy in the Kyrgyz Republic, aluminum and cotton in

These ten years were an intense period through which the economies went through considerable readjustments and these structural changes are likely to have had a considerable impact on a general indicator such as labor output per employed person. Dynamic growth is more likely to be found in the external sector.

(ii) International trade

The four countries show diverse export to GDP ratios (1995, 2000, and 2005) (Table 23) and from 1994 and with the exception of Tajikistan relatively stable total value of trade to GDP ratios (Figure 15). However it is clear that the four countries have retained their Soviet product export pattern. As Table 24 shows it is only in the case of Tajikistan that there has been a fall in value of the two leading exports plus manufacturing as a percentage of total exports. Equally important for any diversification strategy is the value of manufacturing exports which have declined as a proportion of total exports in all countries with the exception of Uzbekistan. While partly a statistical illusion, (Kazakhstan's exports have doubled at time when its manufacturing proportion was being halved) expansion has been disappointing for any strategy of diversification.

**Table 23: GDP Growth Rates, 1990-2000, 2000 – 2005 and 2006/2007**

	1990-2000	2000-2005	2006*	2007*
Kazakhstan	-4.6	10.1	9.0**	9.0**
Kyrgyz Republic	-4.1	4.0	5.0	5.5
Tajikistan	-1.7	9.7	8.0	6.0
Uzbekistan	-0.5	5.3	6.2	6.0

Source: World Bank,

\*Asian Development Bank, Asian Development Outlook, 2006 & Update which revised upward by .5 per cent Kazakhstan's expected growth (\*\*).

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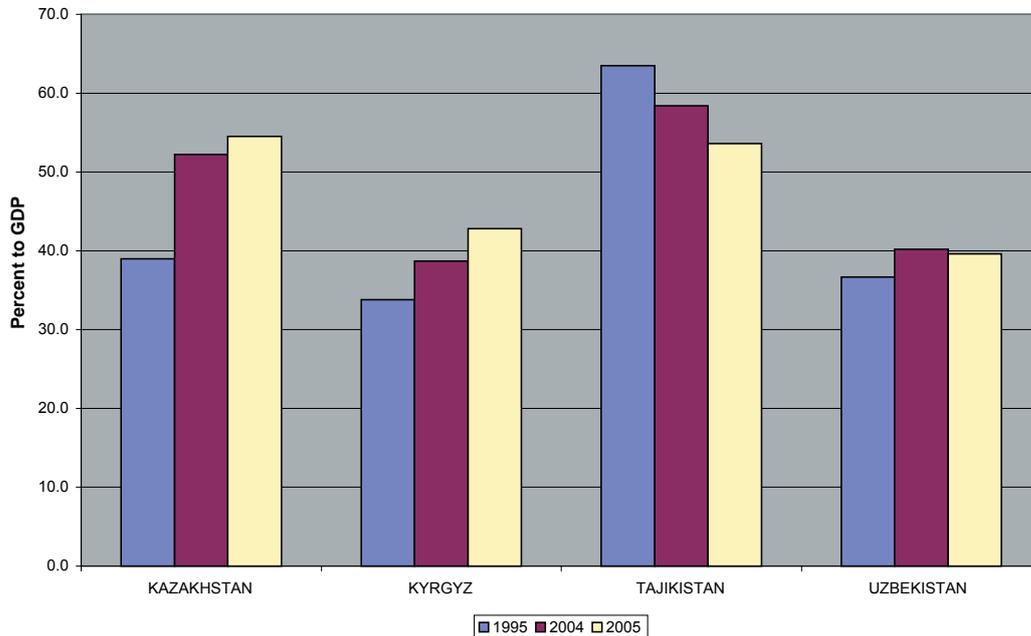
Tajikistan, and gold and cotton in Uzbekistan. New investment is mainly directed into industries associated with production and manufacturing of raw materials and goods with a low degree of processing mainly for exports", p.18.

**Table 24: Structure of Exports and Imports**

EXPORTS	KAZAKHSTAN			KYRGYZ			TAJIKISTAN			UZBEKISTAN		
	1995	2004	2005	1994	2003	2004	1995	2004	2005	1995	2004	2005
Exports of Goods & Services	5,975	22,602	30,552	373	745	942	782	1,211	1,248	3731	4837	5409
Total Exports (US \$m)	5,440	20,603	28,307	340	590	733	779	1,108	1,231	3475	4263	4749
Of which Fuel & Oil	1,306	12,902	19,525									
Ferrous Metals	1,062	2,187	2,325									
Gold				-	260	287				611	1242	1292
Aluminum							395	484	525			
Cotton fiber							212	202	205	1584	876	1033
Manufactures	1,255	1,963	2,644	116	124	208	15	75	83	200	588	738
Electricity				63	19	19						
Subtotal (3)	3,623	17,052	24,494	179	403	514	622	761	813	2395	2706	3063
Percent of exports	66.6	82.8	86.5	52.6	68.3	70.1	79.8	68.7	66.0	68.9	63.5	64.5
Manuf. Percent Exp	23.1	9.5	9.3	34.1	21.0	28.4	1.9	6.8	6.7	5.8	13.8	15.5
Exports Goods & Service/GDP%	39.0	52.2	54.5	33.8	38.7	42.8	63.5	58.4	53.6	36.7	40.2	39.6
<b>IMPORTS</b>												
	<b>1995</b>	<b>2004</b>	<b>2005</b>	<b>1994</b>	<b>2003</b>	<b>2004</b>	<b>1995</b>	<b>2004</b>	<b>2005</b>	<b>1995</b>	<b>2004</b>	<b>2005</b>
Imports (Goods & Services)	6,102	18,844	25,445	498	875	1,135	840	1,451	1,683	3745	3949	4370
Total Imports (US \$m)	5,326	13,818	17,979	462	717	941	838	1,307	1,461	2748	3392	3667
Of which Food	309	666	910	52	78	112	56	106	118	526	261	287
Fuel & Energy	938	1,693	2,062	184	180	256	317	207	231	54	81	104
Capital goods	1,094	5,481	7,609	24	128	163	87	107	120	1386	1753	1770
Subtotal (3)	2,341	7,840	10,581	260	386	531	460	420	469	1966	2095	2161
Percent of imports	38.4	41.6	41.6	52.2	44.1	46.8	54.8	28.9	27.9	52.5	53.1	49.5

Source: WB – Economies at a Glance

**Figure 15: Exports of Goods and Services/GDP (percent)**



The case for improved regional trade integration is repeated by almost all economic observers. As small economies “...they need to promote trade and closely integrate into the international trading system to achieve sustainable economic development”<sup>76</sup>. The same report describes recent trade performance ‘as characterized by (i) rapid expansion of trade, (ii) the continuing dominance of a few primary commodities in exports and (iii) concentration of trade in a small number of countries’<sup>77</sup>. Further as landlocked states, the governments must pay special attention to internal transport and cross border facilities. These circumstances also impose additional costs and legal requirements.

A regional rather than national policy will bring considerable rewards and change the long term dynamics of the skill market in all four CARs. However a recent World Bank examination of the factor intensity of CIS exports describes them as almost “frozen in time” and “...not active participants in the evolving modern international division of labor”. They continue that “the existing composition and factor intensity of exports put the future capital growth prospects of the CIS at risk. Skilled-labor-intensive and capital intensive industries tend to pay higher wages and growth of exports in these sectors can lead to expanded production, an increase in economic growth. On the other hand an excessive reliance on exports of natural resource based products that involve little processing – such as in the case of many CIS countries – will not have the same effect on wages<sup>78</sup>”.

One does not have to accept these arguments entirely to see that any move from unskilled to skilled products must involve a more active and effective higher education policy. Further, the

<sup>76</sup> ADB, Central Asia: Increasing Gains from Trade through Regional Co-operation in Trade Policy, Transport and Customs Transit, Manila, (2006).

<sup>77</sup> As above, Chapter 2, p. 11 to 24.

<sup>78</sup> World Bank, From Disintegration to Reintegration. Eastern Europe and the Former Soviet Union in International Trade, (2006) p.86-87.

same report call attention to product networks which require, apart from a strong FDI platform, both a communications infrastructure and informatics skills. The recent examination of obstacles to business shows that it is the general conditions of doing business that require improvement. Skilled manpower is not an issue (see Table 25)

**Table 25: Obstacles to Business Operation and Growth: Skills of available workers**

		More		Less	
		Subtotal	Rank	Subtotal	Rank
A	CEE, EU Member countries	8	1	10	
B	EU Accession countries	9		9	2
C	Southeastern Europe	7		11	11
D	Middle income CIS	9	5	9	
E	Low income CIS	11		7	3

Source: *Enhancing Job Opportunities; Eastern Europe and the Former Soviet Union*, Washington, (2005), pages 31-33

(iii) Long term competitiveness

The two most common arguments to promote non-commodity growth are, first the importance of product diversification and second, renewed support for small and medium sized companies to create employment and diffuse modern skills. These economic development policies can only be long term and must face the uncomfortable possibility that

“the patterns of industrialization may change systematically depending on the date of take-off and the distance to the technological leader of the world. ... Thus as industrialization is no longer available as a major outlet for surplus rural labor, the focus of policies might shift toward creating the conditions in services<sup>79</sup>”

In their discussion of Central Asia to 2015, Malcolm Dowling and Ganeshan Wignaraja produce three scenarios, Business as Usual, (*BAU*), Closing the Gap (*CG*) and *Falling Behind* (*FB*). The difference between them is based on reform, the competitiveness of the industrial sector and regional co-operation. The first, *BAU*, sees “a moderate policy reform agenda, relative lack of competitiveness strategy for the industrial sector and intermittent regional cooperation”; in *CG*, there is a strong commitment to “implement further policy reforms, develop a market friendly competitiveness strategy and pursue the aggressive implementation of regional co-operation initiatives”; and *FB* assumes a “moderate level of internal political instability some backsliding of the policy reform agenda, a more inward-orientation of policies toward industry and limited regional co-operation<sup>80</sup>”. Their results are to be found in Table 26, for GDP growth, GDP per capita, poverty incidence and manufacturing exports per capita. Taking this later indicator, both Tajikistan and Uzbekistan, might be able to quadruple their per capita manufacturing exports by 2015, to levels similar to Kazakhstan today. The same article sets out the results of a Transition Economies Manufacturing Export Competitiveness Index (TEMUCI) for 2003 where Kazakhstan is ranked at 13 out of 23 with a score of .45; Uzbekistan ranked 18 (.23); Tajikistan at 20 (.18) and the Kyrgyz Republic at the 21st position with an average TEMUCI index of .18 also. To get from here to there is the problem and the authors’ analysis of the here and now is trenchant.

<sup>79</sup> Raiser M. Schaffer M and Schuchardt J, “Benchmarking structural change in transition”, *EBRD Working Paper*, 79, (February 2003) p.36

<sup>80</sup> *Central Asia: Mapping Future Prospects to 2015*, *ERD Working Paper*, no.80, April 2006, p.2-3.

“ a nascent private manufacturing sector with little exposure to international markets or technology best practices; underdeveloped banking and financial systems; lack of modern technology and export marketing support institutions; inefficient regional energy market; high transport and transport costs due to landlocked geographical conditions and fragmented transport systems; lack of appropriate legal and regulatory system for a market economy; and variable levels of administrative capacity to design and implement market orientated economic policies<sup>81</sup>”.

Surprisingly there is no direct mention of education and training and yet behind each of these problems is the call for greater skills, knowledge and its applications.

**Table 26: Projections to 2015**

	Kazakhstan	Kyrgyz Republic	Tajikistan	Uzbekistan	All CARs *
Real GDP Annual Growth, (2005-2015) (%)					
Historic (1997-2004)	6.8	5.1	7.4	4.7	
1. Business as Usual	7.1	5.6	6.0	5.2	
2. Closing the Gap	7.5	6.7	7.1	6.3	
3. Falling Behind	6.2	4.3	4.7	4.0	
Manufacturing exports per head (US\$)					
2003	142.1	38.2	39.7	30.7	50.7
1. Business as Usual	266.4	59.4	84.2	89.6	126.2
2. Closing the Gap	295.3	72.4	136.4	154.2	165.6
3. Falling Behind	201	45.4	65.5	55.9	89.5
GDP per capita (average annual, US\$)					
Current (2004)	2,724	432	323	461	889
1. Business as Usual	4,807	739	552	733	1,871
2. Closing the Gap	4,918	829	620	822	1,939
3. Falling Behind	4,387	644	482	645	1,667
Poverty Incidence - Population below National Poverty Lines (%)					
(2000-2003)	27.9	47.6	56.6	27.5	39.9
1. Business as Usual	18.0	30.1	33.2	17.8	25.1
2. Closing the Gap	17.6	20.7	23.7	12.3	20.9
3. Falling Behind	18.8	37.2	43.3	31.8	29.3

Note: CARs – the four countries noted and Azerbaijan and Turkmenistan.

Source: Dowling, M. & Wignaraja G., *Central Asia: Mapping Future Prospects to 2015*, ERD Working Paper, 80, Asian Development Bank, April 2006

#### d. Education and Development

The challenge to education in the Central Asian Republics is to support each of the four nations' competitiveness at a time of expanding world trade and globalization. Further if there is

<sup>81</sup>. *Central Asia: Mapping Future Prospects to 2015*, ERD Working Paper, no.80, April 2006, p.10.

one economic 'fact' about the CARs it is they are trading nations by vocation because of their location, a strategic position that is being enhanced because of their location to China (PRC). However a trading nation, strategically situated, must offer more than frontier markets and itinerant traders but reliable and sophisticated physical and service facilities. These service facilities, to borrow a concept, are examples of "soft" trading power when compared to vehicles, road systems and airlines which are examples of 'hard' service power. Soft service power depends crucially on advanced education and therefore on effective HEIs.

While each country will find its own educational path, there are some common patterns, which emerge from the four studies. First, higher education is conceived as centered on universities and not other types of tertiary education institution. For example, the labor-skill problem for the emerging manufacturing sector may not be solved by university graduates but those from technical institutes with special and advanced diplomas. Recall that two relatively successful economies – Canada and Japan – have expanded their tertiary education enrolment rates principally through technical and other institutions. These tend to be more flexible and less expensive than four or five year university courses.

The second area where each nation will have to set its own priorities is research. It seems unlikely that without substantial cash injections from government or business, research facilities will stabilize and grow. Sustaining a broad research infrastructure is costly; however good universities, in the modern model, without research are a contraction in terms. While there are successful sub systems that have minimum research (like the two year regional/local colleges in the USA), they are part of hierarchy where the leading universities are defined by excellence of which research is an important component. Further, research plays a balancing element to regarding higher education as a money making activity and provides a greater sense of mission than national politicians can offer. The private foundation based university or non profit private university is one way forward assuming different obligations agreed by both parties – the national government and the private university. Moreover these obligations would be quite different from those currently in existence which are rules and regulations about the use of resources, buildings, staff and teaching. Any new science policy would promote problem solving and technology adaptation to become a technology policy. The challenge is make technology transfer more effective.

To encourage this long term social agreement – between the state and the private sector - the government's principal responsibility is to create a friendly environment for non profits in order to encourage their active educational presence in the higher education system. Examples of such an environment are a friendly tax code for philanthropists; laws which protect private teaching and research and knowledge activities; loan systems for students and particularly important, at all levels of education system, greater use and applications of information technology from the humblest class 2room task to sophisticated modeling. The second responsibility, to be shared with the nascent private sector or public enterprise company is that of innovation, from new methods of teaching and learning to advanced research on markets and products. This requires more investment from the government and other national or international resources. Everyone knows that the four CAR countries can produce solid and talented graduates with many valuable skills. Will one of those skills be innovation and initiative? And will there be facilities (credit, offices, telephones, advice) to assist the potential entrepreneur. These activities may be just – possibly more - valuable as conventional course development and teaching.

The reports demonstrate a valuable and legitimate fear that the emerging university system is exacerbating inequality, as increasingly only the better trained, better schooled student can pass the university entrance examination and has the study skills will keep him or her

intellectually solvent. First, while there appears to be little doubt that there has been increasing inequality of opportunities in some CARs, neither the root cause nor its solution lies within the tertiary sector. Poor rural schools are the responsibility of the whole education sector not one component and, of course, it should be added that universities can make a useful contribution to their efficiency in terms of modern communication technology, Second, as noted, there are strong arguments for promoting a broad post secondary education system which is not solely based on the university and Ministry defined courses and regulations. Third, it is unlikely that universities can achieve excellence without political tolerance and liberty.

The future welfare of the CARs will be closely linked to higher education in its broadest sense, either for jobs, knowledge or competitiveness. For these reasons it is important to continue and deepen the research found in these pioneering reports, not least to ensure that these costly decisions are fully debated, and the inevitable trade offs made transparent.

# KAZAKHSTAN

## NATIONAL POLICY REPORT ON HIGHER EDUCATION SECTOR

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### *National Context*

Following the collapse of the Soviet Union, Kazakhstan, as other former USSR republics, had to endure a severe economic crisis that affected all Kazakhstani society, including higher education (HE).

The adjustment of the HE system to new circumstances can be regarded as a series of reform stages:

- a) 1991 - 1994 – identification of priorities of the HE system and creation of regulatory basis;
- b) 1995 - 1998 – modernization of the HE system;
- c) 1999 - 2000 – decentralization of management and funding of the education system, expanding the economic discretion permitted to educational institutions; and
- d) 2001 – present – continued concentration on training quality at both public and private higher education institutions (HEIs).

The initial stage in the reform process was to develop and implement measures adapting the educational system to the new social, economic, and political conditions. That was the most complicated and controversial period.

In spite of the fact that education was a government policy priority the budget funding of education system was significantly reduced; the share of the GDP spent on education decreased from 6 percent in 1990 to 3.5 percent in 2000<sup>82</sup>. The education component of the national budget ranged from 8.1 percent in 1993 and 6.3 percent in 1998 to 4 percent in 1999. Public expenditures on education covered only 55 percent of costs<sup>83</sup>. According to the data, in 1997 KZT 59 billion were allocated to the education system which required KZT 66.1 billion, and in 1998, KZT 52.7 billion was allocated rather than a necessary KZT 75.6 billion<sup>84</sup>.

A key reform component was to establish a legal framework.

The principal laws, by-laws, and regulations governing HE are the following:

- 1992 Law “On Education”;
- 1993 Law “On Higher Education”;
- Law “On Licensing”;
- 1999 Law “On Education”; and
- Legal and regulatory acts of the Ministry of Education and Science (MoES) of the Republic of Kazakhstan RK) (Appendix 1).

The post independence educational reforms have achieved the following:

- The development of a conceptual model of the national HE system;
- HE system rules which can be applied to both public and private educational institutions;

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<sup>82</sup> Report of the Asian Development Bank on the project “Regional Cooperation in the Field of Reform Management in the Educational Sector”. - Almaty., 2001. - p.68

<sup>83</sup> G. Usenova. Funding of Higher Education in the Republic of Kazakhstan and Other Countries / higher School in Kazakhstan. – Almaty, 1999, No. 1 – p.p. 15 - 17.

<sup>84</sup> Materials of the International Conference “Development of Management and Business Education: World Trends and Kazakhstani Opportunities” – Almaty, 2000 – p.p. 23 - 25.

- A uniform legal framework;
- The public component of HE has been reorganized in accordance with the current economic conditions;
- A higher education reorganization plan has been defined;
- Greater integration with the international educational community.
- Transition from free public HE to the system financed by public educational grants.

In spite of significant achievements in reforming Kazakhstan's HE system there are a number of drawbacks and weaknesses:

- The education policy often lacks the bridge between education strategy and implementation mechanisms;
- A system of benchmarks (indicators) to evaluate the efficiency of the system has yet to be developed;
- Access to information about the quality characteristics of HEIs for students, parents, and employers is limited;
- The current monitoring/evaluation system is limited to administrative measures and control.

The following actions are recommended:

- The Academy of Education, named after I. Altynsarin, should conduct regular reviews of the HE system and an evaluation of implemented reforms;
- University faculties, scientists, economists, sociologists, political scientists and educational specialists should be involved in the reform process; drafts of education reform plans should be presented and discussed at national and international conferences and symposia;
- The activities of the National Center of Education Quality Evaluation, the National Accreditation Center, and the National Center of Public Standards for Education and Tests should not be limited to monitoring only, but conduct regular joint analyses and reviews with up to date information about system development;
- To use proposed System Indicators developed by the authors of the Report<sup>85</sup> "To Know in Order to Manage" and
- To make the HE system and its quality characteristics more transparent.

### ***General Characteristics of Higher Education System***

An educational institution that provides higher professional training is called a Higher Educational Institution (HEI). An HEI, irrespective of its agency subordination and type of ownership, conducts its activities in compliance with the following key documents for the education sector -Constitution of the Republic of Kazakhstan; the 1999 Law "On Education" and Resolutions of the Government that regulate the education sector, and other legal and regulatory acts and relevant statutes.

There are public, private, and international educational institutions. HEIs develop their statutes in compliance with the existing laws; a Statute is approved by founders and registered in accordance with the procedure established by law. The following types of HEIs exist in the Republic of Kazakhstan: a university, an academy, an institute and assimilated institutions (such as a conservatoire, a higher school, and a college):

- a) Universities: multi-profile educational organizations, which grant degrees in at least seven professions and conducts fundamental and applied scientific research;
- b) Academies: specialized organizations conducting educational programs of professional higher education, as well as fundamental and applied research; and

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<sup>4</sup> To Know in Order to Manage: Problems of Information Support in the Republic of Kazakhstan, World Bank, USA, 2006.

- c) Institutes (and assimilated high schools): organizations conducting educational programs of professional higher education in one or several specialties.

The total number of HEIs of all types of ownership and agency subordination has increased by 51 since 1996 (total of 176 in 2004/2005). At present, there are 55 public civil and 13 non-civil HEIs in the country, 109 private ones, and 80 branches of HEIs including 5 branches of Russian HEIs. (The National System and Educational Standards of Higher Education in the Republic of Kazakhstan. Table 27)

**Table 27: Network of Higher Educational Institutions in Kazakhstan**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total	125	153	165	166	170	182	173	175	176	176
Of them: public, including:	54	54	51	52	47	60	62	63	68	68
Civil	54	54	51	52	47	49	50	50	55	55
non-civil						11	12	13	13	13
non-public	71	99	111	114	123	122	111	112	108	109

Source: National System and Higher Education Standards of Kazakhstan

Ambiguous dynamics is observed in public HEIs (see Table 28). According to the data, there were 8 universities and only 1 academy in the beginning of 1992 compared with 28 universities and 12 academies by 2000. (The National System of Evaluation of Higher Education Quality, p.10)<sup>86</sup> Currently, as a result of rationalization, the number of public (civil) HEIs has been reduced to 55. Nine universities have national status; 18 regional universities have been established for regional education development; 5 public pedagogical institutes were established in 2004.

**Table 28: Network of Higher Educational Institutions by Types**

Indicators	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Network of public institutions – civil – total	39	40	46	52	72	54	54	51	52	47
Including universities		8	8	7	16	28	30	29	29	28
Academies		1	1	2	3	4	9	11	11	12

Source: National System and Higher Education Standards of Kazakhstan

There were 71 private HEIs in Kazakhstan in the beginning of the academic year 1996/1997 which has increased to 109 by 2004/2005. The non-public sector share in the higher education is now around 62 percent The number of students of non-public HEIs has grown from 59,050 (1997 ) to 344,183 (2004/2005).

Structure of the higher professional education consists of:

- Basic higher education* - four-year *Bachelor Programs*;
- Graduate education - *Master Programs* - two years on the basis of the higher basic education or one year on the basis of the higher specialized education;
- Higher specialized education* - at least four–five years.

<sup>86</sup> The National System of Higher Education Quality Evaluation (Discussion Report) – Almaty, 2002. – p.10.

- d) For certain medical specialties the period is seven years, with an internship as part of the last year of education.
- e) *Post-graduate* education - the highest degree of continuous education system. Duration of post-graduate study is three years for full-time and four years for part-time students or two and three years respectively for those with Master's degree<sup>87</sup> (The National System and Education Standards of Higher Education in the Republic of Kazakhstan, p.23).

In 2004/2005, 400,019 students were enrolled in public HEIs (53 percent of the total number of students attending Kazakhstani HEIs); 344,183 students (46.1 percent) were trained in private HEIs; 0.1 percent - in other HEIs (see Table 29 and 30). The number of students per 10,000 of population was 495.6 and 509.8 during the 2004/2005 and 2005/2006 academic years respectively. (The data about students is provided by the National Statistics Agency of the Republic of Kazakhstan).

**Table 29: Number of Students in Higher Education System (thousands)**

	1999 - 00		2000 - 01		2001 - 02		2002 - 03		2004 - 05	
	thous. people	%								
Total number of students	365.4	100.0	440.7	100.0	514.7	100.0	597.5	100.0	744.2	100.0
Including full-time	226.2	61.9	254.5	63.5	288.2	56.0	300.3	50.3	349.6	47.0
Evening classes	2.8	0.8	2.1	0.48	1.9	0.37	1.8	0.3	2.3	0.3
Distance learning	136.4	37.3	184.1	41.8	224.6	43.6	295.4	49.4	392.2	52.7
Total number of students in private educational institutions	94.4	25.8	26.9	28.8	182.5	35.5	256.0	42.9	344.2	46.3
Including full-time	45.2	12.4	55.6	12.6	79.8	15.5	109.2	18.3	125.9	16.9
Evening classes	1.8	0.5	1.5	0.4	1.5	1.5	1.7	0.3	2.2	0.3
Distance learning	47.4	12.9	69.8	15.8	101.2	19.7	146.1	24.5	183.2	29.1

Source: National System and Higher Education Standards of Kazakhstan

<sup>87</sup> The National System and Education Standards of Higher Education in the Republic of Kazakhstan. Analytical Report. – Moscow, 2006. p. 23.

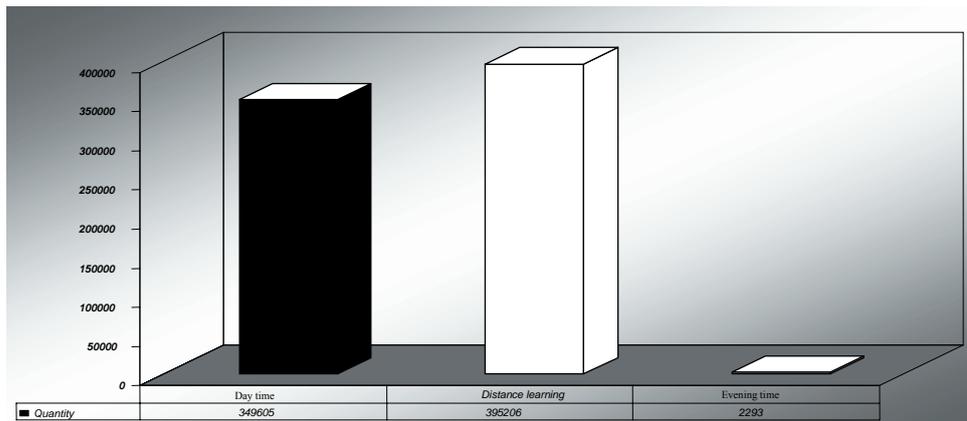
**Table 30: Number of Students in Public Higher Educational Institutions**

Years	Total number of students (people)	Total in full-time departments	Total number of budget-funded students	Full-time budget-funded	Total number, paid services	Full-time, paid services
1995	253,672	163,564	225,060	147,769	28,612	19,795
1996	248,980	168,002	207,198	140,603	41,782	27,399
1997	246,390	168,384	185,877	132,835	60,513	35,549
1998	250,943	171,373	164,226	124,176	86,717	47,197
1999	265,870	177,789	135,828	108,035	130,042	69,754
2000	293,625	189,599	115,751	98,030	177,874	91,569
2001	330,839	207,865	65,525	58,152	222,500	116,014
2002	333,798	185,899	71,709	63,259	244,938	109,990
2003	358,656	195,322	81,285	71,970	264,814	113,649
2004	400,019	222,492	88,008	79,750	301,500	135,357

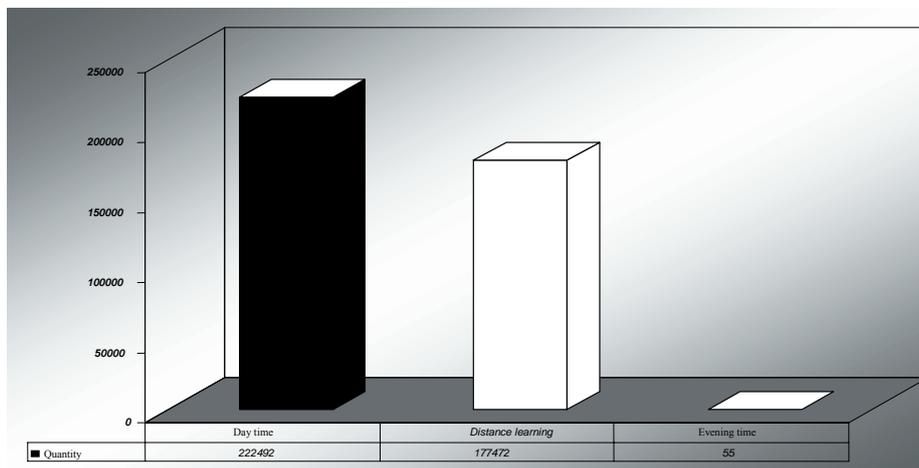
Source: National System and Higher Education Standards of Kazakhstan

The total number of students at both public and private HEIs is 747,104, of which 349,605 (46.8 percent) are full-time, 395,206 (52.9 percent) part-time, and 2,293 (0.3 percent) are evening school students (Figures 16, 17 and 18).

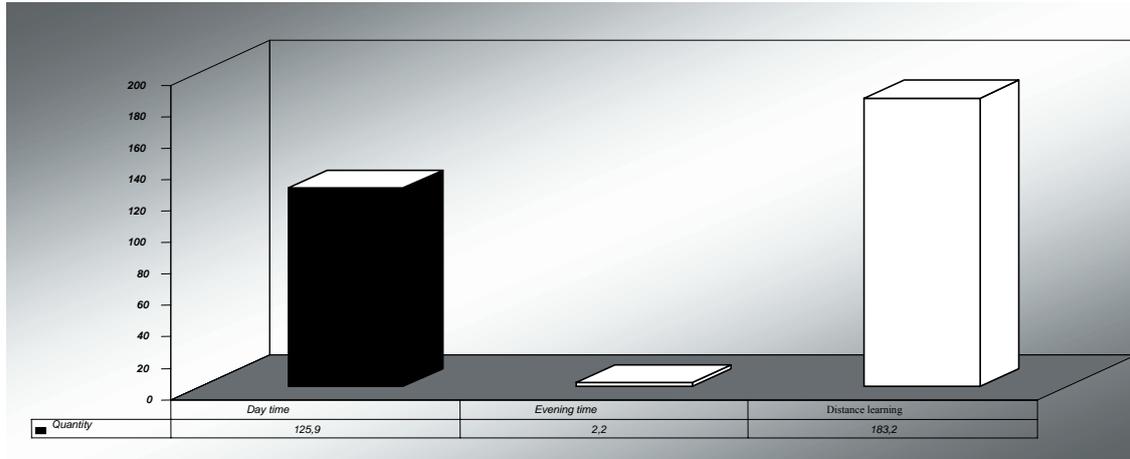
**Figure 16: Distribution by Types of Education**



**Figure 17: Distribution by Types of Education in Public Higher Educational Institutions**



**Figure 18: Distribution by Types of Education in Non-Public Higher Educational Institutions**



**Table 31: Number of Admitted Students**

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
	Total									
Specialists with diplomas	54,677	73,527	90,111	99,535	135,454	142,474	161,194	131,255	12,759	9,886
Bachelor's degree	-	-	-	-	-	9,875	9,160	47,586	205,000	193,018
Master's degree	-	-	-	-	-	3,405	3,774	4,305	3,973	4,066

Bachelors and Masters have been recorded since 2001/02 academic year  
Source: National Statistics Agency of the Republic of Kazakhstan.

**Table 32: Number of Graduates**

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
	Total									
Specialists with diplomas	49,011	50,861	51,770	55,445	64,568	69,958	81,100	92,934	113,692	130,720
Bachelor's degree	-	-	-	-	-	3,041	4,737	6,978	7,091	19,934
Master's degree	-	-	-	-	-	847	1,301	2,769	3,137	3,539

**Table 33: Result for Admitted Students**

	2001/02	2002/03	2003/04	2004/05	2005/06
Number of students funded from other sources of finance within the state order for education	45,867	20,158	13,332	10,809	10,737
Number of students who pay for education	396,558	480,312	541,269	627,542	652,419
Number of students who obtained educational loans	25,140	34,623	41,041	42,983	-
Number of students who obtained educational grants	47,173	55,889	62,464	65,770	112,606

Source: National Statistics Agency of the Republic of Kazakhstan

Over 70 ethnic groups are represented in Kazakhstani HEIs. The majority are Kazakh (69.6 percent) and Russian students (21.5 percent). Other ethnic groups include Ukrainians (1.6 percent), Uzbeks (1.4 percent), Tatars (1.2 percent), Germans (1.15 percent), Koreans (0.9 percent), Uigurs (0.8 percent), and others (less than 0.5 percent). Training in Kazakhstani HEIs is conducted mainly in Russian and Kazakh. 439,119 students (58.8 percent), are trained in Russian, and 298,798 (40 percent) in Kazakh. 5,660 students are trained in English (0.8 percent), with 3,527 students (0.5 percent) in the Uzbek language (see Table 34).

**Table 34: Distribution of Number of Students by Language of Training (as of the beginning of learning process) students**

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Total,	440,715	514,738	597,489	658,106	747,104	775,762
Including languages of training						
Kazakh	132,698	162,166	216,559	254,084	298,798	330,199
Russian	305,237	348,731	375,863	397,928	439,119	438,032
English	2,043	2,444	3,223	3,937	5,660	7,139
Other languages	737	1,397	1,844	2,157	3,527	392

Source: National Statistics Agency of the Republic of Kazakhstan

The number of teaching staff of both public and private HEIs in 2004/2005 stood at 42,333 of which 2,728 held the doctors of science degree and 12,350 were candidates for the same. Teaching staff of public HEIs amounted to 26,013 professors (1,516 doctors of science and 7,453 candidates of science). The student/teacher ratio was 15.5 (10.3 in 2005/ 2006). The number of teaching staff in private HEIs was 16,149 (1,140 doctors of science and 4,824 candidates of science). The student/teacher ration was 21.3 in 2004/2005 falling to 11.2 in 2005/2006).

**Trends observed:**

- a) An increase in the number of HEIs since 1990s;
- b) Significant growth of student enrolment;
- c) Increasing demand for humanities (arts), legal and economic professions;
- d) Extensive development of private HEIs. ;
- e) Emergence of national HEIs with the goal to creating the future ‘elite’ of the country.

**Strengths and weaknesses of HE system in Kazakhstan:**

**Strengths**

- a) Creation of a new legal and regulatory framework;
- b) Governmental support of the education system;
- c) Development of private education sector, which contributes to a competitive environment and helps with the improvement of educational quality;
- d) Equal opportunities to obtain higher education and post-graduate training;
- e) Diversification of the network and structure of HEIs;
- f) Systematic approach to education;
- g) Fundamental and scientific approach to education;
- h) Adaptation to the market;
- i) A new model of creating student community;
- j) Introduction of a new Classification of Professions and Specialties of Vocational Education;
- k) Integration of HEIs and scientific organizations; greater use of information techniques within HEIs
- l) 2Development of international cooperation.

### **Weaknesses/Problems:**

- a) Growth of private HEIs raised the issue of (i) governmental and public control over their activities and (ii) the quality of proposed educational services;
- b) Unsatisfactory admission requirements of certain HEIs lead to a decline of specialist training quality;
- c) Young teachers move to private sector; teaching staff is aging;
- d) Weak system of academic staff retraining; insufficient use of advanced training techniques;
- e) Training of specialists does not meet future market demand;
- f) Poor logistical and methodological support;
- g) Insufficient number of textbooks; training in Kazakh language;
- h) Lack of information support for education; information technologies are weakly developed;
- i) Lack of financial incentives for teachers;
- j) The number of students who are trained at the expense of the national budget is steadily declining, but the total number of students is growing;
- k) The number of students of 'distance learning' system increases; and
- l) Many HEIs have small number of students.

### **Recommendations:**

- a) Create independent public institutes for quality evaluation of HEIs;
- b) Develop criteria to define the best HEIs in order to allocate sufficient funds and increase the wages of teaching staff;
- c) Implement an evaluation system of teaching staff performance;
- d) Promote creation of non-university type of schools with shorter courses similar to the higher professional schools popular in western countries.
- e) Hold HEIs accountable for professional development of teaching, administrative and technical staff.

### ***Organization (Management), Planning and Regulation of HEIs***

HE management in Kazakhstan is made up of the following interrelated tools:

- A legal and regulatory framework and national social and economic development priorities ;
- An institutional framework for higher education management;
- Fiscal and other economic instruments.

The legal and regulatory framework includes the Constitution, laws and by-laws, and regulatory acts. The Constitution (Article 30) not only reflects governmental guarantees provided to citizens in the field of HE, but stipulates government involvement in the process of HE management. The Law of the RK "On Education" dated January 18, 1992 and the Law "On Higher Education" dated April 10, 1993, advocates a more autonomous system of HE management.

The development of institutional framework for HE management went through two stages: *first*, a period with a centralized management system (1992-1999) ; and *second*, from 2000 until 2005, the development of specialized institutes for quality evaluation, standards, and accreditation. The MoES is responsible for planning HE, creating regulatory mechanisms, and supervising the activities of educational institutions.

Currently, the MoES is involved on developing a strategic education development policy. Planning of the HE system includes creation of an optimal network of HEIs, taking into account national and regional priorities; and developing integration mechanisms for the different stages (programs) of education (secondary, higher, and post-graduate) (see Box 5). The MoES regulatory functions involve setting rules that are common to all educational stakeholders.

HEIs operate in accordance with common rules of licensing, attestation, accreditation, testing, etc irrespective of the type of ownership. The MoES supervises the external evaluation and management of these activities.

In the recent years, the MoES have successfully involved all educational stakeholders, (students, parents, employers, the Parliament, and NGOs), in the process of decision-making. The management of HE is increasingly oriented toward publicity but as yet the entire system is not fully transparent (see Box 5). HE's increased autonomy is an urgent governmental policy objective. Kazakhstan has established general rules for how HEIs are to operate irrespective of their status, type of ownership, size (number of students) or specialization<sup>88</sup>. During the entire period of reforms, the MoES has been implementing a sustainable policy for expanding academic freedoms such as the curriculum which currently, has state (compulsory) components and components developed by HEIs around the ratio of 60/40 at initial stages of education and 40/60 at completion stages. The policy foresees an increase in the independence of HEIs over academic issues.

### **Box 5: Mobility of Students**

Students' mobility is enhanced by the application of uniform market rules and creates the conditions for specializations, courses, training forms, by higher educational institutions. The rules include the Classification of Higher Education Professions, State Compulsory Standards (SCS) of Higher Education with similar educational programs that ensure the technological content of the educational process. Students' mobility within one higher education specialization is not limited.

Governmental policy ensures the greater integration of higher education with secondary vocational training by developing stages secondary vocational training with professional educational programs and their harmonization with 1<sup>st</sup> and 2<sup>nd</sup> years of Bachelor's programs in higher educational institutions. As a result, college graduates are admitted to related disciplines in higher educational institutions without exams, are recognized as valid and recorded as credit.

The MoES licenses HEIs to provide educational training based on submitted criteria (curriculum quality, scientific and teaching staff, and technical capacity) and an external evaluation conducted by the government. State HEIs are established by Government resolution upon the recommendation of the MoES; private HEIs can be established by founders/owners.

### **Box 6: Anti-Corruption Measures**

The Ministry of Education and Science has taken to improve educational quality and to combat corruption in higher educational institutions, for example the students' movement "Examinations without Bribes"; the independent evaluation of education quality in higher educational institutions, and activities carried out by the Committee for Youth Affairs which have evoked favorable responses. Gross violations of students' rights are made known thanks to the mass media. .

«An action entitled "finals", aimed at fighting corruption at HEI of Kazakhstan, has started in Karaganda (administrative center of Karaganda region). According to representatives of the students' alliance of Kazakhstan movement, who carried out a poll among young people, 30 percent of students in Kazakhstan admit that they receive their passes by giving bribes».

Source: [Kazakhstan Media Monitoring](#) // Kazakh students vow to fight corruptions in universities

In practice, public HEIs are restricted in terms of their financial independence, teaching and administrative staff appointments. They must meet standards agreed with the MoES. Private HEIs are fully independent in terms of planning and spending their own funds,

<sup>88</sup> Standard Rules of Activities Carried out by Educational Institutions that Coinduct Higher Vocational Educational Programs. 2Resolution adopted by the Government of the Republic of Kazakhstan on March 2, 2005, No.195

establishing of management structure, appointment of teaching and administrative personnel, etc. They only report to the MoES on public funds allocated for training. In addition, the Government sets the minimum tuition fee levels and irrespective of ownership, HEIs have to follow the fee policy.

The other key players besides the MoES in Kazakhstan's education are; governmental authorities, HEIs, certain public organizations (such as the Council of Rectors, the Association of Non-Public HEIs, the Confederation of Employers, student movements and associations, other professional associations). The extent of their influence (except for the MoES and HEIs) on the educational sector is often insignificant; however, the Committee for Youth Affairs established by MoES initiative is becoming more active and powerful in protecting the rights of young people.

Involvement of different social groups in HEI public and private management is relatively weak. Public HEIs are mainly oriented by vertical links while private HEIs are interested in supporting the interests of owners. This creates a gap between the management and other participants in the educational process.

The Academic Staff's participation in institutional management tends to be similar; in public and private HEIs. Members of the Academic Council are elected, based on their scientific and pedagogical achievements and administrative position (alternative election). Irrespective of HEIs ownership, the Academic Council is the supreme governing body of both public and private HEIs with the important powers of decision making. .

HE system planning is principally to meet the government's needs in priority fields which are identified by the MoES and other ministries and confirmed by state order (QUOTA). These now cover technical and technological professions, new specialties (social work, etc.) and those with high demand (pedagogical and agricultural fields, psychology, etc.). The state's share of full-time training is 30 percent (60 percent of which are provided for training in Kazakh and 40 percent for training in the Russian language). The state quota for Bachelor programs is allocated on the basis of the Uniform National Test (UNT) results; the process of allocation is open to public and conducted by a special commission of HEI and MoES representatives.

National and regional (local) employment planning involves discussions with the different players in the education market (employers, students, HEIs, MoES, NGOs, associations, and recruitment agencies) (see Box 7). HEIs find opportunities for their graduates' employment through a network of different organizations (career centers, vacancy fairs, etc.).

#### **Box 7: Youth Initiatives**

An initiative of the social foundation "Youth Information Service of Kazakhstan" was aimed at the development and support of efficient links between Kazakhstan HEIs and business structures. Under the fast-developing economy and business, insufficient contacts between HEIs and employers lead to considerable losses of professional staff, and, as a result, preclude quality development of the sector in general. A common reason for difficulties in the employment of young specialists is graduates inactivity and who have not fully realized the necessity of self-development, enhancing self-value and self-advertising at the labor market.

Source: Panorama, No.18, May 12, 2006, p.5

The strengths of HE management system in Kazakhstan are:

- HE decentralization while reserving strategic management functions for the MoES;
- Gradual expansion of academic autonomy of HEIs with their full or partial independence in organizing and managing the educational process; and
- The reduction of the government's regulatory and supervisory role over HEIs development processes.

Weaknesses:

- Quality of management at the institutional level;
- Insufficient use of information technologies in HE management systems; and
- Poor social responsibility of HEIs for education quality.

Future objectives of HE management:

- To create a database within the MoES to monitor the development of the HE system effectively;
- To establish feedback mechanisms among different management levels of system, and
- To create mechanisms to strengthen the role of all stakeholders of educational process in the management of HE system.

***Access, Opportunities and Equality***

According to section 2 of Article 30 of the Constitution, citizens have a right to free higher education on the competitive basis in public HEIs. The next item of Article 30 regulates the process of obtaining paid educational services in private HEIs in accordance with the procedures established by the law.

To ensure equal access to HE for all population groups and to select the best trained young people, a standard (uniform) approach has been employed to form the student community within HEIs irrespectively of types of ownership.

As with RK citizens, grants are provided to applicants of Kazakh ethnicity even if citizens of other countries, as well as foreign citizens and residents without nationality who permanently live in Kazakhstan.

Admission to HEIs is based on competition; state certificate is issued based on the results of the Uniform National Test (UNT) or Comprehensive Tests (CT).

Reference A

Arguments to support a uniform final examination:

- to adjust school and higher educational program requirements for admission (HEIs often set admission requirements too high);
- to reduce corruption during the admission process; and
- to simplify the system of HE admission

The UNT is applied to students graduating from secondary school. The Comprehensive Tests are for those did not take UNT (graduates of secondary schools of past years, graduates of initial, secondary vocational schools, and foreign secondary schools, and graduates of secondary schools with Uzbek, Uigur, and Tajik languages).

UNT and CT are conducted in Russian and Kazakh and cover four topics – three mandatory, including Kazakh or Russian language, history of Kazakhstan, and mathematics, and one elective depending on the area of concentration. The test cannot be repeated and the results are evaluated on 120-score scale, 30 per each subject.

State-sponsored grants are primarily awarded to:

- graduates with the “Altyn Belgi” medal;
- winners of international school scientific competitions and contests;
- orphans, disabled children of the 1 and 2 groups, disabled from childhood (with priority in the event of equal scores of certificates).

The Ministry issues certificates to those applicants who receive state-sponsored grants; the list is published in the national mass media. The enrollment rules are also published in the national press and can be found on the website of the MoES.

Admission is conducted by the enrollment commissions of HEIs. Presidential Scholarships were established by Presidential decree in 1993 and are awarded to the 58 most talented students. In 1998 a Special Presidential Scholarship was established, awarded to students in their last year of full-time training (irrespective of type of ownership, organizational and legal structure), and who have demonstrated an outstanding performance during their entire undergraduate period.

Applicants with secondary vocational education in narrow specialties and higher professional education can be admitted to HEIs for shorter educational programs on a paid basis.

The following admission quotas have been established:

- 30 percent for applicants from rural areas;
- 2 percent for ethnic Kazakhs who are not citizens of Kazakhstan;
- 0.5 percent for disabled of the 1<sup>st</sup> and 2<sup>nd</sup> groups, disabled from the childhood; and
- 1 percent for orphans.

To help paying students the Government has adopted a resolution about the Rules of Lending for Students through commercial banks with security for their repayment. A joint-stock company has been created with 100 percent government interest which would accumulate funds in the amount of KZT 2 billion to ensure the repayment of loans issued by commercial banks to students. KZT 600 million is allocated for lending purposes this year.

### **Strengths**

- standardization of enrollment requirements/process, transparency
- equal opportunities
- availability of student loans.

### **Weaknesses**

- student living costs (housing, transportation, etc) are too high/not affordable to those from rural areas
- applicants from high or medium income families have a greater chance of being enrolled in unpaid programs (as they can afford private tutoring for UNT preparation) when compared to those from rural areas or low-income groups (44 percent), .86 percent of students are trained for HEIs at their own expense.

### **Recommendations**

- The demographic characteristics of students should be analyzed (urban/rural areas, socio-economic, etc.) to provide support to those with limited financial resources, the disabled, etc; draft a Program of financial support and benefits for those groups;
- To involve employers in the process of targeting and supporting talented children from rural areas and low-income families; create a Foundation at the Confederation of Employers of the RK;
- Distance learning programs should be introduced

### ***Quality and Quality Control***

HE quality control is legally vested in the government under the Constitution of the Republic of Kazakhstan (Article 30). The evolution of the HE quality management system is presented in Table 35. The power of the MoES in the field of HE quality control remains

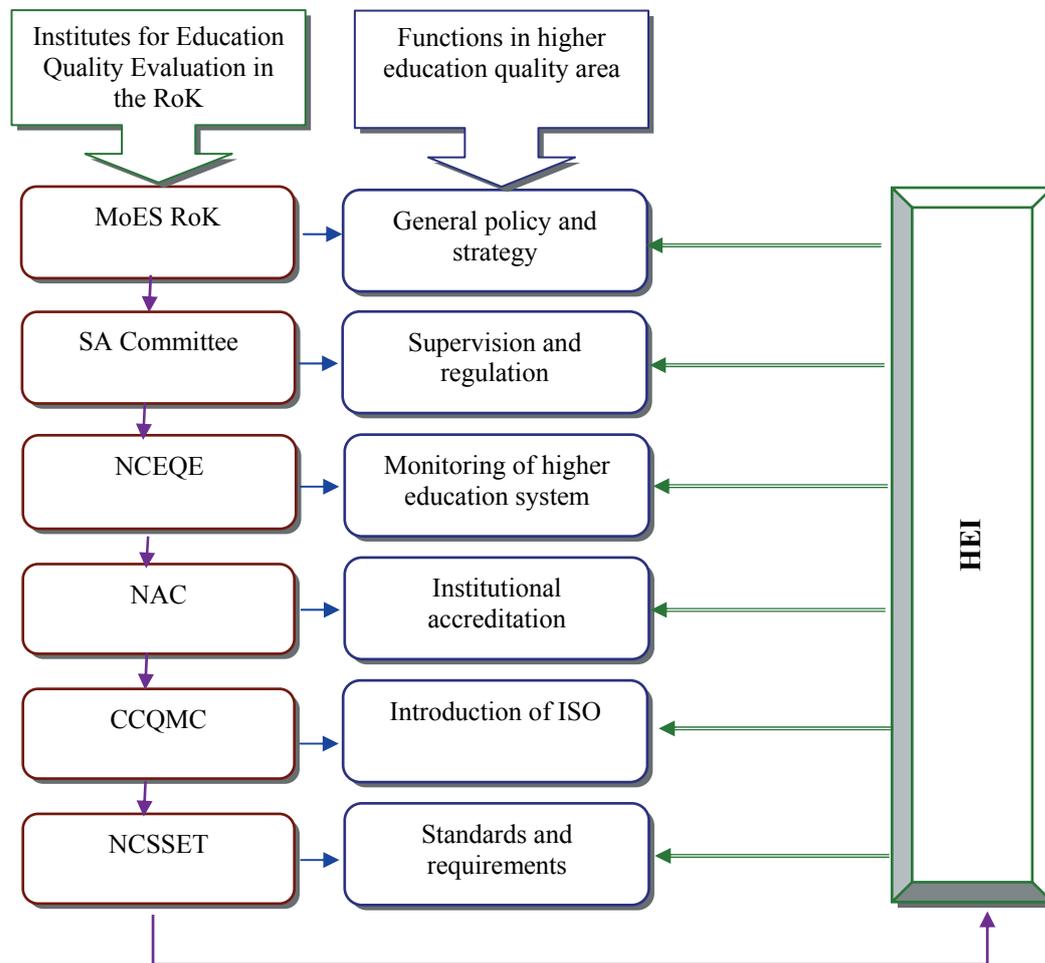
significant<sup>89</sup>. Quality control, supervision, and regulation are carried out by the Committee for Supervision and Attestation in Education and Science (Committee). By 2010, it is intended to develop the National System of Education Quality Evaluation (NSEQE) (see Figure 19).

**Table 35: Development of Governmental Policy Related to Higher Education Quality in the Republic of Kazakhstan**

<b>Stages of higher education development</b>	<b>Priority of the stage</b>	<b>Reform goals</b>	<b>Types of governmental control and supervision</b>	<b>Content of governmental control and supervision</b>
1991 - 1994	Development of legal and regulatory framework of higher education	- Governmental standards; - Multi-layer higher education system	Attestation of higher educational institutions	Legal and regulatory requirements
1995 - 1998	Higher education modernization and development of non-public sector	- Concept of Governmental Policy in the field of education; - Standards of higher education; - Classifier of Professions	- Licensing; - Attestation of higher educational institutions; - Compliance with licensing requirements; and - Final control	Legal and regulatory requirements
1999 - 2000	Decentralization and expansion of academic freedoms in higher education	- Decentralization of HEI management system; - Educational grants and loans	- Attestation of higher educational institutions; and - Final control	Legal and regulatory requirements
2001 - 2004	Strategic development of higher education	- State Program of Education Development in the Republic of Kazakhstan Until 2015; - Concept of Education Development in the Republic of Kazakhstan Until 2010; - National System of Education Quality Evaluation (NSEQE)	- Licensing; - Compliance with licensing requirements; - Attestation of specializations in higher educational institutions; - Accreditation; - Interim control; and - Final control	- Legal and regulatory requirements; - Accreditation criteria
2005 – until the present time	Comprehensive system of education quality evaluation	- development of institutes to evaluate education quality	Licensing; - Compliance with licensing requirements; - Attestation of specializations in higher educational institutions; - Interim control; and - Final control	- Legal and regulatory requirements; - Accreditation criteria

<sup>89</sup> State Program of Education Development in the Republic of Kazakhstan for 2005 - 2010. Approved by the Decree of the President of the Republic of Kazakhstan as of October 11, 2004 No. 1459.

**Figure 19: Institutes of Education Quality Evaluation in the RoK**



Abbreviations:

SA Committee - Committee for Supervision and Attestation in the Field of Education and Science;  
 NCEQE - National Center for Education Quality Evaluation;  
 NAC - National Accreditation Center;  
 CCQMC – Center for Certification, Quality Management and Consulting;  
 NCSSET – National Center of State Standards for Education and Tests

Governmental powers cover licensing at all HE levels (Bachelor, Master programs, post-graduate, and PhD programs), interim governmental control (IGC), attestation, and final control (Table 36). The qualification requirements and licensing policy is similar for public and private HEIs.<sup>90</sup> During recent years, the government has created the Republican Commission for Licensing of Education Activities to ensure a collegial and transparent approach to licensing; its membership consists of the heads of departments at the MoES, members of both Chambers of the Parliament, representatives of the Committee of National

<sup>90</sup> The Law of the Republic of Kazakhstan “On Licensing” was adopted on April 17, 1995; the Law of the Republic of Kazakhstan “On Education” was adopted on June 7, 1999; “Rules of Licensing Educational Activities” approved by the Resolution of the Government of the Republic of Kazakhstan on April 18, 2000, No. 596; Decree of the President of the Republic of Kazakhstan No. 1449 dated September 29, 2004, “On Measures of Further Improvement of Governmental Management System in the Republic of Kazakhstan” (subitem 2, item 1, subitem 1, item 4)

Security, Ministry of Interior, Ministry of Defense, Ministry of Health Care, and other ministries. The Committee makes its decision about licensing based on the information contained in the HEI application which covers the technological, methodological, information infrastructure, and teaching staff. The failure to issue a license for a certain program does not mean the termination of the institution's activities in general or that the applicant cannot make a further submission for a license for this or any other future program. A decision is based on evaluated results; for example, noncompliance with Mandatory Governmental Education Standards (MGES) or licensing requirements, any other gross violation of legal and regulatory educational norms or poor student performance based on test results.

**Table 36: System of Criteria for Employment and Promotion of Academic Staff**

<b>Evaluation type</b>	<b>Supervising and controlling authority</b>	<b>Function</b>	<b>Frequency</b>	<b>Regulatory framework for evaluation</b>
Licensing	MoES of RoK	Permissive	On a one-time basis	Rules of Licensing
Compliance with licensing requirements	MoES of RoK	Control and regulation	As soon as it is initiated	Rules of Licensing
Attestation	MoES of RoK	Control and regulation	Once a five years	Procedure and Rules of Attestation
Accreditation	MoES of RoK	Certifying	Once a five years	Accreditation Procedure
Interim control	MoES of RoK	Control	By academic years	Rules of Interim Control
Final attestation	MoES of RoK jointly with HEI	Control and permissive	Upon completion of education	Rules <sup>91</sup> of Final Attestation

External evaluation is conducted in accordance with the regulatory rules established by the MoES (Table 37). The Evaluation Commission is composed of Committee representatives and experts from HEIs. Based on these results, licenses can be revoked and/or courses suspended as the record for 2005 shows, when the Committee revoked the licenses of 33 HEIs for 159 specialties and suspended the licenses of 32 HEIs for 192 specialties. Recent years has seen the updating of the Rules of State Attestation for HEIs<sup>92</sup>; the evaluation of financial stability parameters, international cooperation, and employment of graduates. It is hoped to expand evaluations in the future by expanding evaluation tools, encouraging the involvement of the corporate sector, and management assessment

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<sup>91</sup> Rules on the Procedure of Organizing and Accomplishing Final Attestation of Graduate Students of Higher Educational Institutions approved by the Order of the Ministry of Education and Science of the Republic of Kazakhstan No. 714 dated July 12, 2002.

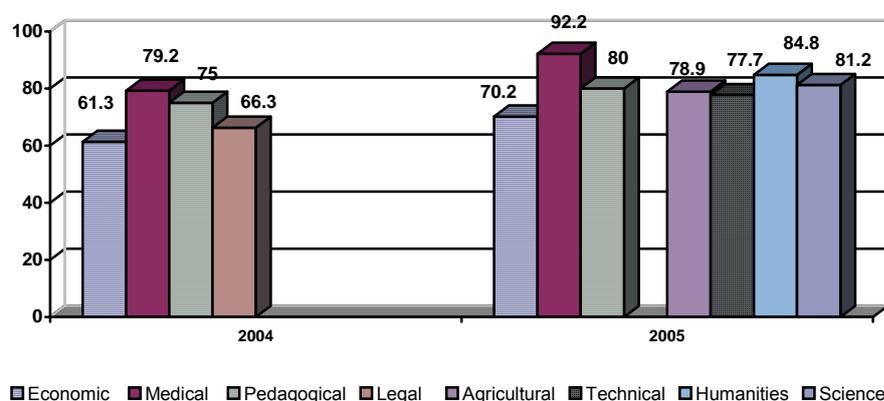
<sup>92</sup> Rules of State Attestation of Educational Institutions. Approved by the Resolution of the Government of the Republic of Kazakhstan on September 3, 1999, No. 1305.

**Table 37: Criteria of Accreditation of Higher Educational Institutions in Accordance with the Methodology Approved by the Ministry of Education and Science of the RoK**

Criteria	Scores	weight, %
1. Teaching staff for all cycles of curriculum for certain specialties	110	11
2. Material, technical, social, ad cultural base	110	11
3. Training staff by specialties	90	9
4. Educational process; level of students' knowledge in specialties	130	13
5. Science	250	25
6. Financial condition	105	10,5
7. Attractiveness of the HEI	145	14,5
8. Students' successes in various competitions and contests of the national and international levels	60	6

Interim state control (ISC), introduced in 2004, permits education quality to be evaluated in different regions. A uniform comprehensive test is taken by second-year students full time (or third-year for medical students). The National Center for State Standards of Education and Tests (NCSSET) establishes a threshold score (see Figure 20). Further ISC expects to develop a new generation of more technologically advanced tests with greater quality content. A final evaluation is conducted in accordance with the Rules of Conducting Final Assessment (Attestation).

**Figure 20: Results of Interim Control Specialties**

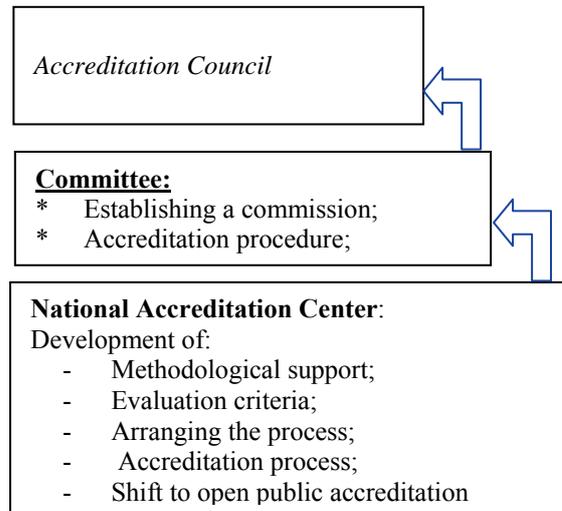


The government provides HEI accreditation<sup>93</sup> (see Table 37). Currently, there are 59 accredited HEIs (37 public and 22 private institutions), including 36 universities, 9 academies, and 14 institutes. The accreditation criteria<sup>94</sup> are presented in Figure 21. ISO 9000 quality management systems have been implemented since 2005. However, the first lesson of applying that system showed certain contradictions (see Boxes 8 and 9).

<sup>93</sup> Resolution of the Government of the Republic of Kazakhstan No. 1111 ( subitem 2, item 9 Functions and Rights of the Committee. Accreditation of Educational Institutions that Implement Higher and Post-Graduate Professional Educational Programs).

<sup>94</sup> V. Bishimbayev, Sh. Kalanova. Quality Management Systems in Education

**Figure 21: Accreditation Mechanism**



**Box 8: Quality – an entrepreneur’s statement**

My experience with the introduction of various quality standards (like ISO) shows that companies fall too easily into the trap of “mechanical” compliance with the (process-oriented) standards, without really benefiting from improving quality. Let us leave the judgment on the quality of the offered services to the ultimate judge: the market<sup>95</sup>.

**Box 9: Total Quality Management**

Many quality assurance programs have rather broad definitions of what in higher education quality is. Many protocols of quality assurance and accreditation agencies are fairly extensive documents, drawing up long lists of the features to be evaluated. Methodologies adapted from ‘total quality management’ (TQM) approaches, such as for example the EFQM (European Foundation for Quality Management) handbooks, have several hundreds of items to be addressed and to be checked. While these may be helpful for internal quality management systems, their suitability for external quality assurance and international quality assurance, is limited. International quality assurance does not have to address those aspects that other quality management levels control. Trade in higher education services will ask for rather simple and transparent quality assurance procedures, not impose a heavy burden on institutions and transnational providers.

Source: OECD/US Forum on Trade in Educational Services, 23-24 May 2002

Academic staff employment and promotion are regulated by Kazakhstan’s labor laws and MoES regulations<sup>96</sup> (see Table 38). The average wage of teaching staff remains below the national average wage and ranges from ranging from USD 250 to 1000 (annually<sup>97</sup>). The MoES has established 1.75% wage increase for teaching staff of national universities; while private HEIs’ staff has the same or higher average wage.

<sup>95</sup> Filipovic, Nenad. Education Quality: let the market be the judge, efm FORUM98/3 , P.23-24.

<sup>96</sup> The Law of the Republic of Kazakhstan “On Labor”, Rules of Competition for Scientific and Pedagogical Staff Vacancies (teaching and scientific staff) and Personnel in Higher Educational Institutions. Approved by the Resolution of the Ministry of Education of the RoK on November 18, 2004, No. 949, and other legal and regulatory acts of the Ministry of Education and Science of the RoK.

<sup>97</sup> Currently it equals to 650 academic hours. When loan system of education services is implemented, it will be reduced to international criteria.

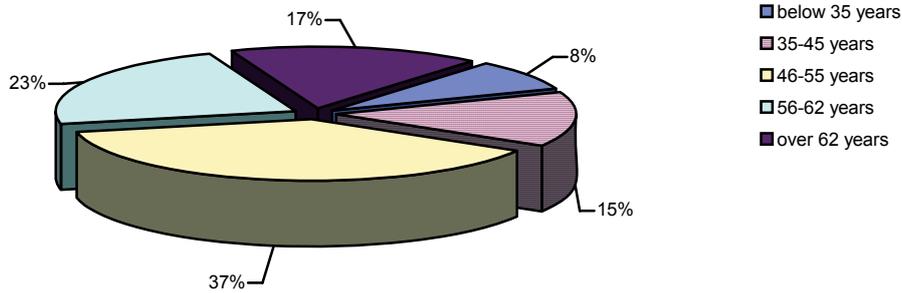
**Table 38: System of Criteria for Employment and Promotion of Academic Staff**

Area	Authority that establishes criteris	Evaluation criteria	Application of criteria / efficiency
Teaching	MoES of RoK	* Basic education; * Scientific degree * Scientific and pedagogical experience; and * Publications	Compulsory / formalized
	HEI	* Language proficiency; * Computer proficiency; * Experience in specific area; and * Executive training / training abroad	Voluntary / informal/ Determined by the market and competition
Research	MoES of RoK	* R&D scope; * Number of publications and published scientific papers (monographs / textbooks); * Developing training courses on the basis of conducted R&D; and * Number of theses defended by post-graduates	Compulsory / formalized / non-critical
Links with industry	MoES of RoK	Applying practical material during training process	Poorly verified / non-critical
	HEI	Practical experience in specific area / knowledge of modern practice	Preferential / formalized
Contribution to community	HEI	Participation in professional / public organizations	Non-critical / poorly formalized

The outflow of teaching staff in the beginning of reform period resulted in a shortage of specialists. The national teacher/student ratio, established by the MoES, is 1:8, with the actual ratio far higher, that is about 1:15 in public and 1:21 in private schools. Staff teaches in several schools. This situation results in a decline in teaching quality and so the MoES has established a licensing evaluation system for permanent staff. There are 17 categories of scientific and teaching staff in each HEI. Wages are calculated on the basis of a basic indicator (USD 72.6 in 2005), with an incremental ratio applied for each position, plus bonus points if he/she has a scientific degree. Private HEIs have their own structure of staff positions, which are similar to the public sector in many respects.

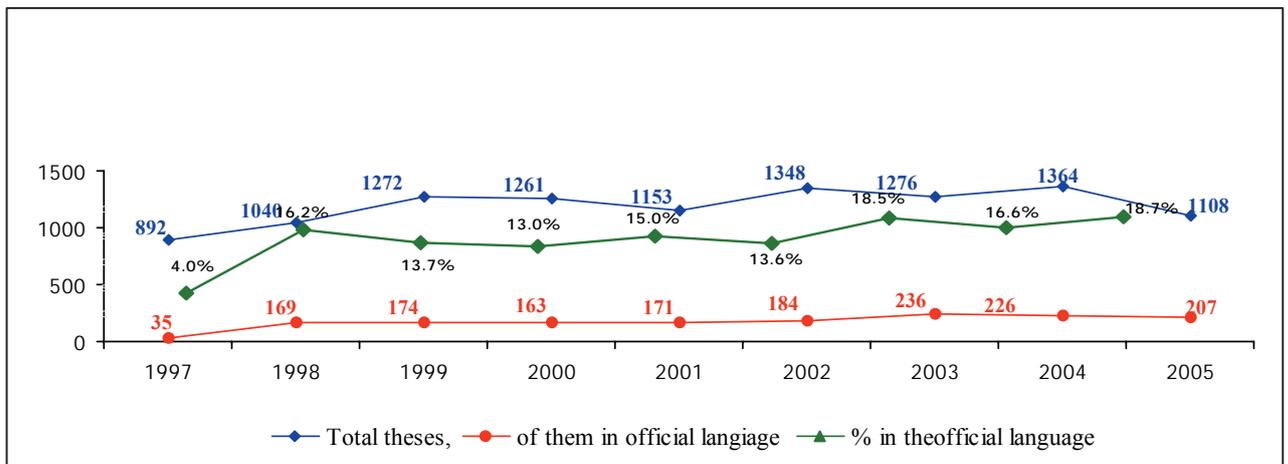
Public HEIs follow a system of recruitment, promotion, and performance evaluation of teaching staff in public institutions set out by the MoES which is also conducting a campaign to promote the image of teaching; in 2005 they held a contest for “Best Professor” and award a prize of USD 15,000 to the winner (see Figure 22).

**Figure 22: Distribution of Grants "Best HEI Professor" by Age**



Teaching staff evaluations are carried out in compliance with the Rules of Awarding Scientific Degrees and Academic Status (see Figure 23). Young teachers often lack the motivation to conduct scientific research and to remain in education; their absence has resulted in an aging staff in most schools. The Committee hopes to apply international standards in acknowledging the scientific achievement of teaching staff in the near future.

**Figure 23: Theses Defended to Obtain Scientific Degrees in Kazakhstan, 1997-2005**



HEIs self-evaluations include student evaluation of teachers, self-evaluation reports<sup>98</sup>, and interviews with teaching staff (see Table 39). The practice of internal self-evaluation depends on a number of factors such as the HEI's charter, its strategy and policy, existing management system, etc. The competition makes HEIs search for the most efficient model of education quality management.

<sup>98</sup> Methodological recommendations to arrange self-attestation of educational institutions that conduct secondary vocational, higher professional and post-graduate professional educational programs approved by the Order of the Minister of Education and Science of the Republic of Kazakhstan as of August 23, 2002, No. 619.

**Table 39: Types of Internal Evaluation in HEIs of Kazakhstan**

<b>Form of self-evaluation</b>	<b>Goals of self-evaluation</b>	<b>Strengths</b>	<b>Efficiency / constraints</b>
Report on self-attestation	<ul style="list-style-type: none"> <li>- Self-analysis of various aspects of activities in accordance with the methodology approved by the MoES of the RoK;</li> <li>- Quality profile of students' knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Adequacy and consistency of self-attestation procedures</li> </ul>	<ul style="list-style-type: none"> <li>- Vague criteria</li> <li>- Huge amounts;</li> <li>- Responsibility of HEI for the report quality;</li> <li>- Poor role of quantitative criteria</li> </ul>
Questionnaires disseminated among students	<ul style="list-style-type: none"> <li>- Teaching quality;</li> <li>- Weaknesses on program management;</li> <li>- Hidden needs;</li> <li>- Ethics and culture of teaching</li> </ul>	<ul style="list-style-type: none"> <li>- Feedback "teacher – student";</li> <li>- Efficiency;</li> <li>- Detecting bottlenecks in the system "HEI – student"</li> </ul>	<ul style="list-style-type: none"> <li>- Quality of questionnaires;</li> <li>- Systematic approach and frequency;</li> <li>- Feedback from HEI administration;</li> <li>- Complementarity of different forms</li> </ul>
Interviews with teaching staff	<ul style="list-style-type: none"> <li>- Motivation to work;</li> <li>- Quality of relations with students;</li> <li>- Quality of management programs</li> </ul>	<ul style="list-style-type: none"> <li>- Feedback "teacher – HEI";</li> <li>- Detecting bottlenecks in management of academic staff</li> </ul>	<ul style="list-style-type: none"> <li>- Distortion of data due to certain dependence of teaching staff on administration;</li> <li>- Ad hoc nature of interviews;</li> <li>- Lack of data comparability</li> </ul>

The average value of higher education grew from KZT 98,000 in 2003/2004 to KZT 149,900 in the academic year 2005/2006, i.e. almost by 1.5 times.

### **Strengths**

Thus, the main achievements of the HE quality control system are:

- Creation of HE quality evaluation system;
- Shifting to international quality standards; and
- A trend towards greater transparency in HE quality evaluation.

### **Weaknesses:**

- Lack of efficient control mechanisms;
- Lack of a 'culture' of quality assessment at the level of HEIs; and
- Lack of social responsibility of HEIs.

### **Objectives**

The objectives of HE quality control in Kazakhstan are:

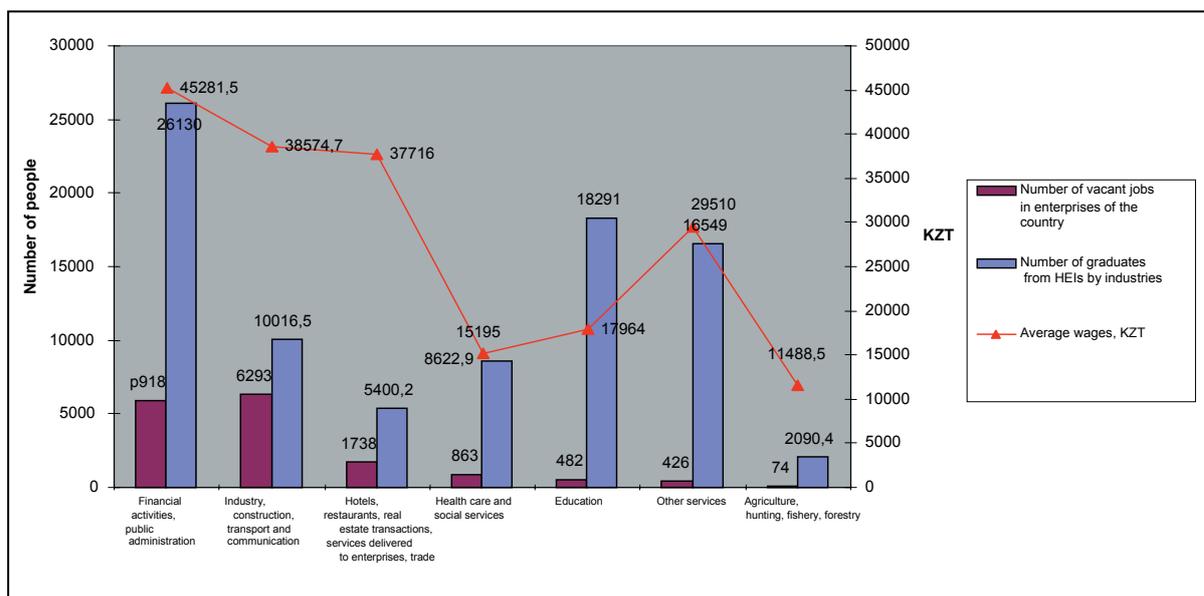
- A clearer understanding of the functions and components of HE quality;
- The division of power between the MoES and HEIs and their responsibilities for HE quality control;
- The development of a benchmarking tools for quality control at the national and institutional levels;
- Stimulate better teacher motivation so they can improve their teaching quality; and
- To create the preconditions for a quality culture, primarily at the level of HEIs.

## Labor Market and Higher Education

From the mid-1990s, the country had to deal with an outflow of professional staff; the HE system has been a provider of diplomas rather than knowledge and professional skills. The quality of HE is a key issue for employers.

There is a lack of interaction between the labor market and HE system. HEIs tend to provide educational services in the fields that are in demand by applicants (or their parents) rather than by labor market. According to the data, social professions and the humanities are in highest demand among students (see Figure 24) as well as pedagogical education due to relatively inexpensive tuition. There is an oversupply of economists and lawyers with poor knowledge and skills. Another example of this mismatch between HE and the labor market is the shortage of IT specialists, in high demand by the market (Box 10).

**Figure 24: Graduate Employment, Vacancies and Wages by sector**



Direct involvement of employers in developing educational programs would significantly improve the efficiency of HEIs. However, participation of businesses in staff training is not practiced in Kazakhstan. The existing employment units use outdated mechanisms to maintain links between the HE system and labor market. For example, student work allocation is a formality but allows HEIs to overestimate graduate employment (see Figure 24) and which apparently exceeds 99 percent.

According to the experts of the National Center of Education Quality Evaluation and the Republican Center for Qualification Confirmation and Assignment, most but not all employers think it would be useful for them to participate in specialist training. They are inhibited by a lack of a corporate human resource planning culture and the difficulty of formulating their requirements for future graduates.

Thus, the main issues that lead to a mismatch between the HE system and the labor market are:

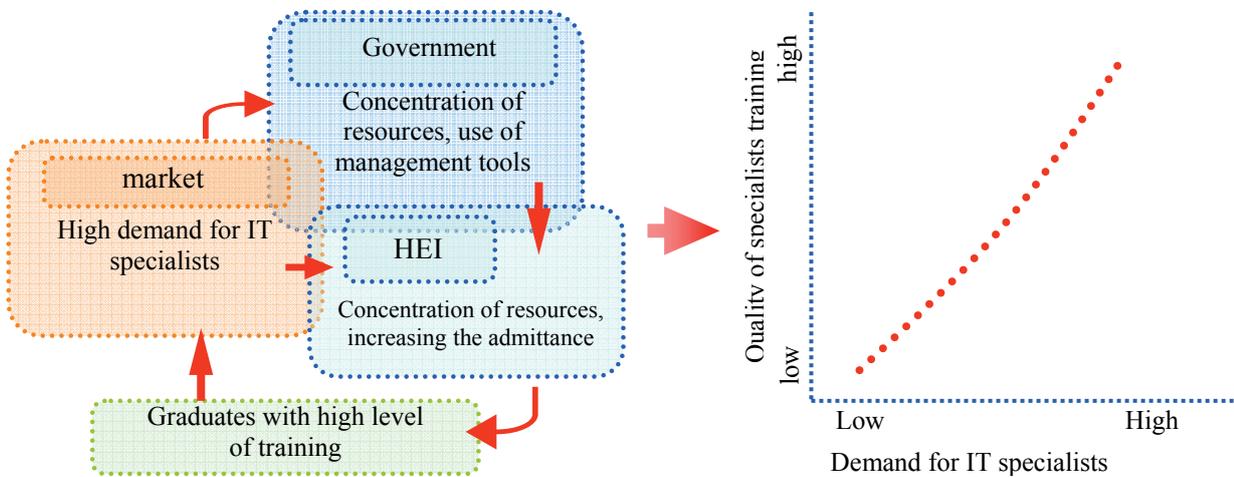
1. Quality of specialist training. Graduate knowledge and skills do not meet the requirements of employers; as a result, there is an oversupply of graduates but a deficit of high-skilled labor;
2. Attitude of students toward HE: they are more interested in receiving diplomas than knowledge. For many students, HEIs help develop social skills as much as professional

- knowledge and skills. HEI applicants tend to select traditionally popular areas that may not be in demand and in consequence graduate unemployment increases.
3. Inability of many HEI graduates to attract employers, partly because of a lack of prior experience.
  4. Lack of interest and motivation of employers in establishing cooperation with HEIs. Retraining of staff is rather expensive, especially for small and medium firms.

**Box 10: How does the labor market influence the quality of education?**

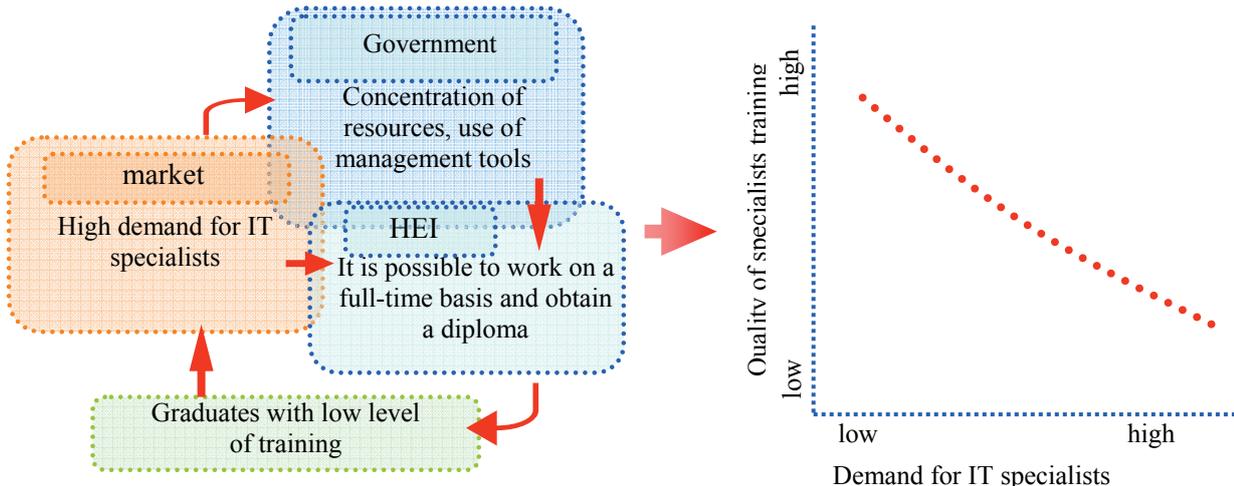
How does the demand for specialists in certain areas influence quality of education obtained by students of certain area in a higher educational institution?

The theory and global practice show that this impact is positive: availability of the demand generates an interest of educational services vendor (i.e. HEI), which concentrates its resources at this particular area of education. This improves the quality of students' education in a long-term context (Figure 25). As an illustration of this example, one can review training of IT specialists in India: the higher the demand level is, the better the quality of education obtained by students in the Indian higher institutions.



**Figure 25**

IT specialists are also in high demand in the Kazakhstani labor market, however, their education level only suffers from that factor: students start working on the second year of training; they often miss classes and do not obtain necessary theoretical training (Figure 26).



**Figure 26**

What leads to such situation? There are certain reasons for that such as 1) a high level of corruption in HEIs allows a student to “buy” grades and a diploma, without sufficient work to obtain them; 2) due to high demand in specialists, companies employ students without diplomas; 3) high level of wages in IT industry attracts students: in their system of priorities money often means more than education. There is HEI’s fault in this situation, as a poor link with practical work during training process makes students select a job, which is quite logical, where they do not obtain sufficient amount of theoretical knowledge that they could have obtained in the university; however that would be compensated by obtained practical skills and wages.

**Table 40: Unemployment by Education**

Indicator	2001	2002	2003	2004
Unemployed population, total number	780,320	690,748	672,093	658,799
Including with education				
higher education	100,427	84,461	98,229	96,636
Contribution to increase (-)/ decline (+) of unemployment	-	0.18	-0.74	0.12
Secondary vocational education	200,288	178,104	163,056	164,173
Contribution to increase (-)/ decline (+) of unemployment	-	0.25	0.81	-0.08
Basic, secondary, general, primary education	479,605	428,183	410,808	397,990
Contribution to increase (-)/ decline (+) of unemployment	-	0.57	0.93	0.96

Source: Statistics Agency of the RoK, authors' estimations.

**Table 41: Graduate Employment**

Indicator	2000	2001	2002	2003	2004
Higher education					
Number of students in higher educational institutions, thousand people	440.7	514.7	597.5	658.1	747.1
Number of graduates from HEIs, thousand people	64.6	73.8	87.1	102.7	123.9
Of them employed, thousand people	53.3	62.5	86.4	102.5	123.0
Share of the employed	82.6	84.7	99.2	99.8	99.2
growth	-	2.6	17.1	0.6	-0.6

Source: Statistics Agency of the RoK, Ministry of Education and Science of the RoK

### **Recommendations:**

In order to develop a stronger link between HEs and the labor market, the government should encourage social partnerships between the government and business.

1. It is necessary to develop informal links to the HE sector which should be led by employers rather than public sector representatives or HEIs. Such an approach could create a reference point for all stakeholders.
2. It is important that employers are involved in setting educational standards and the curriculum to the point that it becomes common practice in Kazakhstan. So too it is necessary to develop joint educational programs between large enterprises and HEIs; such an approach would help the revision of curriculum and programs.
3. Create incentives for employers for cooperation. Practical training is a useful tool to improve the quality of graduates' education.

### ***System of Financing HE***

The public funding of higher education is a mechanism that provides direct guarantees to citizens in terms of effective educational services. The Constitution has provisions under which any citizen can obtain HE (free on a competitive basis or paid); they determine the basic features of HE funding in Kazakhstan:

- The market (competitive) mechanism is used to allocate public resources to HE;
- Flows of funds are tailored to students as the beneficiaries of HE services; and

- Funding of HE makes broadens access so that educational services are not only available for the elite, but also for broad layers of the population.

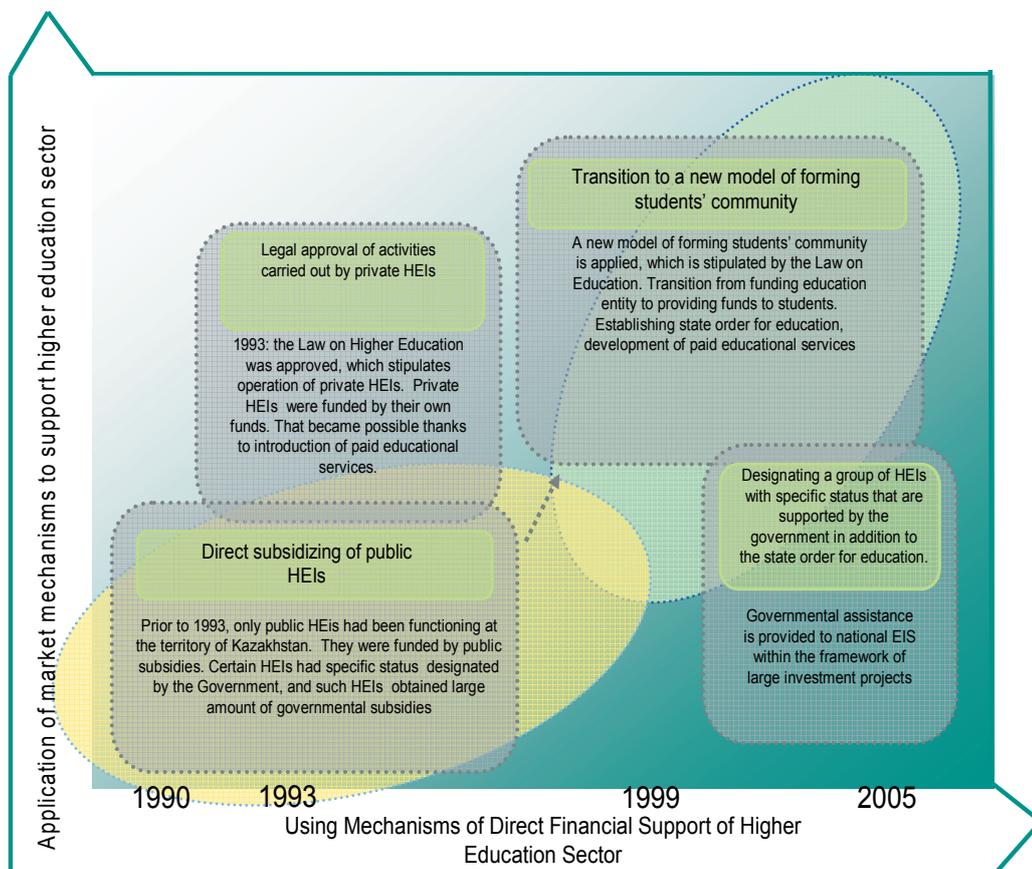
The evolution of HE funding system is represented as a diagram (Box 11). It comprises several key stages, such as opening of private HEI (1993), implementation of the state quotas order (see below) for education, a shift to a new model of forming the student community (1999), and the privatization of HEIs (2000). Privatization was accomplished by making the HEIs joint stock companies with the subsequent sale of state-owned shares, and transfer of HEIs under trust management of private entities for subsequent purchase.

In 2000, 12 HEIs were reorganized as joint stock companies, resulting in a quasi-public form of HEI ownership – joint-stock companies with 100 percent government interest. Currently, there are 9 universities with special status that are excluded from privatization and designated to become Kazakhstan’s HE flagships

An important element of public HE funding is a *state quota* for education and which began to function in 1999. Initially (prior to 2005), the state quota was set out as educational grants and loans. Since 2006, this now only in terms of loans. The quota system uses a model of HE funding which is anchored directly with the beneficiary and has public expenditures more efficient.

Public educational grants are allocated according to UNT results. Grants are provided to applicants who obtain the highest scores - they receive a state certificate which is a guarantee of admission to any Kazakhstani HEI.

### Box 11: Higher Education Support



To educate students using the public funds, HEIs must meet certain criteria and pass the state evaluation; however that process is not always very transparent and the criteria used do not always achieve the desired results.

The MoES establishes the value of per student funding and the per-capita financing system covers the minimal cost of education. However, cost estimations do not take into account the different areas of training (for example, some training programs are more expensive). The methodology used to estimate the minimal cost of educational training requires modification and differentiation to take account of different training programs.

## Public Funding

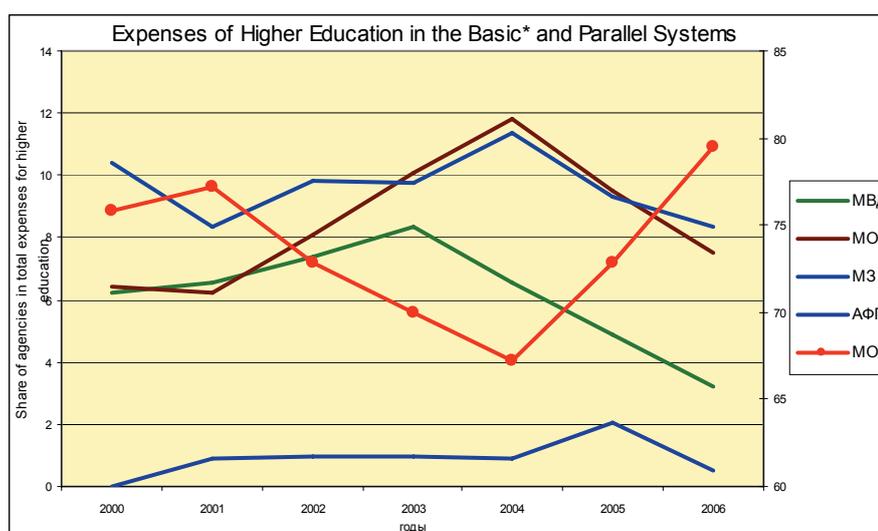
HE expenditures now make up 50 percent of the education budget (Table 42). This is a result of a growing number of students, the creation of “elite HEIs”, the increasing number of students studying abroad and supported by the State, and the high cost of specialist training. Kazakhstan’s HE system consists of the basic HE system (the Ministry of Education and Science) and a parallel one (other Ministries), see Figure 27.

**Table 42: Education Funding (KZT mn)**

	2000	2001	2002	2003	2004	2005	2006
Education	13572	18466	16447	23203	34571	66249	102104
Primary, secondary basic education, secondary general education <i>общее образование</i>	2924	4723	1792	5954	6683	11287	15255
Primary vocational education	-	-	-	-	0	286	286
Secondary vocational education	749	869	1087	1255	1794	3095	4091
Additional vocational training	178	246	548	394	446	1991	2249
Higher education	9352	12209	11886	12493	15867	29480	51867
Other educational services	369	419	1134	3107	9780	20111	28360

Source: Ministry of Finance of the RoK

**Figure 27: Expenditures of Higher Education in the Basic and Parallel Systems (percent)**



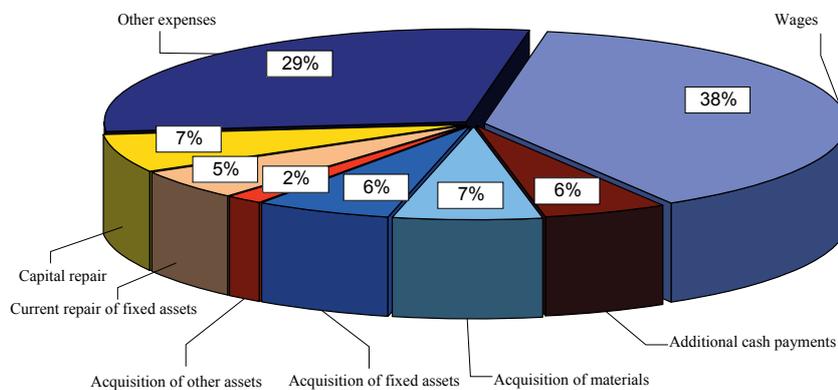
Note: share of MoES’ expenses in total expenditures is show on the additional scale (on the right)  
Source: Authors’ estimations based on the data provided by the Ministry of Education and Science of the Republic of Kazakhstan

The principal funding sources are the following:

- Revenues generated by educational services within established governmental standard: state grants; grants allocated by organizations, local executive bodies, etc.; out of pocket payments (table 7.3).
- Revenues generated by paid services, lease of vehicles, sport facilities, temporarily vacated areas, etc.;
- Revenues generated by scientific and research works on contractual basis;
- Revenues from deposits and securities;
- Revenues generated by manufacturing and sales of products made by workshops; and
- Other revenues.

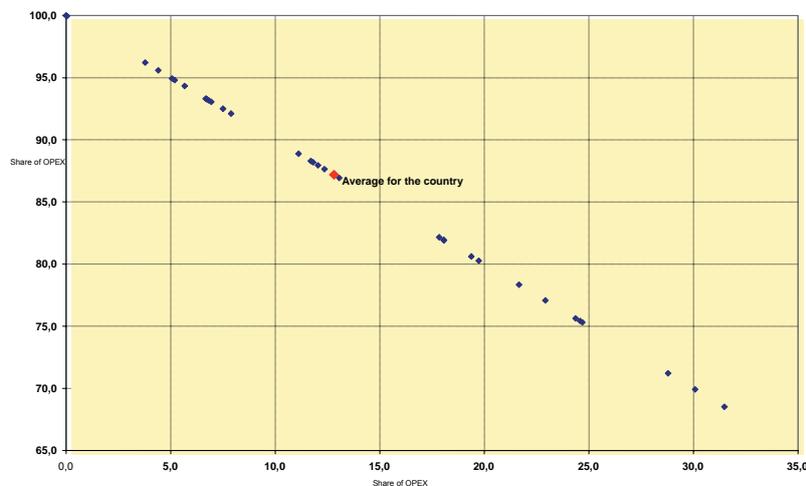
According to the survey of 33 public HEIs', over 40 percent of funds pay wages and supplementary benefits to employees. If overall budget expenditures can be described in terms of capital expenses (around 10–13 percent, see Figure 28), and expenditures classified as either operating (OPEX ) or capital expenditures CAPEX, then the institutions are subdivided into four clusters (see Figure 29).

**Figure 28: HEI: Average Budget Expenditures**



Source: Authors' estimations based on the data provided by the Ministry of Education and Science of the Republic of Kazakhstan

**Figure 29: HEI by operating and capital expenditures**



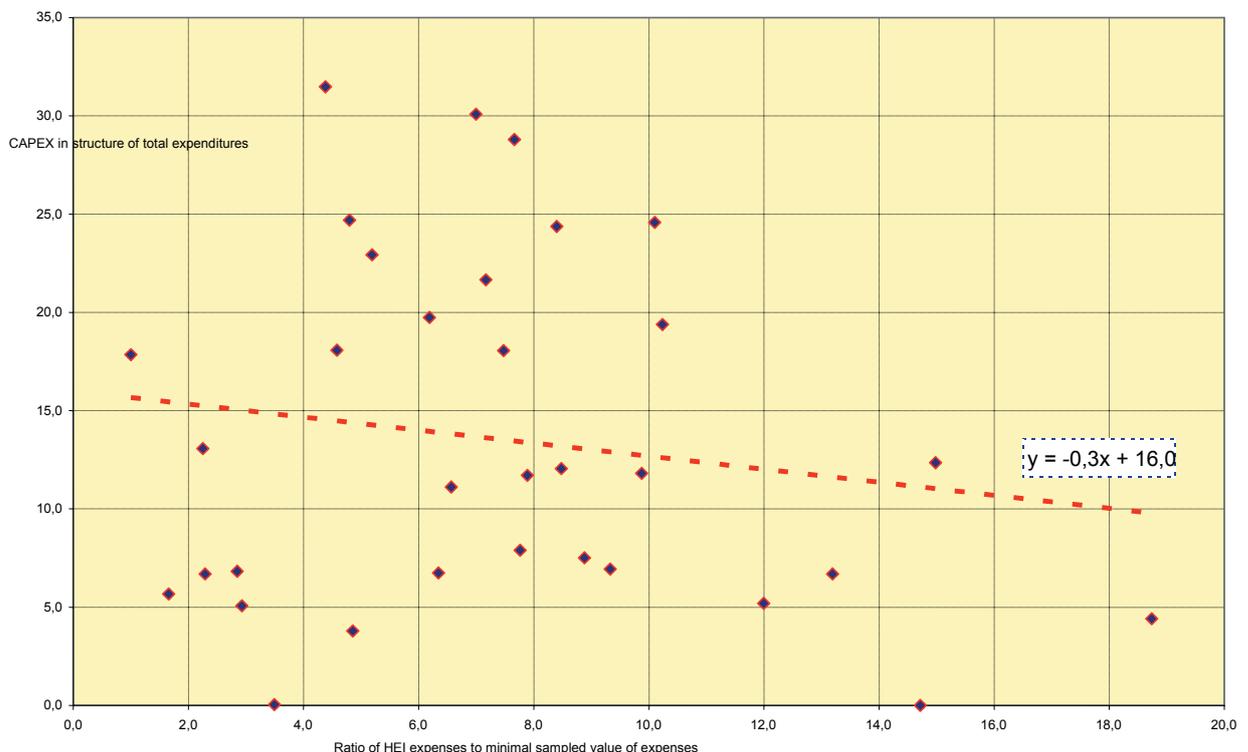
Source: Authors' estimations based on the data provided by the Ministry of Education and Science of the Republic of Kazakhstan

The first cluster includes Western Kazakhstani Agrarian Technical University, Western Kazakhstani State University, and Zhetysu University with CAPEX of 30 percent. The second cluster includes Aktiubinsk State Pedagogical Institute, Aktiubinsk State University, Pavlodar State University, and some others with CAPEX shares ranging from 15 to 25 percent. The third cluster includes Semipalatinsk State Pedagogical Institute, Southern Kazakhstani State University, Aktau University, and others with a CAPEX share of between 10 to 15 percent. The fourth cluster includes many pedagogical institutes and some other major educational institutions with a CAPEX share of no more than 10 percent.

The following factors determine the policy of HEIs:

- HEIs possess different assets, thus CAPEX depend on an HEI's size and development strategy which is influenced by the HEI's proximity to developed economic centers across the country;
- There is a considerable gap between the cost of educational services provided in different regions;
- Services provided by HEIs vary. If capital-intensive services provided by HEIs are in demand in some regions, these institutions make larger investments than in those regions where capital-intensive services are not required;
- Investment cost, to a great extent, depends on an HEI's status; thus, the National Universities have greater opportunities to implement large-scale investment projects;
- Size of an HEI. Large HEIs spend smaller share of budget funds for CAPEX (see Figure 30).

**Figure 30: Dependence of Investments on HEI Size**



Source: Authors' estimations based on the data provided by the Ministry of Education and Science of the Republic of Kazakhstan

## Student financial support

Students and their families are supported in the following ways; *first*, by the educational loan system recently modified; since 2006, education loans are provided by commercial banks instead of directly by the government. The Financial Center of the MoES has been transformed into a 100 percent state-owned joint stock company. In the future, the Financial Center is expected to accumulate up to KZT 2 billion (approximately USD 15 million) to secure guarantee of loans repayment issued by commercial banks to students (in 2005, KZT 600 million - about USD 4.5 million - were allocated). A Government Resolution sets out the rules of Lending to Students.

**Table 43: Students, Grants and Payments as percent HEI budget**

Form of payment for education	2000	2001	2002	2003	2004
State order for education , % of students	28.50	14.05	15.65	15.73	14.56
Grants provided by akims, organizations and others, % of students	0.00	8.91	3.59	2.03	1.45
Paid educational services, % of students	71.50	77.04	80.76	82.25	84.00

Source: Ministry of Education and Science of the RoK

Scholarships increased almost twofold between July, 2005 and the present. In 2005 support amounted to KZT 6,434 (USD 53.6) for undergraduate studies: 17,685 (USD 147.4) for graduate studies and, KZT 22,564 (USD 188) for post-graduate courses. A Presidential scholarship is worth KZT 12,868 (USD 107).

## Conclusions and recommendations.

The system of HE funding has two major drawbacks:

1. Link to scientific research performance. State funding does not seem to have improved scientific research. Unfortunately the indicator used as a criterion for budget funds allocation is complex and confusing for HEIs; the current system lacks mechanisms to implement performance-oriented finance. The number of scientific research activities conducted by HEIs, number of scientific publications, etc. can be used as eligibility criteria for educational grants.
2. Applying per capita rate of financing. To make financing more efficient, it is necessary to build up the per capita financing mechanism and strengthen control over it.

## *Role of HE in Conducting Scientific Research and Innovation Development (R&D)*

In the ten years, between 1994 and 2004, Kazakhstani R&D expenses increased 9.6 times while GDP increased by 13.1 times; as a result the share of R&D expenses in GDP declined from 0.36 to 0.26 percent in 2004.

R&D budget allocations varied significantly: In 1995 it decline by KZT 140 million compared to 1994, while in 1996 it grew by almost KZT 1.5 billion only to decline again in 1997 by almost KZT 0.5 billion. In 1999 the budget declined by KZT 1 billion when compared to the previous year (1998). From 2000, the trend has been far more stable with increases for science allocated from the national budget for research and development (40 percent in 2000 up to 50 percent in 2004).

To illustrate the dynamics of domestic expenditures by sources of funding in 1994 - 2004:

- Three out of five sources of funding - budget funds, funds provided by customers and funds of enterprises - make up to 94-96 percent of the total domestic expenses, and off-budget funds and foreign sources amount to 4-6 percent. The value of enterprise funds

increased thirty fold (from KZT 88.6 million to 2.7 billion) over the recent decade: the share in the total domestic expenditures doubled (2.4 times, from 7.5 percent in 1994 to 18.3 percent in 2004). There is evidence that companies have started investing more into scientific research and development.

- The growth of off-budget funds and foreign resources, particularly foreign investment surpassed the other components (budget funds and funds provided by customers) almost twofold. Their share of total domestic expenditures increased almost 1.5 times (from 9.9 percent in 1994 to 15.5 percent in 2004); the share of the first two sources declined from 90 percent to 79 percent in 2004. This shows the multiplier role of off-budget funds and foreign investments in financing of science research.

There have been new funding sources for scientific research and carried out in the HE sector; these are:

- Combination of budget and off-budget sources (including system of grants);
- Funding of applied research;
- Fund raising from non-governmental sources;
- Funds invested in science for applied research for commercial bodies; and
- Attract private capital, create new financial tools for leasing technological projects.

Using grants to support small teams and individual scientists helps promote independent choices. The Foundation of Science of the RK has financed projects in this way which have shown good results (The Concept, 1999).

There were no noticeable changes in R&D budget allocations by types of institution up to 1998. The majority of budget funds were allocated to scientific-research institutes (over 80 percent, and about 13 percent to HEIs). Since 1998 there has been a trend toward increased fund allocations for research carried out by agencies while for the period beginning in 2001, there has been a sharp increase in R&D funds going to HEIs (up 46.1 percent in 2001, from 5.02 percent in 1994). In 2002, this amount increased yet again by up to 50 percent of the total public funds allocated for R&D (KZT 1,994.2 million); in 2004, it declined to 23.1 percent (KZT 1682.1 million).

R&D expenses funded from revenue increased eightfold from 1994 to 2004. Recently, distribution has become more even by types of institutions, although the overall share began to decline in 2001 and reached 7.17 percent by 2004.

R&D expenditures supported by enterprises increased eighteen fold between 1994 and 2004, but in absolute figures it is still less than above sources. This trend only began in 2001. The increase after 2002 is likely to be associated with the improved situation of the country's economy. In this regard, it is necessary to re-orient applied research funding from public to private sources. The quantity of scientific research has not varied significantly between 1994 and 2004: about 60 percent was carried out by scientific research institutes, and only 20 percent by HEIs. Recently HEI research appears to be increasing.

In 2004, total R&D expenditures from all sources amounted to KZT 18,549.5 million. A study of funds allocation between 1994 and 2004 showed inefficiencies were high for the applied stage and insufficient funds were set aside for the development stage. So in 2004, the average annual allocation between types of research - fundamental, applied research, and development - had the ratio 15:51:22 respectively. For comparison, developed countries spend 15 percent on fundamental research, between 25-30 on applied research, and up to 55-60 percent for the development phase.

Integration of HEIs with science, production, and school is a prerequisite for improving the quality of secondary education, and training high-skilled professionals and scientists, and the operation and development of businesses and the economy.

Among educational, scientific and production entities, the highest potential integration in regions is that of regional universities with a rich local network of HEIs, scientific research institutes, innovative production companies, colleges, techno-parks, incubators with numerous small and medium businesses. These Regional University Complexes (RUC) and have been adopted as a model by the government; they have the potential of supplying a region with specialists and provide scientific support and innovation to the regional administrations and businesses.

The Law “On Innovative Activities” (Article 3, 4) recognizes the importance of the interaction of science, education, production, financial and credit systems for innovation policy; and the need to train high-skilled specialists for these activities.

Adapting science to market conditions requires a shift from traditional linear models of innovation to modern non-linear and system-integrated models. An example is the State Program of Education Development (October 12, 2004), which is a part of the Industrial and Innovative Development Strategy for 2003 – 2015. The program documents a strategy for reforming the national education system and which is based on globalization, expanding international competition, increasing scale, and change dynamics - all will push the transformation of the education sector. According to the State Program, the ongoing integration of education and science could have some of the following characteristics:

- Resource allocation in priority scientific fields;
- Creation of educational and scientific organizations, research laboratories in HEIs, and branches of faculties within scientific research institutions and techno-parks; and
- Joint undertaking of scientific research by HEIs and scientific organizations

The creation of an efficient research system is an important feature of Kazakhstan’s innovation strategy. The triad of “education - science – production” has a vital role to play in the country’s development.

### ***Globalization and Access to International Market***

Internationalization is a key priority for HE policy. Two key issues are achieving greater integration through the development of an HE model in compliance with the Bologna Convention and the competitive growth of the international labor market.

Kazakhstan imports educational services (see Table 44 and Box 12). The major HE internationalization trends in Kazakhstan are education abroad (“Bolashak” and other programs); institutional capacity building (e.g. opening branches of international HEIs in Kazakhstan); import of foreign programs to Kazakhstan on franchising conditions; and exchange of academic staff.

**Table 44: National and foreign students; international data**

	Foreign students in Kazakhstan	Kazakhstani students who study abroad		+/-
		Total	Including in Russia	
<b>2003</b>	8,690	18,379	16,501	- 9,689
<b>2004</b>	9,130	19,347	17,808	-10,217
<b>2005</b>	9,880	20,336	18,442	-10,456

Source:

- a. Statistics Agency of the Republic of Kazakhstan, 2005;
- b. Ministry of Education and Science of the Republic of Kazakhstan PK. Data obtained from statistics form of the NC for 2005

The MoES has taken the lead supporting educational internationalization. . The National Accreditation Center (NAC), Center of International Programs (CIP), National Center of Education Quality Evaluation (NCEQE) have been established to create an educational system evaluation process, quality evaluation, program certification, and accreditation. The MoES participates in many international and regional educational agreements (EurAsEC, the Council for Cooperation in the Field of Education among CIS Countries-Participants of MAGAT for integration in the field of HE). The internationalization policy is implemented by creating foreign students quotas, targeted scholarship programs, budget funding of certain post-graduate programs. At the institutional level, this has been achieved through various assistance programs of Tempus-Tacis, USAID, LCA, etc.

### **Box 12: World Trade in Educational Services**

Under global economic conditions, the education sector becomes a highly integrated area; it is an important source of export revenues for certain countries, such countries include the US, Australia, Japan, and some others. Of the CIS countries, those with the highest level of educational services exports include Russia (6<sup>th</sup>), the Ukraine (12<sup>th</sup>), and Lebanon (13<sup>th</sup>) among the leading countries – OECD members in terms of admitted foreign students.

Source: Indicators on Internationalization and Trade of Post-secondary Education. OECD/US Forum on Trade in Educational Services, 23-24 May 2002, Department of Commerce, Washington, D.C. USA.P.3.

The key developments in HE internationalization are:

- Participation in international processes as part of the Bologna Convention;
- Creation of centers for the development and promotion of international cooperation;
- Adoption of international standards for HE; and
- Forthcoming accession to WTO Agreement on Trade and Services (GATS).

#### Weaknesses:

- The lack of a clearly defined internationalization strategy (at the national and institutional level);
- Reduced attraction as a location for potential foreign because of low (according to international criteria) HE performance; and
- The unevenness of the internationalization processes in different regions of the country.

Prospective goals of internationalization in Kazakhstan are:

- The development of sustainable forms of international cooperation among institutions across the country, particularly in the priority areas (education and research);
- Tools to enhance the country's export potential in the field of education (staff, funding, organizational structures); and
- The creation of an internal market and possible protection from external competition.

### ***Kazakhstan Legal and Regulatory References***

1. Resolution of the Cabinet of Ministers of Kazakh SSR No. 146 as of March 1, 1991. On Implementing the Resolution of the Council of Ministers No. 1311 as of December 19, 1990, “On Measures to Develop Contractual Relations in Training Specialists with Higher and Secondary Specialized Education”.
2. The Law of the Republic of Kazakhstan dated January 18, 1992.
3. The Law of the Republic of Kazakhstan dated April 10, 1993, “On Higher Education”.
4. Resolution of the Cabinet of Ministers of the Republic of Kazakhstan No. 597 dated July 13, 1993. .
5. Resolution of the Government of the Republic of Kazakhstan No. 477 dated May 4, 1994, “On Procedure to Develop and Approve Governmental Educational Standards in the Republic of Kazakhstan”.
6. The Concept of Humanity Education in the Republic of Kazakhstan. 1994.
7. Resolution of the Government of the Republic of Kazakhstan No. 1894 dated December 29, 1995, “On Implementation of the Decree of the President of the Republic of Kazakhstan” No. 2001 dated April 17, 1995.
8. State Committee of the Republic of Kazakhstan on Pricing and Antimonopoly Policy. Instructions to the Ministry of Education of the Republic of Kazakhstan on Immediate Removal of Violations of Antimonopoly Law No. 1733 dated September 12, 1995.
9. The Concept of Governmental Policy in the Field of Education approved on August 4, 1995.
10. Resolution of the Government of the Republic of Kazakhstan No. 71 dated January 19, 1996.
11. Resolution of the Government of the Republic of Kazakhstan No. 1174 dated September 26, 1996, “On Approving Procedure of Issuing License for the Right to Conduct Educational Activities by Educational Institutions; Procedure of Issuing Documents on Graduating from Educational Institutions and Qualification Requirements for Licensing of Educational Activities”.
12. Resolution of the Government of the Republic of Kazakhstan No. 847 dated July 8, 1996, “On Measures to Improve Quality and to Accomplish Further Development of Legal Education in the Republic of Kazakhstan”.
13. Resolution of the Government of the Republic of Kazakhstan No. 25 dated January 9, 1997, “On Additional Measures to Implement the Decree of the President of the Republic of Kazakhstan having a force of the Law “On Licensing”.
14. The Decree of the President of the Republic of Kazakhstan dated June 14, 1996, “On Additional Measures to Implement Governmental Guarantees of Freedom of Entrepreneurship Activities”.
15. Resolution of the Parliament of the Republic of Kazakhstan No. 202-1 dated December 13, 1997, “On Ratifying Convention on Recognizing Qualifications Related to Higher Education in the European Region”.
16. The Law of the Republic of Kazakhstan No. 389-1 dated June 7, 1999, “On Education”.
17. Resolution of the Government of the Republic of Kazakhstan No. 464 dated April 29, 1999, “On New Pattern of Forming Student Community in Public Higher Educational Institutions of the Republic of Kazakhstan”.
18. Resolution of the Government of the Republic of Kazakhstan No. 1438 dated September 22, 1999, “On Procedure of Delivering Paid Educational Services by Public Educational Institutions”.
19. Resolution of the Government of the Republic of Kazakhstan No. 698 dated June 2, 1999, “On Approving State Order for Education of Students with Higher Education for 1999 – 2000 Academic Year”.
20. Resolution of the Government of the Republic of Kazakhstan No. 11781 dated November 25, 1999, “On Public Educational Grant”.
21. Resolution of the Government of the Republic of Kazakhstan No. 1845 dated December 2, 1999, “On Approving Provisions on Multi-Layer Structure of Higher Education”.
22. Resolution of the Government of the Republic of Kazakhstan No. 1290 dated

- September 2, 1999, “On Procedure of Development, Approval and Validity Period of Public Compulsory Educational Standards”.
23. Resolution of the Government of the Republic of Kazakhstan No. 1305 dated September 3, 1999, “On Approving Provisions on State Attestation of Educational Institutions”.
  24. State Program “Education”.
  25. Order of the Ministry of Education and Science No. 85 dated February 19, 2001, “On Approving Classifier of Areas of Education and Specializations of Professional Higher Education in the Republic of Kazakhstan”.
  26. Order of the Ministry of Education and Science No. 400 dated May 29.
  27. Constitution of the Republic of Kazakhstan.
  28. Civil Code of the Republic of Kazakhstan (General and Special Parts).
  29. State Program of Education Development in the Republic of Kazakhstan for 2005 – 2010.

## KYRGYZSTAN

### NATIONAL POLICY REPORT ON HIGHER EDUCATION SECTOR

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#### *National Context*

The level of education system in Kyrgyzstan at the beginning of the transition period was relatively high. In 1991 the adult population literacy rate was estimated at 97.7%<sup>99</sup>. The transition to a free market was accompanied by recession in the 'real' economy which ended in 1995; however, in 2005 GDP output was lower by 20% than in 1990, (Table 45). In the last decade high poverty levels and unemployment have had a strong negative impact on the education sector. A reduced state budget has increased social problems. Nevertheless, in spite of economic crisis, the education system - including higher education (HE) - has always been considered a principal state priority.

**Table 45: GDP, State budget expenditures and unemployment, (percent) <sup>100</sup>**

	1992	1996	2000	2004	2005
Real GDP Indicator (1990=100)	79,4	54,3	66,6	80,4	80,2
Expenditure in % to GDP	31,2	22,8	17,3	20,0	20,1
Employment level, %	0,2	4,3	3,0	2,9	2,9

Since independence, higher education policy has been based on two principles: first, maintaining past successes; and second, innovative reforms to allow national educational institutions to integrate into the international educational community.

Higher education required adjustments to education's normative-legal base in order to adapt to current market economy conditions. The Law on Education was approved in 1992 and raised the possibility of providing private educational services<sup>101</sup> and multi-channel financing of the state higher education institutions (HEIs). The law allowed for the diversification of educational programs, the use for new teaching technologies and methods, and involvement of different types of partners for educational service delivery.

In addition the reform process should be examined with reference to the following policy documents: the *Cadres of the XXI Century* (1995), *Bilim* (1996), *Kyrgyz Republic Educational Doctrine*<sup>102</sup> (2000), *Concept of Education Development in KR up to 2010*<sup>103</sup> (2002), etc. The change in the state's higher education role was initially outlined in the 'Concept of Education Development'. This document identifies and differentiates roles of various levels of education management (governmental, local and institutional) and outlines the transition from a command-state to a regulated and development-oriented public education management system.

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<sup>99</sup> Status and prospective development of the educational system in the Kyrgyz Republic from 1991 through 2001. Analytical review. Bishkek, 2001.

<sup>100</sup> Data of the publication «Kyrgyzstan at a new stage of development » are used. UNDP, Kyrgyzstan, September, 2005.

<sup>101</sup> KR Law on education, as amended in 2003.

<sup>102</sup> KR President's Decree #244 of August 27, 2000.

<sup>103</sup> Resolution #259 of the Government of the Kyrgyz Republic of April 29, 2002

In 1993 the country commenced the introduction of a multilayer structure of HE<sup>104</sup> which consisted of the following levels; first level – incomplete HE (2 years); second level – basic HE - baccalaureate (4 years); third level – complete HE, with a specialist diploma (5 years after secondary general education or 1 year on a basis of Bachelor degree) or Masters degree (2 years on a basis of Bachelor degree). This structure existed until 2000 when a new Index or classification<sup>105</sup> of training and professions was provided by HEIs and introduced in 2001. It excluded the 4+1 form of professional training scheme. A new structure of specialist training was implemented based on the new Resolution<sup>106</sup> began in 2002. At present the HE structure consists of a Bachelor Degree (4 years), specialists (5) and Masters Degree (2 years based on Bachelors Degree or continuous 6 years based on secondary education) programs offered by the HEIs.

The Kyrgyz Republic's Educational Doctrine sets out the long-term educational development strategy to 2025, in terms of education quality and access. The introduction of nationwide testing system of secondary school graduates in 2002 was one step toward providing fair and equal access to HE and reducing corruption. However, quality and access depend on the availability of financial resources. However educational appropriations between 1997-2005 have been reduced because of the economic crisis and are much lower when compared to other CIS countries.

The combination of inadequate financing together with the lack of operational experience under free market conditions have created a number of problems for HEIs: low teaching staff (TS) salaries, the outflow of highly qualified teachers to other sectors of economy, poor information, the reduced material and technical capacity of HEIs, etc.

### ***Overview of Higher Education System***

There are 49 (32 state and 17 private) HEIs in Kyrgyzstan, ( Table 46). The development of private HEIs is not wide spread and the number of students remains marginal.

**Table 46: HE colleges by types of education**<sup>107</sup>

	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004 /2005	2005/* 2006
Total number of HE colleges	41	39	45	48	46	47	49	49
Number of students in such institutes, of which:	129712	159209	188820	207420	199124	203002	218300	231000
full-time course students	75196	88924	101446	109830	103577	108228	117738	123854
evening-course students	1275	1430	1559	1816	1251	1248	1248	1890
distance-learning course students	53241	68855	85815	95774	94296	93526	99314	105351
Of the total number of HE colleges:								
private colleges	13	13	15	16	15	16	16	17
number of students in such institutes	8726	13213	14341	15513	14245	15082	15806	17500
of which:								
full-time course students	3876	6584	7603	7937	7233	7546	7900	8374
evening-course students	41	189	301	371	93	112	400	382
distance-learning course students	4809	6440	6437	7205	6919	7424	7500	8720

Source of data for the academic years of 2005-2006: MoE, Science and Youth Policy

<sup>104</sup> Resolution of the Kyrgyz Government #395 of August 25, 1993.

<sup>105</sup> Order of the KR MoE #752/1 of December 29, 2000.

<sup>106</sup> Resolution of the Government of the Kyrgyz Republic #142 of 03.14. 2002.

<sup>107</sup> Education and science in the Kyrgyz Republic. Report of the National Statistics Committee of the Kyrgyz Republic, Bishkek: 2003.

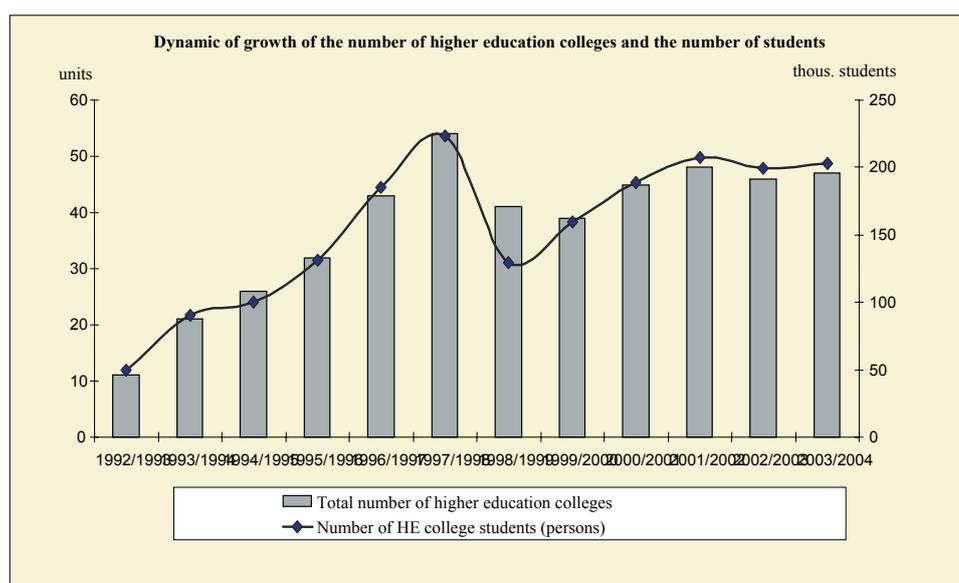
Starting from 1991 the number of HEIs has increased fourfold. Currently over 231,000 students are enrolled in HEIs of Kyrgyzstan, made up of 213,500 state students and nearly 17,500 students at private schools (92.5 percent and 7.5 percent respectively). 12 percent of the total number of students study on a scholarship basis; 53.6 percent are enrolled in full-time and 45.6 percent in part-time programs.

The number of students has increased from 141 students per ten thousand of the population in 1995 to 426/10,000 in the 2004/2005 academic year. This can be explained by the increase in the number of regional HEIs and that the HE in general has become more popular. According to the data, the Osh and Jalalabad regions account for the largest student enrolment rates after Bishkek (see Table 47 and Figure 31). Number of programs offered by HEIs has dramatically increased and currently exceeds 200<sup>108</sup>. There is the issue of program duplication offered by different schools (over 40 HEIs provide education in economics and approximately 10 HEIs train professional lawyers).

**Table 47: Number of students in HE colleges by location at the beginning of academic year<sup>109</sup>**

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
<b>Kyrgyz Republic</b>	<b>129712</b>	<b>159209</b>	<b>188820</b>	<b>207420</b>	<b>199124</b>	<b>203002</b>	<b>218300</b>
Batken oblast	-	8810	11420	13347	12148	12881	142248
Jalalabad oblast	14354	14969	22228	22358	21582	20153	19500
Issyk-Kul oblast	7042	9367	9876	10027	9281	9850	10100
Naryn oblast	1946	3139	3441	3924	4492	4211	4200
Osh oblast	33552	40165	51309	58646	52967	54428	59499
Talas oblast	1401	2363	2728	4212	4186	3692	4074
Chui oblast	1178	1280	1458	1391	1283	1587	1781
Bishkek	70239	79116	86360	93515	93185	96200	103256

**Figure 31: Growth of the number of HE colleges and the number of students<sup>110</sup>**



<sup>108</sup> Source: KR MoE.

<sup>109</sup> Education and science in the Kyrgyz Republic. Report of the National Statistics Committee of the Kyrgyz Republic, Bishkek: 2003.

<sup>110</sup> Ibid

Since 2002 Ministry of Education (MoE) has been trying to reduce both the number of schools (HEIs) and reduce duplication. To date, the results have not been successful. In April 2006 the MoE reviewed all HEIs to identify educational and training quality; unfortunately the current system does not make HEIs accountable for the outcomes/results of their educational services. Nor does policy making involve independent representatives of the various stakeholders, such as the business community, employers, parents, etc.

***Recommendations:***

- To optimize the structure and maintenance of HE system without additional major investments. The MoE should consider developing two policy strategies; 1) strengthen the specialization of schools; 2) reorganize or eliminate HEIs/branches that do not meet license requirements.
- To monitor and evaluate HEIs to improve the public awareness of HEI directions and results. The catalogue of educational courses offered by HEI should be reviewed to comply with state educational standards and market demand.
- The MoE, the Ministry of Social Protection and Labor and other ministries should together develop a list of priority specialties and training opportunities.

***Organization, Planning and Regulation of Higher Education***

Higher education is administered at three levels: state, local and institutional. The state level is managed by the President of Kyrgyz Republic, *Jogorku Kenesh* (Parliament), Government, and the Ministry of Education, Science and Youth Policy (MoE) of Kyrgyz Republic<sup>111</sup>. The MoE is the central body of public administration in the area of education. Its objectives and functions are approved by relevant Regulations<sup>112</sup>.

The objectives of public policy for higher education are to promote the:

- establishment and further development of the legislative system in the area of education;
- general educational, scientific and information management of the HEIs;
- development, approval and implementation of state educational standards;
- development of quality assurance mechanisms;
- implementation of human resources policy;
- development and implementation of state and international education programs;
- regulation of regional educational institutions; cooperation with local governments on issues related to constitutional rights of citizens to receive education.

The MOE approves the training curriculum offered at HEIs together with the guidelines for the implementation of professional education programs. The HEI is key to the system; it provides programs of higher, postgraduate and additional vocational education. Their status depends on their type, legal and organizational framework, and state accreditation (attestation). In addition to the education law the HEIs are also subject to the Regulations of higher professional organizations of the Kyrgyz Republic.<sup>113</sup>

HEIs are independent and apply their own policies in the fields of human resources; student performance evaluation; educational methodology and technology (including distance learning); the identification of scientific research areas; and manage organizational, financial and other issues in accordance with their Statutes, memoranda, legal and other regulatory acts of Kyrgyz Republic. HEIs can also establish legal entities or branches.

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<sup>111</sup> Objectives and functions of the MoE have been approved by the Resolution of the Kyrgyz Government #10 of January 11, 2006

<sup>112</sup> Regulations on the MoE, Science and Youth Policy approved by the Resolution of the Kyrgyz Government #10 of January 11, 2006.

<sup>113</sup> KR Government Resolution № 53 of 03.02.2004.

School Boards, Academic Councils, Educational Councils and other committees help manage these educational institutions. The Academic Council manages the general administration of studies, research, methodological work as well as teaching staff (TS) recruitment and training, while the School Board and Financial Committee manage organizational and financial activities. The Financial Committee, as well as other advisory and consultative elective bodies, were created to provide greater transparency for planning, budget allocations and the use of off-budget financial resources.

There are several types of educational programs: full, part-time, evening school, distance learning, and external studies. The duration of study, required weekly credit hours, examinations and vacation periods as well as types of practical training are determined by the curriculum in accordance with state educational standards.

Students are admitted to the final state examinations after the completion of a full course of study. The State Examination Board awards professional qualifications or academic degrees (bachelor, master, doctor) to graduates, and issues a state education certificate based on the final examination results

The state determines the number of state-budget funded students, while the HEIs themselves can determine the number of paying (off-budget) students that have to be approved by the MoE. It should be noted that some curricula and syllabi have not been adapted to meet the needs of the changing educational policy. Further, many educational facilities have not been renovated or refurbished.

A more innovative approach, commencing with changes to national legislation, would promote investments in Research and Development, and provide tax allowances to overcome existing problems. For the HEIs, there are few uniform procedures and the establishment of standard educational administration procedures using a single information database would benefit efficiency.

New HE policies should be aimed at the decentralization of management system; a clarification of the different roles and responsibilities at different educational levels, and expanding academic and economic-financial autonomy.

**Recommendations:**

- Adjust state requirements and standards which regulate the education process in accordance with changed conditions; develop contemporary state educational standards;
- Introduce legislative changes encourage innovative approaches; to provide tax allowances or exemptions for Research and Development investments.

***Access, Opportunity and Equity***

Educational rights, norms and provisions are found in the Constitution of the Republic, and the Law on Education, and Concept of Education Development 2010 (issued in 2000) and other legislative acts of Kyrgyz Republic and international law. Each citizen has a right to education regardless of sex, ethnicity, language, social status, type and nature of occupation, political and religious believes, place of residence, etc.<sup>114</sup>

Admission to HEIs, irrespective of their type of ownership, is regulated by the MoE, Applicants must have secondary education or secondary professional/vocational training.

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<sup>114</sup> KR Law on education, #92 of April 30, 2003.

Admission rules are found in the national Regulations issued as “Nationwide testing of entrants for educational grants”<sup>115</sup>. The nationwide examination is conducted by an independent organization. The MoE determines the passing score level and also approves additional examinations for entrants applying to specific programs such as art, physical training, military science, etc. HEIs can require additional examinations for enrollment to paid programs and determine the pass score depending on the number of applications. In recent years, HEIs have not filled the places put aside for paying students.

The following categories of applicants, providing they received a positive score, are exempt from competitive entrance process:

- Retired military personnel eligible for benefits established by the Government of Kyrgyz Republic;
- Orphans and children without parental support (by the age of 18, inclusive, as of October 1 of 2006);
- Disabled persons (1<sup>st</sup> and 2<sup>nd</sup> disability groups) with the capacity to study in HEIs (based on medical evaluation).

The state’s educational grants are distributed on the basis of national examination results. These student grants are intended to be a mechanism for achieving trained professionals in priority areas. This is mainly limited to secondary teacher training due to a shortage of specialists in that area; over 60 percent of grants are allocated to train teachers.

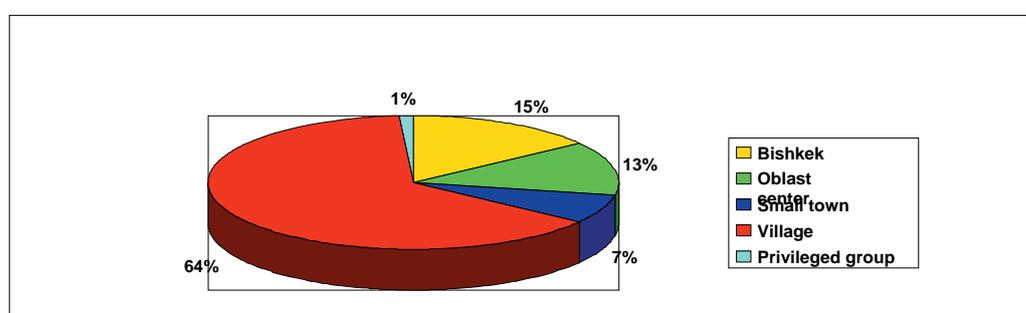
In 2000-2002 about 70 percent of school graduates were enrolled in HEIs (Table 48). There were 18.9 students per teacher during in academic year of 2000-2001 and 16.3 students per teacher in 2004-2005<sup>116</sup>. The majority of enrolled students (2003) were from rural areas (Figure 32) principally as a result of MoE support<sup>117</sup>.

**Table 48: General school graduates and admissions to HE colleges (000s)**

	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
Number of school graduates	70.7	71.8	27.0*	74.5	80.3
Number of entrants to HE colleges	50.9	50.9	36.1	35.6	
Ratio (HE college entrants to school graduates)	71.9%	70.8%		47.7%	

\* This reduction was due to accomplishment of the transfer from ten- to eleven-year secondary school.

**Figure 32: Entrants enrolled by category (percent)**



<sup>115</sup> Regulations and Decree #114 of the President “On further improvement of procedures of awarding state educational grants (scholarships), all-republican testing of entrants, and their competition-based admission to HE colleges of the Kyrgyz Republic” of March 30, 2004

<sup>116</sup> Kyrgyzstan at a glance. Statistical digest. Bishkek, 2005

<sup>117</sup> 2003 brief progress report. Bishkek, 2003

Information about HE is available in mass media. As the number of HEIs grows so competition becomes more intense; therefore, schools have developed marketing services which publicize courses and make visits secondary schools. The information at HEIs' websites or brochures and booklets are very limited.

The National Statistics Committee collects and publishes data on HEIs, students and TS. For example, the report "Education and Science in the Kyrgyz Republic" was issued in 2003 and one the sections covered higher vocational education. Unfortunately, these reports are not produced on a regular basis, which makes analysis of more recent data difficult.

According to the data<sup>118</sup>, the number of HEIs and the students has been growing steadily since 1993. The share of women among students was 53.9 percent in the 2003/2004 academic year; and they make up 82.1 percent of educational students, natural sciences (62 percent), management (54.6 percent), economics (55.5 percent) and health (51 percent); the percentage of women has grown from 27 percent in 1999/2000 to 33.9 percent in 2003/2004 in the area of jurisprudence which has been traditionally dominated by men. The 18-19 age groups remain the largest, although it is noticeable that those 40 and older have increased by fourfold.

**Table 49: Stratification of the total number of students by age**  
(number of persons at the beginning of academic year)

	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003
Total	129712	159209	188820	207420	199124
By age groups:					
17 years and younger	20982	26389	28479	29779	18914
18 years	21118	27064	30235	33338	30816
19 years	19084	23707	28268	30126	31458
20 years	16813	19758	24096	27567	28244
21 year	12559	15441	19111	21633	24333
22 years	9166	11335	14425	14033	15394
23 years	7226	7922	10072	10687	11035
24 years	6584	6467	7771	9103	9167
25-29 years	9041	11744	14141	15747	15173
30-34 years	4257	5586	7192	9113	8237
35-39 years	2324	2721	3586	4327	4096
40 years	558	1030	1444	1967	2257

The students distribution by ethnic groups (academic year, 2002/2003) was as follows: Kyrgyz – 69.5 percent; Russian – 11.7 percent; Uzbek – 9.4 percent; and Kazakh – 2.9 percent. The majority of students are taught in Russian (67 percent), Kyrgyz (29.9 percent) and Uzbek (1.29 percent) languages. It is significant that the number of students studying in English has grown from 96 students (1998-1999) to 1,290 students (2002-2003). The number of students studying in Turkish has also grown from 237 to 1,470 students in the same period, (Table 50 and 51), most of them are students of the Kyrgyz-Turkish Manas University. The Russian language continues as a legacy of Soviet System and remains important because of the Cyrillic alphabet for there is a lack of teaching materials, (and consequently programs and courses) in Kyrgyz, as well as trained staff able to teach in local language.

<sup>118</sup> The statistics used throughout section are from the above mentioned Digest and the package of materials provided by the MoE.

**Table 50: Stratification of the total number of students by language of study**  
(number of persons at the beginning of academic year)

	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003
Total	129712	159209	188820	207420	199124
By language of study:					
Kyrgyz	39980	50378	61382	61450	59718
Russian	87544	104408	123769	140050	135149
Uzbek	2092	3231	3361	5563	2574
Kazakh	-	-	-	-	186
English	96	58	308	375	1290
Turkish	-	237	-	-	1470
Tajik	-	17	-	-	-
Russian/English	-	880	-	-	-

**Table 51: Stratification of the total number of students by nationality**  
(number of persons at the beginning of academic year)

	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003
Total	129712	159209	188820	207420	199124
By nationalities:					
Kyrgyz	92253	114094	135023	149564	138569
Russians	18821	20742	23589	22871	23433
Ukrainians	1016	912	804	857	833
Byelorussians	65	46	50	52	54
Uzbeks	7062	11259	14688	19009	18851
Kazakhs	2656	2882	3718	5613	5911
Azerbaijani	226	363	358	459	455
Tajiks	314	742	782	1523	1616
Tatars	1427	1878	1715	1462	1647
Turkmens	18	17	132	144	389
Dungans	486	652	730	734	903
Koreans	1369	1518	1388	1237	1213
Germans	417	492	529	423	473
Turks	398	470	314	295	331
Uigurians	521	737	856	821	920
Citizens of Turkey, Pakistan, China and India	164	25	707	931	1183
Other	2499	2380	3437	1425	2343

Access to HE is relatively high due to fairly low tuition fees although there is a range which depends on national priorities and demand. Hence tuition costs for pedagogy are only KGS 2,500 (USD 60). Most other programs cost between KGS 6,000-8,000 (about USD 150-200) Programs in high demand, such as international relations, may cost up to USD 600, which is unaffordable for most of the population. Access to private HEIs is also limited because of high tuition fees (up to USD 1,900 at the American University of Central Asia) and high level of competition for enrolment. Tuition fees are reduced for orphans, disabled persons, military personnel, and children of HEIs' regular staff (up to 25 percent).

Greater access to prestigious professional education could be increased by introducing flexible discounts and scholarships for students with excellent performance. Unfortunately

these policies are not widely practiced. It should be noted that there are no special arrangements provided for people with limited physical abilities; it is necessary to plan facilities when building new or reconstructing old campuses.

The state and institutions need to enhance the availability and provision of equal opportunities to HE. The following measures should be taken to increase HE access for talented youth with limited financial resources:

- Encourage HEIs to introduce flexible fee systems as well as increase the number of students receiving scholarships, and their amount;
- Establish a special state scholarship fund for low income students (the process should be based on competition);
- Assist banks in providing student educational loans;
- Create a special benefit fund to encourage the development and publication of teaching materials in Kyrgyz language.

Information about HEIs, professional educational courses, forms and amounts for admission and tuition fees, etc. should be available online. It is important to increase HE access for those with limited physical abilities by building necessary facilities.

### ***Quality and Quality Control***

A number of factors seem to have brought about deterioration in the quality of educational services such as the growth in the number of HEIs with their subdivisions and branches; the outflow of qualified teachers; insufficient financial resources, and the increasing interest of HEIs in private paid education. Specifically these reasons are:

- Imperfect legislation in the area of education, lack of nationally accepted system of education quality evaluation and management;
- Insufficient equipment and information/ telecommunication facilities;
- Absence of a teacher's development training system;
- Lack of student motivation for quality education due to the decreased demand for specialists by the labor market;
- Lack of connection between labor market and education;
- Low admission requirements, increased enrolment on a paid basis, poor quality of education in secondary schools, imperfect testing system of entrants;
- Lack of internal quality evaluation system for HEIs;
- Discrepancy in the mechanisms of state evaluation of educational activities;
- Lack of an accreditation system;
- Insufficient integration of the country's HE system into international educational community.

The first phase of HE policy, beginning in 1994, saw the introduction of educational quality standards. A second generation commences with the establishment of the Central Education Quality Control Department by the Ministry<sup>119</sup> in 2003 along with relevant education quality services in HEIs themselves. An assessment of the quality of education together with student performance evaluations was carried out in 2003 covering 21 state and 4 private HEIs and later regional HEIs.<sup>120</sup>

The statutory and legal provisions of the state control of educational activities are limited to a small number of comparative evaluation indicators. The existing forms of control – licensing and certification – do not by themselves ensure quality. Certificates and diplomas of certain HEIs have lost their value. When the state licensing for HEIs was abolished, more than 40

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<sup>119</sup> Order No 399/1 dated May 19, 2003

<sup>120</sup> Order of MoE KR No 148/1 dated March 13, 2006 “On integrated inspection on conformity of HEI activity to licensing requirements”

branches and 59 new areas of specialization were established in 2001. Licensing was reintroduced in 2003.

HE quality management is in its infancy in the Kyrgyz Republic - there is no generally accepted interpretation of such terms as “quality of education”, “evaluation of education quality”, etc. There are no methodological guidelines on how to conduct an evaluation of HE quality. The evaluation method has been limited to legislation particularly the certification process. Unfortunately the criteria applied, procedures and way of summarizing its results are outdated and do not meet modern requirements.

Teaching staff are now hired on a competitive basis. The regulations on procedures for filling positions and certification of HEI faculty staff was approved in 1993 but do not fully satisfy modern requirements of labor market. The MoE has established a task force to revise certification.

The remuneration of teaching staff are set by the state, but an HEI can pay additional benefits depending on their available resources. The average wage level remains low so that teachers have to work in several HEIs. The wages of teachers with a standard work load in state HEIs is from USD 15 to 50.<sup>121</sup>

Academic staff levels and so wages are determined by the number of published methodological and scientific works, participation in various conferences, seminars, symposia, grant studies, developments and inputs in relevant activities of the school, etc. Some HEIs use teacher evaluation questionnaires completed by students. Students are evaluated by assessing of primary, continuous, final, and graduation level of knowledge.

Currently the state policy on education quality improvement is based on:

- Establishment of state educational standards;
- Updating the content of education (curriculum, programs, textbooks);
- Improvement of the system of professional training for teachers;
- Improvement of methodological and inspection services;
- Renewal of methods of performance evaluation of students and monitoring and evaluation of HEIs;
- Introduction of updated information technologies and multimedia devices into educational process

These measures should be taken in two steps to ensure that quality levels that meet international educational criteria. First, the MoE should consider revising the licensing criteria and the state certification process; update the content and technologies of educational activities according to contemporary social and job requirements; improve the certification system for scientific and pedagogical staff; revive the system of TS professional development; and evaluate students' knowledge. .

The second step would involve the introduction of new procedures which the current evaluation system lacks: the development of educational quality criteria for the internal evaluation of HEIs; the creation of a national knowledge monitoring and evaluation system; and the introduction of an independent accreditation system of HEIs and their curriculum.

### ***Education and Labor Market***

Despite the fact that population aged 14 to 34 represents 37.6 percent of the total population, the level of unemployment among that group is still high; the highest rate is among

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<sup>121</sup> System of HE and educational standards in the Kyrgyz Republic. Analytical report. Moscow, 2006.

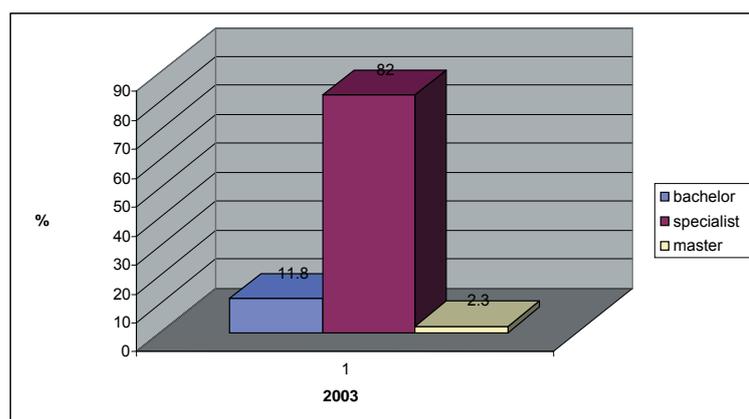
young people aged 15-19 (20.5 percent )<sup>122</sup>. The MoE states that HE graduates are unable to find employment due to the absence of quotas and vacancies, lack of work experience, or poor computer, foreign language, and communication skills. Every sixth young person registered at the employment agency is a graduate of secondary general, secondary vocational, and HEIs<sup>123</sup>. However, according to the data<sup>124</sup>, those with higher professional education are relatively better off in terms of having better employment chances and receiving a higher income. At end-2004, the unemployment rate of those with HE was 9.8 percent compared to those with secondary specialized education (22.7 percent), secondary general education (58.7 percent) and incomplete secondary education (8.8 percent)<sup>125</sup>.

In 2003 82 percent of total number of graduates completed full HE course, while 11.8 percent received a Bachelors Degree, 2.3 percent , the Masters Degree which has been offered since 2002 in Bishkek city, the Chui oblast and Jalalabad, (Table 52 and Figure 33). Under the Soviet Union it was the state that was responsible for graduate employment; currently, only specialists in education are assigned to schools due to the great need for teachers.

**Table 52: Graduation of certified specialists from HE colleges by location**

Year	Total	Of which:			
		Master's degree	Bachelor's degree	Specialist with complete HE	Specialist with incomplete HE
1999/2000	15076	345	3279	10199	1253
2000/2001	17896	388	2888	13866	754
2001/2002	22528	418	3509	18098	503
2002/2003	26261	613	3124	21582	942

**Figure 33: Ratio of degrees awarded to graduates in 2003**



<sup>122</sup> Sample household survey on employment problems in the Kyrgyz Republic in November of 2002: Special Publication. Bishkek, 2003.

<sup>123</sup> On the Conditions and Ways of Development of the Educational System of the Kyrgyz Republic in 1991 – 2001. Analytical Review. Bishkek, 2001.

<sup>124</sup> Collection of Gender-Specified Statistics, Bishkek, 2002.

<sup>125</sup> Kyrgyzstan in Figures. Statistical Compendium. Bishkek, 2005.

The state youth policy was initiated in 1992 with the Decree “Major Directions of the State Youth Policy under Modern Conditions”. In 2000 the Law on “Fundamentals of the State Youth Policy”<sup>126</sup> was adopted, and the “*Jashtyk*” National Program on development of youth of Kyrgyzstan until 2010<sup>127</sup> was approved. One of the main activities of the “*Jashtyk*” National Program is “Youth and Employment”. The MoE established the Department on Youth Affairs, which in turn established the Republican and Regional Youth Labor Agencies. These agencies monitor youth employment and organize monthly career fairs.

Unfortunately, currently, not a single HEI collects regular statistics on the employment of its graduates. HEIs pay little attention to employment issues as their graduate employment rate is not an indicator that influences funding. At the same time 40 percent of youth is more interested in finding a well-paid job rather than being employed according to their specialty (70 percent have chosen other specialties, especially those with a humanities degree<sup>128</sup>).

An improvement will only be possible through the combined efforts of Ministries and Departments; with the development of career centers; training aimed at advancing practical skills and qualifications; and, last but not least, creating strong partnerships with employers.

There is a strong need for school teachers, which is strongly supported by the government through the MoE, governmental resolutions and consequent measures<sup>129</sup>. HEI commissions assign graduates to pedagogical specialties and to work in secondary schools (Table 53). The data shows that young specialists are not always interested in long commitments, especially in rural areas. The “Young Teacher’s Deposit” Program<sup>130</sup> was introduced in 2004: 300 young specialists became owners of the Deposit during the first pilot year, (Table 54). In 2006 it was planned to increase the number of participants to 600. The favorable impact of such programs should be used to help resolve the allocation of young specialists across the national economy.

**Table 53: Allocation of Young Specialists**<sup>131</sup>

Years	Young graduates with pedagogical specialties	Applications or demand	Allocated	Appearance	Ratio of those appeared to demand
1999	2,525	2,984	1,952	706	23.65%
2000	2,530	2,332	1,757	691	29.63%
2001	2,595	3,039	1,930	1,255	41.29%
2002	2,523	2,580	2,079	1,452	56.27%
2003	2,433	3,190	1,948	1,580	84%

<sup>126</sup> Adopted on 27.01.2000 by the Jogorku Kenesh of the KR, on 02.26.2000 signed by the KR President and became effective on 10.03.2000.

<sup>127</sup> Approved by Decree of the KR President of 06.18.2000.

<sup>128</sup> Based on the studies conducted by the Center of Public Opinion Studies with the support from the K. Adenauer’s Foundation.

<sup>129</sup> Resolution of the KR Government №296 dated 8.07.1993 “On Approval of the Regulation on Allocation and Use of Graduates of Higher and Specialized Educational Institutions of the KR”.

<sup>130</sup> According to this Program deposit owners will have some money accumulated in personal bank account during 3 years in addition to the established salary. (The Ministry of Health considers the issue of launching a similar Program “Young Doctor’s Deposit”).

<sup>131</sup> Education and Science in the Kyrgyz Republic: Report of the National Statistical Committee, Bishkek, 2003.

**Table 54: Young Teacher’s Deposit Program (2005-2006 academic year)**

#	Oblast	mathematics	chemistry	biology	geography	physics	foreign language	Russian language	Kyrgyz language	physical training	history	elementary classes	drawing class sketching	music classes	pre-conscription	Total
1.	Osh	15	2	2	6	2	19	6	3	-	-	-	-	-	-	55
2.	Jalalabad	16	7	3	1	9	23	3	3	-	6	3	-	-	-	74
3.	Batken	12	4	3	1	-	12	9	13	1	3	6	-	-	1	65
4.	Talas	1	2	2	1	1	6	2	1	-	6	5	-	-	-	27
5.	Issyk-Kul	6	2	-	7	2	5	1	7	-	5	-	1	-	-	36
6.	Naryn	2	-	-	-	5	4	1	3	-	1	4	1	-	-	21
7.	Chui	2	2	-	-	-	3	1	3	1	3	5	1	1	-	22
	Total	53	20	10	16	19	72	23	33	2	24	23	3	1	1	300

It should be noted that the state’s poor management of HEIs (system of licensing, educational standards, etc.), financial allocation and choice of priorities impedes the prompt response of educational institutions to the labor market demands. At the same time there is an increasing demand for diplomas, (from students and their parents), irrespective of current labor market conditions so HEIs become more interested in providing diplomas rather than quality education.

## Recommendations

### National

The national government should concentrate on creating jobs and regulating interstate relations to resolve labor migration issues. In addition, decentralization and public control of HEIs (independent certification and accreditation, attraction of private investments, creation of boards of trustees, etc.) will help promote more business-like approaches within HEIs and increase competition among them.

The MoE is recommended to:

- Take into account the level of employment of graduates when evaluating HEI performance;
- Cooperate with the Ministry of Labor and Social Protection, the State Committee on Migration, the Agency on Civil Service Affairs, and the Youth Labor Agency on the issues of unemployment;
- Apply the experience of the “Young Teacher’s Deposit” Program to other specialties in demand nationally;
- Establish a center for collecting and updating information about vacancies;
- Involve independent research agencies to conduct surveys in HEIs, enterprises, and organizations to identify better mechanisms of identifying graduate employment ;
- Develop statutory documents confirming the status and qualifications needed for each level of training for the labor market. Special attention should be paid to new degrees (Bachelor, Master); to the qualifications and requirements of specialists in various labor market areas (employers do not understand the difference between these two degrees and consider a Bachelor Degree to be an incomplete HE qualification).

## Institutional

At the institutional level policy should aim at:

- A significant improvement of training quality in HEIs so that graduates are sought after not only in local but external labor markets such as the CIS countries;
- The Establishment of Career Centers)/Alumni Associations that will create and update a database about vacancies, disseminate information, find internship and volunteer work for students, establish partnerships with businesses and other potential employers, and organize training in useful skills (computer, communication, English, etc.);
- The organization of annual competitions among graduates to identify their ratings; establish a database of specialists as part of the Agency on Civil Service Affairs;
- The Youth Labor Agency, the MoE, the Ministry of Labor and Social Protection, the Department on Migration should work together to improve youth employment prospects.

## Higher Education Financing

Since independence in 1991, Kyrgyzstan's educational policy has been based on democratic reforms and a free market economy. The first Law adopted in the country «On education» (1992) allowed for paid educational services. In 1993-1994 academic year 7.6 percent of students paid for their education in state HEIs, (Table 55). In 2005 76 percent of revenues were received from paid educational services and 24 percent from the state budget (Table 56). Private HEIs began operating in 1995; however, the number of students studying in private schools is insignificant (7.6 percent in 2005).

**Table 55: State institutes of HE by types of education (at the beginning of the academic year)**<sup>132</sup>

	Number of students (prs).	Including by types of education, %	
		Budget	Contract
1992/93	53670	100	-
1993/94	52261	92,4	7,6
1994/95	55229	70,0	30,0
1995/96	57211	67,9	32,1
1996/97	66686	50,6	49,4
1997/98	86598	38,9	61,1
1998/99	120986	27,5	72,5

**Table 56: Structure of the HE financing (percent)**<sup>133</sup>

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Budgetary means, %	61,2	87,1	53,4	48,7	38,8	36,0	27,7	25,1	19,7	22,0	18,7	30,4
Special means <sup>134</sup> , %	37,9	12,9	46,6	51,3	61,2	64,0	72,3	74,9	80,3	78,0	81,3	69,6

<sup>132</sup> The 1992-2002 data are taken from statistical collections «Education in the Kyrgyz Republic». B., 2000. and «Education and science in the Kyrgyz Republic». B., 2003. Data of the MoES&YP are used for 2002-2005.

<sup>133</sup> 1999-2005 data of the Ministry of Finance of KR are used. The account of incomes of paid services of HE colleges was introduced in Kyrgyzstan in 1997-98. The budgetary funds data for 1994-98 are taken from the publication «National Report of KR on financing issues and the education budget. UNESCO: the International institute of education planning. Paris, 1998. Page 54-55»; the cumulative data on higher education of 1994-98 are taken from the publication «National human development report. UNDP. Bishkek, 1999. Page 63».

<sup>134</sup> Special means – are revenues independently earned by the state HE: paid education, entrepreneurial activity and so on.

State financing of HE has increased from 0.54% (1995) to 0.98 percent - (2005) of GDP. At the same time, the education sector's proportion of public expenditure has decreased significantly from 7.1 percent to 4.9 percent, (Table 57).

**Table 57: Shares of education in the GDP and the state budget (percent)** <sup>135</sup>

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total education expenditures,% of GDP	7.1	5.4	5.2	5.2	4.4	3.7	4.2	4.5	4.3	4.6	4.9
Total HE expenditures,% of GDP	0.54	0.71	0.82	0.99	0.71	0.49	0.72	0.96	0.85	0.94	0.98
Total per student expenditures,% of per capita GDP	0.18	0.29	0.3	0.34	0.17	0.14	0.17	0.24	0.22	0.22	0.21
Public expenditures for HE,% of total budget expenditures	1.9	3.2	3.6	4.4	3.5	3.0	4.0	4.6	4.3	4.7	4.9
Public expenditures for HE,% of education budget expenditures	8.2	13.6	15.7	19.2	16.1	14.7	17.2	21.4	19.8	20.5	20.1

The share of the state budget allocated to HE in 2005 has increased (4.9 percent of total state budget expenditures) as compared to 1995 (1.9 percent). HE's share of the state education budget has increased from 8.2 percent (1995) to 20.1 percent (2005) while state support for pre-school and secondary education has been reduced. Public support for secondary education decreased from 75.4 percent in 1995 to 66.5 percent in 2004, (Table 58).

**Table 58: Structure of the state budget expenditures by educational institutions (percent)** <sup>136</sup>

	1995	1996	1997	1998	2001	2002	2003	2004
Pre-school education	8.2	13.6	5.8	6.5	6.1	6.3	6.2	6.8
Secondary education (including institutes of secondary education)	75.4	71.1	69.2	64.2	65.1	61.8	61.0	66.5
HE	7.0	6.4	15.7	19.2	17.2	21.4	19.8	20.5

Until 2002 state HE financing was based on overall expenditures estimates with the average size of per student allocations around KGS 3,800 (about USD 90) per year, (see Table 59). From September 2002, the state allocates grants on a per student basis. This mechanism has the disadvantage that educational grants are relatively small and the selection of HEI students is noncompetitive.

<sup>135</sup> Source of estimates for the period of 1992 through 2001 is the National Human Development Report (2000-2002). Source of estimates for the period of 2002 through 2005 is the Central Treasury of the Ministry of Finance of the Kyrgyz Republic.

<sup>136</sup> Data for 1995-1998: *Education in the Kyrgyz Republic* statistical digest. Bishkek, 2000; data for 2001-2004: Ministry of Economy and Finance of the Kyrgyz Republic.

**Table 59: Amount of funds allocated per student**<sup>137</sup>

	2001	2002	2003	2004	2005
Public expenditures for HE (without taking tuition payments into account), KGS thous.	130399.6	133584.5	189513.3	166810	237170
Number of publicly financed students (grant-based), persons	34204	31835	30065	25092	24932
Expenditures per one students, KGS	3812.4	4196.2	5000	5000	5000

The current public budget allocation per student is now KGS 5,000 (about USD 120), which covers only the operating costs of HEIs. Training costs on a paid basis vary from KGS 3,000 to 60,000 per year (about USD 70 and 1,500); on average the annual tuition fee is about KGS 15,000 (about USD 375). Most students, who pay from their own pocket, study management, economics, law and humanitarian sciences. The availability of private educational programs fulfills the demand of students for above mentioned disciplines.

During academic year 2006/07, the state will allocate 5,705 state grants. The list is defined by the Government of Kyrgyzstan based on the needs of the country for different specialists. Currently priority is given to pedagogical specialties (about 3,000 budget grants). Unfortunately, teacher training is in less demand from students due to low salaries and limited future employment opportunities. Children from low income households have fewer opportunities to enter HEI because of poor quality of secondary education that they receive.

State financing, which accounts for a significant share of the education budget given the large number of institutions, is quite limited. It covers wages, deductions for the Social Fund, stipends and food expenses; in addition, the budget provides small amounts to cover heating and electricity costs (Table 60). Insufficient funding affects the quality of education: HEIs can not attract experienced teachers and do not have motivation to teach “budget” (that is private) students. Off budget funds are those generated by paid educational services

**Table 60: Share of budgetary and special means in financing expenditures of the republican budget of HE in 2005 (percent)**

	Out of them	
	Budget	Special funds
Salaries	23,2	76,8
Social fund	23,2	76,8
Travel expenses	0,2	99,8
Procurement of equipment	2,6	97,4
Meal	73,9	26,1
Scholarships	97,3	2,7
Water supply	0,8	99,2
Power supply	2,3	97,7
Heat supply	10,6	89,4
Communications	0,8	99,2
Other acquisitions and services	2,9	97,1
Major repairs	1,1	98,9
Transportation	0,4	99,6
Total	24,0	76,0

<sup>137</sup> Source: *Education and Science in the Kyrgyz Republic* statistical digest. Bishkek, 2003; and the MoE of the Kyrgyz Republic.

Staff wages are, on average, covered by both off-budget (76.8 percent) and state budget funds (23.2 percent). Expenditures for equipment, repairs, utilities, transportation, etc. are mainly covered by off-budget funds. On average, wages (together with deductions to the Social Fund) account for 58.2 percent of all expenditures (see Table 61); utility services - 5.4 percent; and equipment procurement – less than 9 percent. Tuition fees at state HEIs are set by the Anti-Monopoly Committee.

**Table 61: Economic classification of expenditures of the republican budget of HE in 2005**

	<b>% of total expenditures</b>
Salaries	48.2
Social fund	11.0
Travel expenses	1.1
Procurement of equipment	8.9
Meal	1.2
Scholarships	6.3
Water supply	0.7
Power supply	2.2
Heat supply	1.4
Communications	1.1
Other acquisitions and services	7.3
Major repairs	5.6
Transportation	1.2
Total	100

Thus Kyrgyzstan's HEIs administer two budgets – funds received from the state and off-budget funds (from paid education revenues). However, the financial autonomy of HEIs differs: they can retain off-budget fund surpluses but the final decision on spending is made after negotiations with the MoE and other ministries.

In 2005, over 88 percent of students studied on a paid basis. Among other non-governmental funding sources is the export of educational services, as the low cost of education and relatively high quality make the Republic a venue for foreign study especially with neighboring CIS countries. In 2002 foreign students accounted for 7 percent of all HE students<sup>138</sup>. During academic year 2005/2006 around 20,000 or 8.7 percent of the total student body were foreign citizens<sup>139</sup>; with two thirds (14,400) from Uzbekistan and studying at the Kyrgyz-Uzbek University (Osh city).

International organizations have provided some selective funds. Between 1995-2000 external assistance was more than USD 1 million (see Table 62).

**Table 62: External assistance trends to HE, USD (000s)**<sup>140</sup>

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
HE, USD thous.	113	127	118	243	325	150
Nominal exchange rate	10.82	12.80	17.26	20.83	38.96	47.71

<sup>138</sup> Global Education Digest 2005. Comparing Education Students across the World. P. 106

<sup>139</sup> Data of the MoE

<sup>140</sup> Source: International support for development of the Kyrgyz Republic. Foreign Assistance Report. UNDP Country Office in the Kyrgyz Republic. 2001. p. 34.

HE, KGS thous.	1222.7	1626.0	2037.8	5063.5	12663.8	7156.6
Share in total expenditures for HE,%	1.4	1.0	0.9	1.6	4.0	2.1

Private HEIs play a limited role overall, partially helped by the tax system. Private HEIs pay a ten percent profit tax but capital expenditures are deductible prior to payment. However, as a whole *the tax system does not encourage* spending on education.

The HE system is very centralized. While paid educational services predominate at state HEIs, the level of tuition fees is controlled, and the immature private sector does not have the weight to compete. The problems that exist in HE financing are mainly related to the large number of state HEIs and, this large resource transfer, reduces the public funding of primary and secondary education. On the other hand, state support per institution is clearly insufficient; as education grants do not cover HEIs current costs so the allocation of budget funds is limited to pedagogical specialties.

### **Recommendations:**

1. Significantly reduce the number of state HEIs by privatizing most of them<sup>141</sup>. At the same time increase the size of education grants. The state will retain some shares in the new private HEIs but tuition fees will be only partially regulated; A collegial body (independent agency) will determine how fees are to be calculated and the HEIs will define the final amount. Access to HEs for low income citizens will be ensured by the availability of educational credits and loans. According to the State Doctrine on Education<sup>142</sup> and the Concept for Education Development in the KR until 2010<sup>143</sup>, the government plans to start looking for funds and developing ways to make loans for education.
2. Emphasize private HEIs and provide tax allowances to enterprises and companies for education purposes. The state should focus on ensuring accessibility and quality of secondary education to reduce family expenditures; cooperation with secondary schools can help prepare future entrants for HE; additional resources for secondary education can be provided by private HEIs.

### ***Role of HE in Research and Innovations***

The government formulates national scientific research policy which includes the following stages:

- Identifying key socio-economic and scientific problems;
- Organizing competitions between different programs to help resolve specific problems; preparation of the list of programs;
- Development and approval of programs.

Between 1991 and 2005 scientific research expenditures as a percentage of GDP fell on six occasions. If in 1990 the ratio (percent expenditure to GDP) was 0.7 percent the average, (1991-97) was about 0.3%, and between 1998 and 2005 less than 0.2 percent of GDP, (see Table 63).

<sup>141</sup> In future according to the State educational Doctrine and the Concept of Education Development of KR till 2010 the policy will aim at reduction of state financing of HE colleges. It will be necessary for the Government to identify the list of the state HE colleges of republican and regional significance for state financing

<sup>142</sup> Approved by Decree of the KR President on August 27, 2000, №244

<sup>143</sup> Approved by Resolution of the KR Government on April 29, 2002, № 259

**Table 63: Share of expenditures for research and development activities as percent GDP<sup>144</sup>**

	1990	1991	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Expenditures for science,% of GDP	0.7	0.33	0.3	0.22	0.3	0.33	0.21	0.2	0.21	0.21	0.17	0.17	0.12	0.1

The bulk of scientific research projects are not carried out by universities and their scientific departments. In 2005 they carried out 7.7 percent of the total volume of research in the country, (Table 64).

**Table 64: Share of HE colleges in the total volume of scientific and technical activities, (percent)<sup>145</sup>**

	1998	1999	2000	2001	2002	2003	2004	2005
Total: scientific and technical activities, KGS thous. of which:	71809	71487	81930	119541	139357	186116	187402	205130
HE colleges	5.4	8.1	6.9	6.3	5.4	4.8	4.9	5.5
Scientific research institutes and centers under HE colleges	3.2	3.1	3.0	2.3	1.7	1.6	1.6	2.2
Total: HE colleges	8.6	11.2	9.9	8.5	7.1	6.4	6.5	7.7

The scientific and research workload of TS (in terms of academic hours) is equal to their teaching workload. Most universities publish scientific magazines and hold scientific conferences (although not always regularly due to the lack of financial resources).

Most of the state's research budget (about 70 percent) is allocated to the National Academy of Science (NAS), (Table 65). The NAS distributes funds to specialized scientific-research institutions that are part of its organizational structure. Universities may request funds for special scientific research projects only, from the MoE's Department of Science<sup>146</sup>.

**Table 65: Allocation of expenditures for science in the state R&D budget, (percent)<sup>147</sup>**

Years	Share of expenditures	
	National Academy of Science of KR	R&D activities financed from the budget under the Science item
2001	67.0	33.0
2002	72.9	27.1

<sup>144</sup> Source: Report on activities in the area of science, engineering and new technology in 2004. Bishkek, State Agency for Science and Intellectual Property under the Government of the Kyrgyz Republic, 2005; and the Department of Science, MoE, Science and Youth Policy.

<sup>145</sup> Source: *Education and Science in the Kyrgyz Republic* statistical digest. Bishkek, 2003.

<sup>146</sup> Until 2006 this Department was a structure of the State Agency on Science and Intellectual Property under the Government of the Kyrgyz Republic (Kyrgyz patent).

<sup>147</sup> Source: MoE, Science and Youth Policy of the Kyrgyz Republic.

2003	74.2	27.6
2004	69.7	30.3
2005	70.2	29.8

This scientific research budget allocation system was inherited from the Soviet Union. Some research centers have been created by leading HEIs, (for example the Institute of Fundamental Sciences at KNU) and which contributes to the integration of science and education. This has had positive scientific results, including the training of highly qualified specialists, and attracted youth to science. However, the state does not provide separate funding for the maintenance of these centers.

The Department of Science is the second largest beneficiary of budget funds. It coordinates development of scientific programs determined and approved by the government<sup>148</sup>. Project competitions are publicized annually and are open to state, private and non-governmental organizations, scientific teams, etc. Expert committees, set up by the Government, review bids and approve projects; the Department of Science makes the allocations of budget funds.

Independent experts review the scientific results annually and depending on the outcome, funding is continued or the project closed down. In addition, the Department of Science, jointly with the Ministry of Finance, organizes scientific project progress reviews.

The international practice of funding HEI research activities has the following elements:

- Fundamental (base) financing, which helps educational institutions build capacity for research; it is provided on a noncompetitive basis;
- financing of individual areas of research implemented by educational institutions;
- financing of research projects, programs and scholarships

The first two options are non-existent in Kyrgyzstan.

The Republic of Kyrgyzstan has the following policy options:

1. The scarcity of fundamental financing suggests that the Academy of Science should merge with the key domestic HEIs to increase existing research and teaching capacity. The reallocation of funds from the Academy of Science will provide the necessary resources for HEIs. The third component (above) might be strengthened by external (including foreign) experts in the project selection and appraisal process.
2. Research funding is undertaken together with their teaching activities. Educational institutions create capacity not only for educational but research ends and these funds can be provided on a non-competitive basis. Scientific and research activities of HEIs will be financed depending on specific performance indicators but the allocated research funds activities must be sufficient to retain specialists and build scientific capacity. The institutionalization of research and development projects (second component) should be subject to competition among educational institutions. A system of evaluation and monitoring should permit timely decisions regarding funding renewal for scientific projects. .

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<sup>148</sup> Government Resolution #511 of August 13, 2003.

## ***Globalization and Integration with the International Education Sector***

Beginning in 2003, the Kyrgyz Republic has launched a series of initiatives to join the Bologna process. It is expected that these HE initiatives will help the Republic integrate its educational activities into those of the international educational community.

After signing a Memorandum between the MoE, the *EdNet* Association of educational institutions, the country office of the EU's *Tempus-TACIS* program and the task force under the President of the Kyrgyz Republic to promote the Bologna process (signed on 07.01.2004), the government, in academic year 2004/2005, launched a pilot project of seven HEIs with the goal of implementing a credit-based education system for the bachelor's economics degree. Before the pilot, the MoE had set out its approach as the *Bologna Process and Innovative Openness of Universities Program* as part of the *Higher Vocational Education System Development Strategy*. 980 students participated in the economics pilot program using the European Credit Transfer System (ECTS). Some pilot HEIs implemented the first stage of the project without student involvement and these were limited to training administrators and teaching staff (educational and methodology documents). 276 teachers and 51 administrators have been trained in this credit system technology; work programs and educational and methodology courses have been developed and installed in HEI local area networks. More than twenty courses of lectures have been delivered to train instructors in new methods and computer-based interactive education skills. A national workshop and an international conference have been held, based on this project's results. In addition, many HEIs work with international organizations such as TEMPUS/TACIS, Eurasia Foundation, and USAID/KARANA.

Based on the outcomes of the pilot project it was decided to continue its implementation 2005-2008 and expand it to all HEIs delivering courses in economics. Moreover from academic year 2006/2007, pilot projects using the credit system will be implemented for the following areas: technical, agricultural, pedagogical and humanities vocational undergraduate (bachelors) education. The implementation of the ECTS system is an example of Kyrgyzstan's commitment to the integration of its higher education system into the international educational community and their involvement in the European integration process under the Bologna Declaration. However, the lack of government regulatory power limits the active implementation of these new organizational approaches and hampers student exchange and mobility.

The implementation of credit system will facilitate HE integration into the international educational community, improve quality of education.<sup>149</sup>(see Recommendation of the Final Republican Seminar on Implementation of the Credit system of Education in pilot HEIs", Bishkek, August 25, 2005, Kyrgyz State National University named after J. Balasagyn).

In addition to activities promoting the Bologna process, another indicator of growing internationalization is the export of educational services. Under a series of intergovernmental treaties and interdepartmental agreements with foreign countries, the MoE makes efforts to facilitate admission of Kyrgyz students into HEIs of various countries on a state-financed (budgetary) basis. According to the MoE (2005), arrangements were made for the admission and enrolment (state-financed) of 282 Kyrgyz citizens to HEIs in Russian Federation, Republic of Turkey (bachelor, master and doctorate degrees), Ukraine, Jordanian Hashemite Kingdom (bachelor degree), and Arab Republic of Egypt. The total of number of Kyrgyz citizens admitted to HEIs abroad on a budgetary (state-financed) basis is as follows: in Russian

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<sup>149</sup> From Recommendations of the final republican seminar «Introduction of credit-based training system in pilot HE colleges on training of bachelors of economics», Bishkek, August 25, 2005, KNU named after Balasagyn

Federation (613); Turkey – (1053); Ukraine (52); the PRC (around 30); Egypt, (around 30); and Jordan (10).<sup>150</sup>

Kyrgyz students study successfully at HEIs in the USA, Europe, Japan, Turkey, China and other countries with financial assistance from various international educational organizations, such as IREX, the Soros Foundation, ACCELS, etc. Many students study abroad at their own expense, reflecting the growing number of high income households; some young people obtain scholarships to study at foreign universities.

A total of 20,035 foreign citizens study at HEIs in the Kyrgyz Republic (academic year 2005/2006) of which, 2,715 foreign citizens are in Bishkek and 17,317 outside the capital city. These students are mainly from Uzbekistan. The share of students from Turkey, Pakistan, China and India is growing - from 164 students in 1998-1999 academic year to 1,183 students in 2002-2003<sup>151</sup>.

The main recommendation is to continue to develop the HE system using world standards, which could involve hiring international education experts to help improve the standards and quality of the HE system. It is important to increase student mobility within the Republic (and internationally) by eliminating differences among similar training programs. This will inevitably result in greater HEI competitiveness and so improve the professional level of specialists and their relevance in labor markets.

## **Recommendations**

### National:

- To proceed with the Bologna accession process. This will help improve educational standards, the quality of HE system, increase student mobility and labor market competitiveness. It is necessary to intensify efforts to use the system of cumulative credit-hours, and the development of professional education standards consistent with existing world standards;
- To explore opportunities for hiring foreign experts to improve the HE system's internationalization strategy;
- To evaluate, as part of their and HEI performance, teaching staff who participate in international projects, exchange programs, and study tours etc. .

### Institutional

- Intensify efforts to find foreign partners for bilateral relationships and the development of joint projects aimed at the exchange of students, academic staff and other activities;
- Encourage participation of academic staff in international educational exchange programs; provide information and practical support.
- Intensify efforts aimed at training academic staff in innovative approaches to teaching and research.

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<sup>150</sup> Source: MoE

<sup>151</sup> Source: MoE

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# TAJIKISTAN

## COUNTRY POLICY REPORT ON THE HIGHER EDUCATION SECTOR

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### *National Context*

Tajikistan is a low income country with widely spread poverty that has its deep roots. Having achieved its independence in 1991, the country suffered a serious economic crisis and political instability, and encountered significant losses as a result of the civil war (1992-1997). Most of its working-age population including skilled specialists with higher education (HE) has temporarily or permanently immigrated to other countries. Collapse of Soviet Union and elimination of subsidies, destructive consequences of the civil war and economic difficulties of the transition period have greatly weakened the country's HE system.

The Republic of Tajikistan (RT) Government's policy in the field of higher vocational education is based on provision of equal access, improvement of quality, and integration of the HE system into the international education community.

Signing of the Peace Agreement in June 1997 was followed by stability and some improvement of socio-economic indicators. This is the period from 1996 to 2000, when the first stage of HE reform began. During this time, active efforts were made to form legislative and regulatory frameworks for the HE reform, which enabled:

- development of multilevel specialist training system in the areas with flexible response to labor market demands;
- integration of specialized secondary and higher educational institutions (HEIs) that resulted in creating new educational career trends and improving education quality;
- development of academic mobility envisaging specialist training of different levels based on individual skills of trainees;
- possibility of integration into international education community

During this period some progress has been noted in the education system financing issues. Since 1998 the economic growth has been revived, which contributed to increased tax collection and improved tax-budget balance. The second stage of the reform from 2001 to 2005 was marked by development and adoption of additional laws and regulations for further upgrading of educational standards and modernization of HE management system. The foundation has been established for decentralization of management system and provision of HEIs with certain autonomy, for extension of contract-based training system, and establishment of partnership relations with HEIs from CIS and other foreign countries.

During 2000-2004, the share of taxes in GDP increased by 4%; it promoted the growth of public financial resources and led to increase of budget sectors funding and reduction of poverty. Within this period, three private HEIs and three joint Tajik-Russian modern humanitarian universities have been established; in some HEIs Distance Learning Centers have been formed in cooperation with different HEIs from CIS countries. State and non-state HEIs have been licensed, certificated, and accredited.

At the third stage, beginning from 2006, the HE reform policy is focused on further enhancement of HEIs' autonomy, training of skilled specialists based on the labor market demand, efficient use of human, technical, information, and financial resources, integration of the HE system into international education community, and creation of continuous development trainings of specialists. The National Education Development Strategy of the RT for 2006 – 2015, approved in August 2005, will contribute to that in many respects.

The RT is planning to join in the future the Bologna Process; to that end, in the academic year of 2005-2006, the pilot project of credit-based financing of education is implemented in two HEIs. The results of the experiment will be summarized and, starting from the next academic year, this system will be introduced in other HEIs.

In order to consolidate teaching staff (TS) resources and material and technical basis and to expand the areas of professional training, it is planned to grant some universities with the status of national ones that will include in their structure sectoral institutes and other professional establishments as well as scientific and production complexes.

### ***Overall Description of the Higher Education System***

The following types of HEIs are established in the RT: university, academy, and institute. University is a HEI, which implements higher and postgraduate vocational educational programs in different areas of specialization and performs fundamental and applied scientific research. Academy implements higher and postgraduate vocational education programs in a certain domain, conducts training and re-training of higher qualification specialists, and performs fundamental and applied scientific research. Finally, an institute is a HEI, which implements higher postgraduate vocational education programs in one or several areas, provide specialist training and re-training in some areas, and conducts fundamental and/or applied scientific researches.

In 1991 there were 13 higher institutions operating in the Republic with 69,340 students enrolled. According to the Ministry of Education (MOE) of the RT, there are 40 HEIs in 2006 (32 HEIs and 8 branches) with 108,030 students enrolled. During the past five years the number of HEIs has increased by 10 (including their branches), and the number of students – by 34,810 people. As for the type of institution, there are 17 universities, 10 institutes, one Academy of the Ministry of Interior Affairs, two Higher Schools at the Ministry of Security equated to institutes, and one conservatory equated to an institute as well.

Such a rapid growth in the number of HEIs and their branches became possible mainly due to the legislation that allows establishing the HEIs without availability of relevant teaching and technical resources. Alongside with that, the most HEIs, 23, are located in Dushanbe, while 11 are located in the Sogd Province, 5 – in the Khatlon Province and 1 – in the Gorno-Badakhshan Autonomous Region. According to the data of 2002/2003 academic year, 52.0% of HEIs are located in Dushanbe with 62.8% (60,667) of the total number of students; 39.0% – in the Sogd Province with 23.7% (22,876) of students; 6.0% – in the Khatlon Province with 10.7% (9,988) of students, and 3.0% – in GBAR with 3.4% (3,052) of students.

Starting from 2001, two new degrees of higher vocational education were introduced in the Republic of Tajikistan: bachelors and masters. However, the first degree was not recognized by employers, therefore, the demand for such programs has decreased. In this connection, many HEIs stopped enrolling in programs providing Bachelor's degree and turned to five-year training of specialists. This is witnessed by statistics showing (Table 66), first, an insignificant number of masters and bachelors, and, second, rapidly decreasing number of bachelors.

**Table 66: Number of students in the country's tertiary education institutions by vocational training stages**

<b>Years</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Total ('000.)	84.3	96.6	108	118.4	132.4
Of them:					
Masters	48	211	285	228	802
Bachelors	2036	1503	751	184	129

Upon state certification and accreditation, a HEI is entitled to issue state-standard documents on higher and postgraduate vocational education. Students receive state-standard documents with official state symbols and a breastplate of an established type. The following types of documents certify the completion of higher and postgraduate vocational education:

- Bachelor’s Diploma;
- Specialist’s Diploma;
- Master’s Diploma;
- Diploma of Candidate of Science or Diploma of Doctor of Science;
- Document on partial higher vocational education;
- Standard-type document on incomplete higher vocational education.

According to the statistics, during 1991-2001, the number of full-time students tended to decrease, while, on the contrary, the number of correspondence students tended to growth. In 1991, the number of full-time students was 69.1 % vs. 30.9 % of part time students. In 2001, this indicator was 60.9% and 39.1%, respectively. During the period from 2001 to 2005, the number of full-time students has grown to 63.7%, while the number of part time students has decreased by nearly 3%. (see Table 67 (a) and (b)). Notwithstanding the growing number of HEIs and students, the Republic of Tajikistan falls behind of other countries with transitional economy with regard to the proportion of students' number per 10,000 of population. This indicator also shows a tendency to growth (see Figures 34, 35, 36 and 37), however, if compared to other countries, it is insignificant. The reason is that the natality rate in Tajikistan is higher than in other countries with transitional economy.

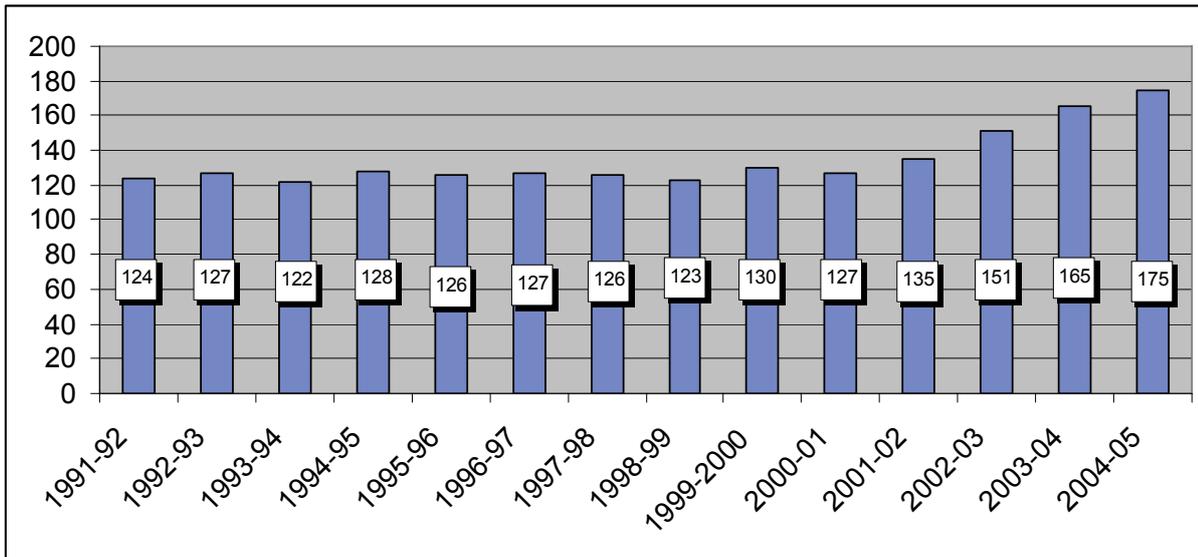
**Table 67 (a): Number of students in the country's tertiary education institutions by study forms**

Years	1991	1998	1999	2000	2001	2002	2003	2004	2005
Total ('000.)	69.3	75.5	79.2	77.7	84.3	96.6	108.0	118.4	132.4
Of them:									
Full-time students	47.9	49.9	50.6	47.9	51.3	60.1	68.0	74.5	84.3
Correspondence students	21.4	25.6	28.6	29.8	33.0	36.5	39.6	43.9	48.1
Full-time students (%)	69.1	66.1	63.9	61.6	60.9	62.2	63.0	62.9	63.7
Correspondence students (%)	30.9	33.9	36.1	38.4	39.1	37.8	36.7	37.1	36.3

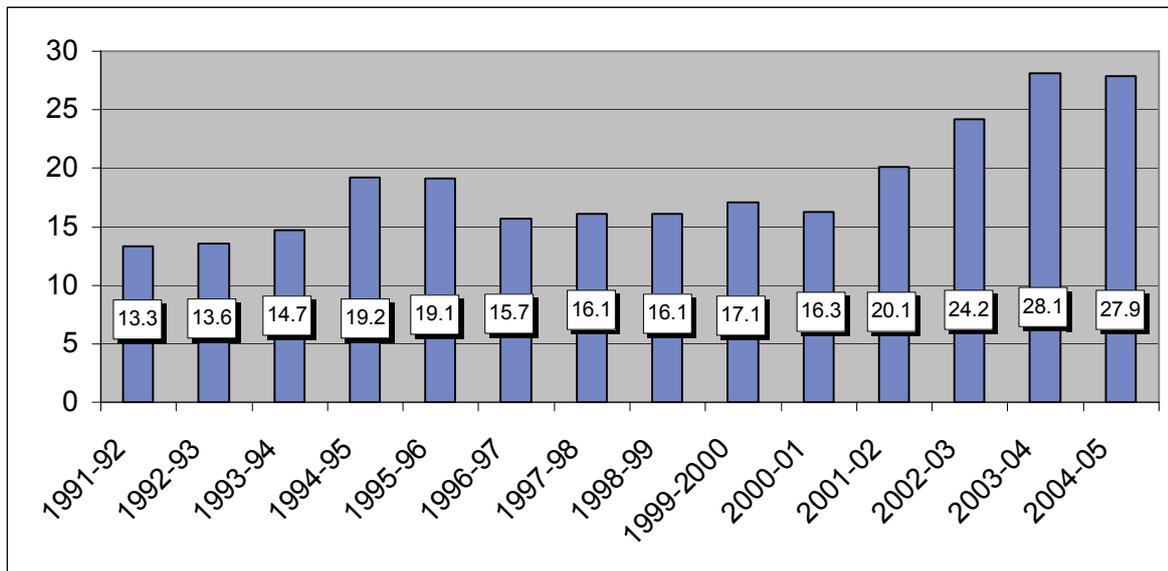
**Table 67 (b): Number of students in the country's tertiary education institutions by study forms**

Years	2003-04	2005-06
Total ('000.)	107570	132405
Of them:		
Full-time students	67898	84356
Correspondence students	39672	48049
Full-time students (%)	63,1	63,7
Correspondence students (%)	36,9	36,3

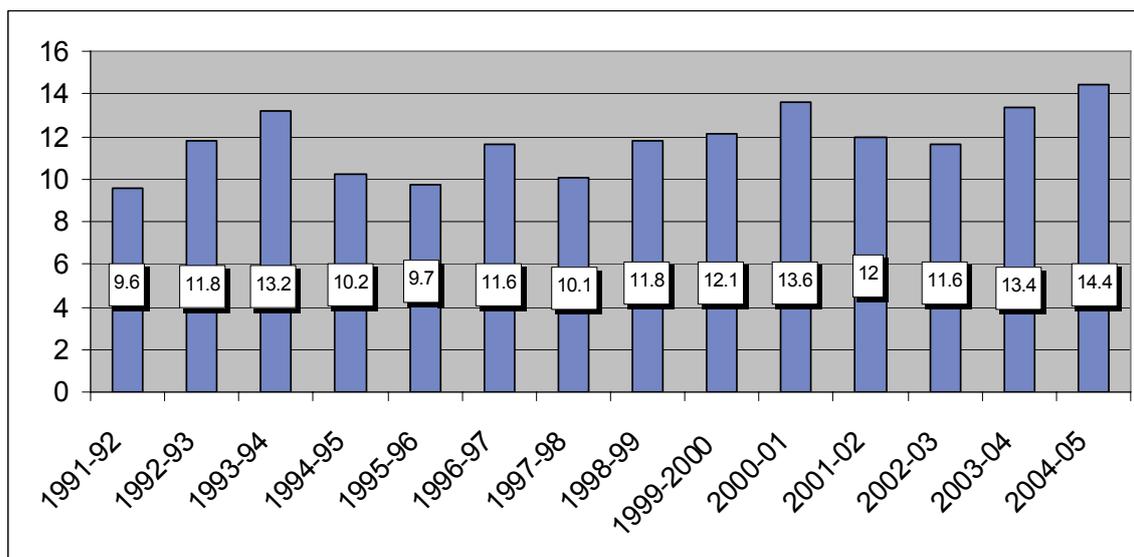
**Figure 34: Number of students per 10,000 of population**



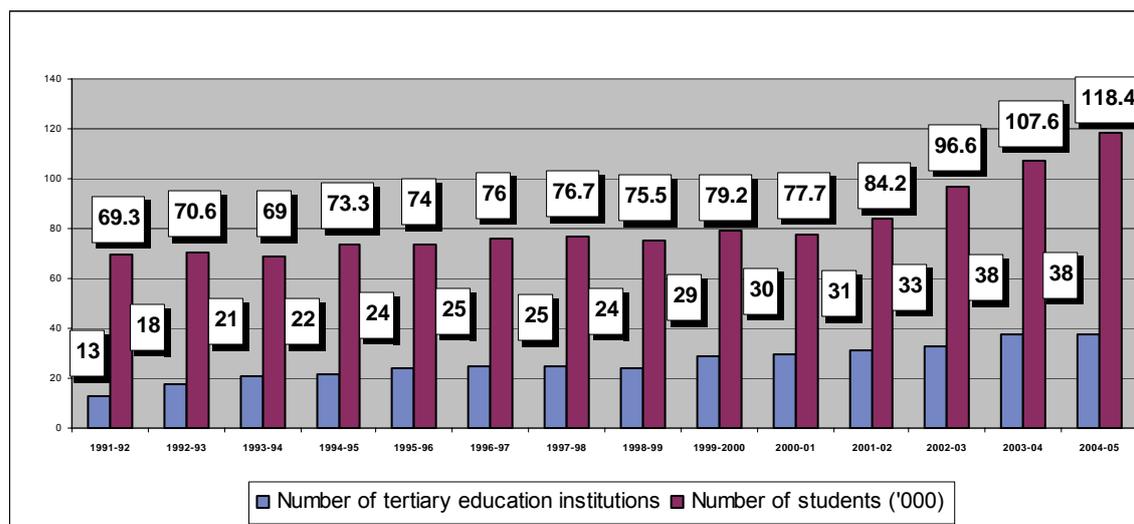
**Figure 35: Number of entrant students at tertiary education institutions ('000)**



**Figure 36: Number of students graduated from tertiary education institutions ('000)**



**Figure 37: Number of tertiary education institutions and number of students**



Over the last ten years, the following major changes occurred in the HE system:

- Changes and amendments were developed and introduced into legislative and regulatory frameworks of the HE to enable HEIs' autonomy and operation in the new market conditions;
- New National Higher Vocational Education Standards based on the Russian Federation's standards have been elaborated and introduced to ensure training of specialists using a multi-level system in accordance with international provisions;
- The scope of specialist training at universities has been extended due to incorporation of institutes, colleges, secondary specialized schools, lyceums and gymnasias into their structures;

- The partnership with Russian and regional HEIs in the area of specialists training have been strengthened by using new educational technologies such as distance learning with establishment of distance learning centers and institutes;
- A new credit-based education has been tentatively introduced in the two HEIs;
- Attestation, certification, and licensing system was introduced to assess qualitative indicators of a HEI, identify its status, and grant a permission to issue standard diplomas;
- An online-based corporative scientific and educational network – TARENA – has been created, which interconnects HEIs in Dushanbe and promotes use of computer technologies in educational activity

### ***Governance, Planning, and Regulation of Higher Education***

#### **System Level**

The basic principles of management, guidance and planning of the higher and postgraduate vocational education at the system level are determined by the educational legislation and regulations.

#### **Roles and responsibilities of the Government of RT :**

- Formulation and implementation of the national policy in the field of HE;
- Execution of budget financing of the HE system;
- Development of draft laws and adoption of regulatory acts determining the HE system's functioning;
- Establishment of HEIs' licensing, certification and state accreditation system;
- Establishment, reorganization and liquidation of state HEIs;
- Preparation and implementation of intergovernmental agreements regulating the HE issues;
- Approval of the state HE standards, except for the cases envisaged in the legislation of RT;
- Preparation of a list of HE courses (specializations); and
- Development of standard requirements for different sectors' personnel and regulation of HE specialists training.

#### **Roles and responsibilities of the Ministry of Education:**

- Development and introduction of the national HE standards;
- Approval of the state components of relevant national education standards, approval of regulations on final state certification of students and on the external studies at the national HEIs;
- Development and approval of core curriculum, educational literature, and HE programs and training aids;
- Promotion, development and implementation of new efficient training technologies in the area of HE;
- Licensing and certification of HEIs;
- Preparation of HEIs budget financing proposals;
- Coordination of activities of HEIs and sectoral and regional HE systems;
- Regulation of admission rules for students (including postgraduate and doctoral) to HEIs and higher vocational education system's institutions;
- Organization of national scientific research programs; setting research priorities at the interuniversity level;
- Social protection support for students, trainees, and HE system personnel to improve their studying, working, recreation and health services conditions;
- Financing of activities of dependent HEIs, enterprises, agencies, and organizations;
- Coordination of office space for research and educational personnel;

- Development and approval of standard regulations for HEIs' affiliates;
- Entering into international agreements in accordance with the legislation of the RT.

### **Institutional level**

The governance of a HEI is performed in compliance with the order established by the Civil Code of RT, educational legislation and regulations, and the Statute of the institute. (see the Annex).

The superior governance body of a HEI is its founder (founding members) – Ministry of Education and sectoral ministries. The Statute of a HEI, amendments and alterations to it are adopted at a general meeting (conference) by teaching staff, representatives of other categories of personnel and students, then approved by the founder and, in accordance with the current legislation, are registered at the Ministry of Justice. HEI's goals and objectives are determined by the Standard Regulations and the Statute in line with the HEI's status, which is determined during state certification.

The HEI is headed by a rector who is appointed and dismissed by a founder (founding members). Appointment and dismissal of a rector and other members of institution's executive body and the order of decision-making and representation of an institution are determined by the legislation of the RT and the Statute of relevant higher vocational education institution. Rector of a HEI (irrespective of type of ownership) is fully responsible for teaching and educational process, research and educational activities and financial and economic activity of an institution.

Overall management of HEI is carried out by an elective representative body – an academic council. The academic council consists of the rector, who is the chairman, provosts, deans of faculties, heads of some subdivisions and public organizations specified in the institution's Statute. Other members of the academic council are elected at the general meeting (conference) of the HEI by secret voting. Number of academic council members is determined in the Statute; membership is approved by the rector's order. Term of membership of the academic council may not exceed 5 years. Representatives of all categories of a HEI's personnel and students, public and other organizations may be elected to the academic council.

Trustee and other boards may be established in a HEI for different areas of activity. The order of establishment and operation, as well as membership and authorities of these boards are determined by the Statute of a HEI or provisions adopted by its academic council. Delimitation of authority between academic council and rector is also determined by the HEI's Statute.

The rector of a HEI issues orders and instructions for all staff members and students; in accordance with the legislation of the RT, he/she defines job responsibilities of the HEI's staff.

The rector may delegate part of his authority to provosts and other institution's officials. Provosts of the state HE institutions are elected from the most skilled and competent specialists of the institutions having academic degrees of doctor or candidate of sciences, and are appointed and dismissed by the rector upon agreement with their founders; their terms of office coincide with those of the rector. At the non-state HE institutions, provosts are appointed and dismissed by their founders (meeting of founding members) based on rector's proposal.

Elective representative bodies – academic councils of faculties – may be created within structural subdivisions of a HEI as decided by the academic council. The faculties are headed by deans appointed by orders of the MOE upon proposals of the HEIs; that is a highly centralized system – a dean should be elected on a competitive basis by the academic council

of a HEI. Departments are headed by department chairmen elected by the academic council in the order established by the institution's Statute.

Curriculum is annually developed and approved by the HEI on the basis of the Standard Curriculum approved by MoE. Syllabuses (course programs) are discussed and adopted at faculty panel sessions and then approved by the faculty's dean; syllabuses are developed on the basis of the State Educational Standards approved by the MoE.

Priorities of scientific research are determined by faculty teaching staff, and scientific areas are discussed and approved at faculty meetings and then submitted to rector's office for approval.

Teaching staff is recruited on a competitive basis; candidates are discussed at the faculty level with further submission of discussion results to the academic council for secret voting.

### **Decentralization, institutional autonomy**

A HEI is autonomous and independent in decision making and implementation of activities ensuing from its Statute.

A HEI is independent in selecting and appointing of its staff, implementing educational, scientific, financial and economic activities in accordance with the legislation of the RT and its Statute. Interference of public authorities in educational, scientific, economic and other activities of a HEI is allowed only under certain conditions envisaged by the legislation of RT.

Teaching and scientific staff of a HEI have academic freedom in teaching methods of subjects (within curriculum) and in selecting a scientific research theme. Students are given the freedom of learning in accordance with their demands within the framework of an educational program. The granted academic freedoms entail academic responsibility for creation of optimal conditions for free retrieval of truth, its free statement and distribution.

### **Planning**

The state-budget funded enrollment plans of state HEIs are strictly regulated and are approved by orders of the Ministry of Economics and Trade, Ministry of Education and sectoral ministries supervising the HEIs. The contract-based enrollment plans are mainly determined by the demand for a particular specialization; quantitative structure and specializations are regulated by the license. Tuition fees are coordinated with and approved by the ME.

There are 40 HEIs functioning in the Republic, including their affiliates. Most of them are public, and their founders are the MOE and sectoral ministries; three HEIs are private. Within the structure of sectoral ministries there are self-financing HEIs; according to the existing legislation, in terms of organization and execution of educational and methodological activities these institutions are under supervision of the MOE. Uneven location of HEIs and distribution of students over country's regions, as stated in the previous section, causes certain difficulties in planning and governance of the HE system.

The current regulations do not allow involving communities into assessment of HEIs performance on organizational, educational, methodological, scientific and training activities or during their certification and accreditation. Student organizations are rarely involved into the management of educational and training activities, anti-corruption control of educational system, cultural and sports activities etc. It is not a common practice to involve communities to provide assistance in arrangement of various activities and governance of HEIs. As a positive

development, Alumni Associations have been created in some HEIs; they help institutions in resolving many issues related to their activities.

Most of the HEIs lack using modern information technologies for HE management, which is a barrier for further improvement of governance. It is necessary to develop and introduce local Management Information Systems (MIS) of HEIs to improve data collection, storage, processing, analysis, and distribution mechanisms for the purposes of planning and decision-making; the local development of MIS may serve as a basis for HE MIS development at the national level.

**Recommendations to improve the HE management system:**

- To develop provisions on practical implementation of HEIs autonomy and financial independence;
- To develop provisions on independent monitoring of HEIs’ management system with involvement of non-governmental organizations;
- To involve student and other public organizations into HE planning, organization, and management issues; and
- To initiate activities for development and introduction of MIS for HEIs on institutional and national level.

***Access, Opportunity, and Equity***

Organization and implementation of admission examinations are carried out annually in line with the enrollment rules approved by the ME. HEIs are given certain level of autonomy in selection of method, program, and content of the admission examinations. Therefore, currently, there is no uniform system of admission examinations; applicants with general secondary or general vocational education are admitted on a competitive basis following the results of admission examinations. Format and time of enrollment is determined by institutions; many of them, such as TSNU, AUT, Entrepreneurship and Service Institute, TTU, TSUC, etc, exercise testing approach, while other institutions, such as TSPU - traditional method of written or oral exams.

The tests are prepared by teachers of HEIs and the content of the same subject may vary in different institutions. Depending on the specialization, additional submission exams (written essays, creative works etc.) may be required to take apart from the testing. In 2005, following the decision of the MOE of the RT, an additional mandatory entry examination - national language - was introduced which has no influence on competition and was evaluated as “satisfactory” or “unsatisfactory”. This examination was held in institutions with the testing-based enrollment.

**Table 68: Number of students by teaching languages (as of the beginning of a the year)**

YEARS	Total of students	including with teaching languages		
		Tajik	Russian	Uzbek
<b>All departments</b>				
1999/2000	79168	49284	25840	4044
2000/2001	77701	51280	23593	2828
2001/2002	84360	58033	23632	2695
2002/2003	96583	65047	28188	3348
2003/2004	107570	73308	31903	2359

Source: Education in the Republic of Tajikistan. – Dushanbe, 2004. - p.71.

The stipends from the state budget are paid only to full-time students of the state HEIs, who show satisfactory academic results. There are different types of stipends: personal (President's), which is paid to students with excellent academic performance, and who actively

participate in public events; increased stipend, which is paid to excellent students; regular - to excellent and good students; and a special studentship, which is paid to orphans and students studying under the President's Quota irrespective of their performance. In addition, some HEIs establish their own stipends using internal resources.

Admission exams are waived for certain category of applicants:

- Medal graduates from state-accredited general secondary or primary vocational schools; they are only interviewed for enrollment; those who fail the interview are admitted on common terms;
- Winners (and since 2005 – prize holders) of Republican school contests;
- Those under the President's quota;

In addition, the following applicants may be enrolled without competition:

- Those with a certain record of service and those dismissed from the army;
- Orphans and children without parental care;
- Those with disability group I and II who, according to the medical expert commission, have no contraindications to study at HEIs.

The Government of the RT makes the information on special measures, opportunities, and resolutions concerning HE available through mass media and central and local authorities. The access to HE has been recently improved as a result of expanding the range of educational services offered by HEIs, extending the network of regional HEIs, and taking special measures such as introduction of the President's Quota and contract-based education in HEIs.

The financial sources of students is another important factor of HE accessibility. In the RT, the number of contract-based students grows rapidly compared to that of budget-funded students (in 2001, the share of budget-funded students was 56.6%, while in 2005 this indicator decreased to 44.3%, and the share of students on contractual basis has doubled and reached 55.7% in 2005). (see Table 69)

**Table 69: Number of students in the country's tertiary education institutions by financing sources**

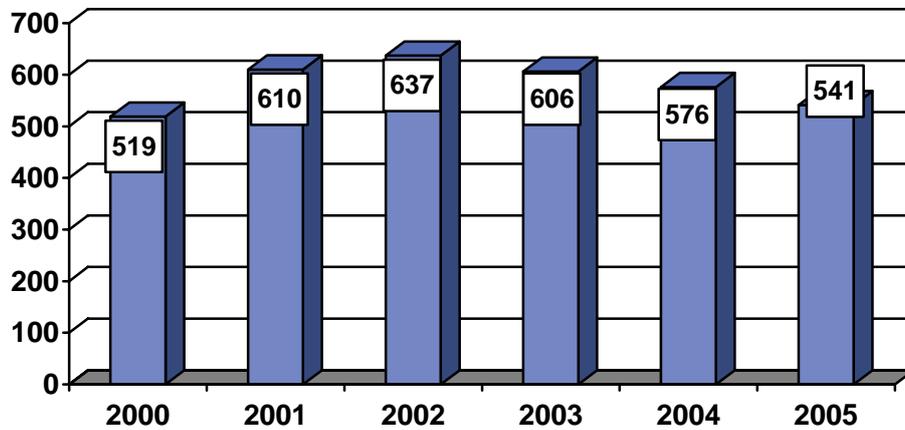
Years	2001	2002	2003	2004	2005
Total ('000.)	84.3	96.6	108	118.4	132.4
Of them:					
Budget-based	47.7	54.4	55.5	55.2	58.7
Contract-based	36.6	42.2	52.5	63.2	73.7
Budget-based (%)	56.6%	56.3%	51.4%	46.6%	44.3%
Contract-based (%)	43.4%	43.7%	48.6%	53.4%	55.7%

Tuition fees are established by HEIs in coordination with the MOE and the Ministry of Economy and Commerce. Depending on area of study, university, education form, and university's location, the amount of annual tuition fee varies from Somoni 160 (USD 50) for pedagogical specialties to Somoni 3,200 (USD 1,000) for juridical degree at TSNU. The difference between pedagogical training costs and state expenditures per student is insignificant. However, the difference between the juridical training costs and state expenditures per student is almost 20 times higher.

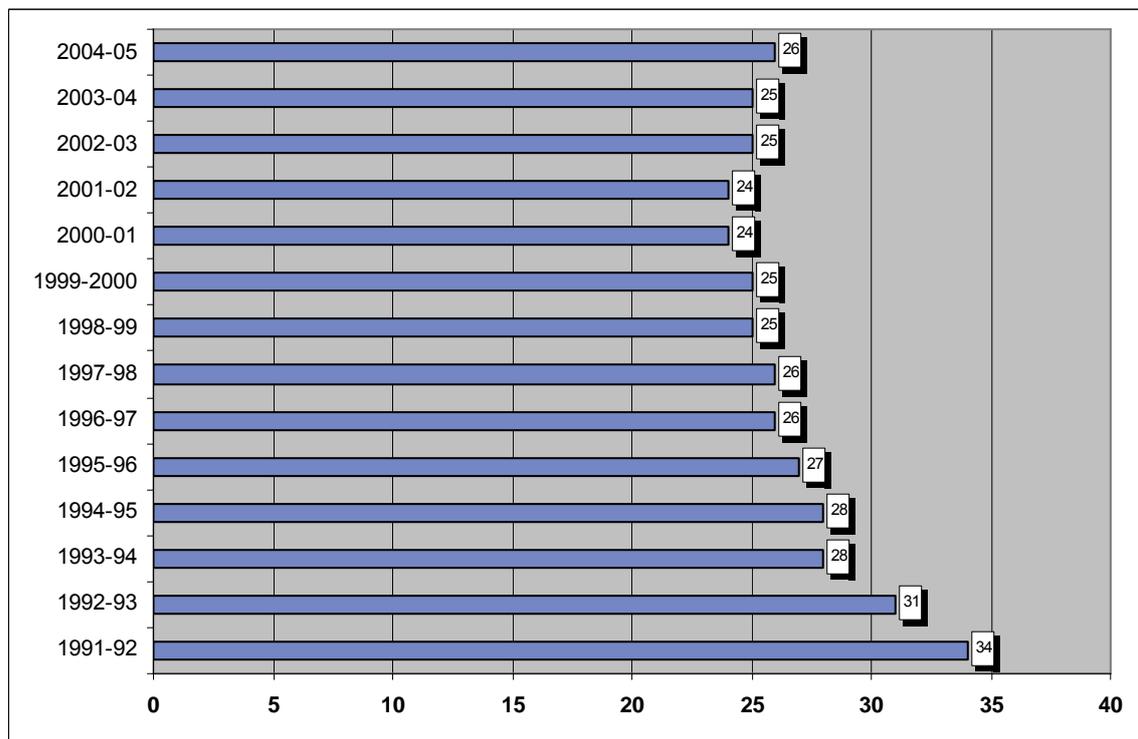
Access to HE has improved due to development of special mechanisms providing higher access, especially for girls from the rural areas, as well as to organization of preparatory courses in some HEIs. Among those mechanisms, the introduction of quotas (President's Quota) for girls from rural areas and talented boys is especially important. From 2000 to 2004,

the Government has planned to enroll 4,275 students under the President's Quota, however, only 3,109 students were enrolled. Currently, 3,616 girls are studying in the HEIs of the Republic under the President's Quota; in 2006-2007 academic year, as many as 1,000 girls and boys will be enrolled under the President's Quota. (see Figures 38 and 39).

**Figure 38: Enrollment of girls under the President's Quota**



**Figure 39: Share of women in the total number of Tertiary education institutions' students**



**Recommendations on further increase of access and equity in obtaining HE:**

- Creation of a National Testing and Education Quality Assessment Center in order to reduce corruption and ensure transparency of enrollment process;
- Development of special mechanisms of providing favorable conditions for low-income layers of population;

- Development of special financial crediting mechanisms for obtaining HE;
- Strengthening the regional HEIs' capacity to improve access to HE for all categories of population.

### ***Quality and Quality Assurance***

The quality is one of the key priorities of RT national policy on education. It is defined as a certain level of knowledge and skills pertaining to mental, physical and moral development achieved by the graduates in accordance with the targeted objectives of education and training.

### **Teaching staff (TS)**

The quality level of HE depend in many respects on professional skills of TS and their devotion to specialist training. Continuous development of teachers' professional skills should be provided through retraining courses and advanced training faculties where they could master new educational technologies, use interactive teaching methods and critical thinking strategy. The Analytical Paper shows that 72% of HEIs' teachers attended retraining courses over 10 years ago or did not attend at all; that is, they did not have an opportunity to improve their professional competence. The reason is that during the Soviet era, a standard system of teachers' advanced training was in place and absolute majority of HEIs' staff attended retraining courses at Russian universities every five years. Since independence, teachers do not have this opportunity to improve their skills every five years. In this case it is hard to expect a desired result in terms of specialists training quality in HEIs. Currently, the first steps have been made towards solving the teachers' retraining problem; advanced training centers and departments have been established in some HEIs; this must be continued in the future with placing higher emphasis on the quality level of mentioned activities.

The existing regulatory framework envisages certain autonomy of HEIs in recruiting teaching staff and heads of departments on competitive basis. Filling of TS vacancies on competitive basis is quite impartial, transparent, democratic and well developed in legal terms. Competitive selection of the teaching staff is performed every five years with regard to quality indicators of teachers' activities in the area of educational, methodological, scientific, and organizational activities.

One of the main sources of TS for HEIs is postgraduate or doctorate studies. In order to maintain the quality indicators of prepared thesis and to ensure its recognition abroad, the republican specialized thesis defense boards have been approved by the Higher Certification Commission (HCC) of Russia, therefore all thesis defense materials are sent to the Russian HCC for approval.

The difficulties being encountered in scientific staff training are related, first of all, to lack of specialized Councils for certain specialties, expensiveness of thesis defense in CIS major cities, and the existing dependence on Russian HCC. Moreover, it should be noted that in RT the academic degrees of professors and assistant professors are approved by the Ministry of Education and Science of the Russian Federation. Thus, the absolute majority of TS of HEIs who have academic degrees are holders of Russian diplomas and certificates. According to MOE of RT, during the period from 2000 to 2005, teachers of HEIs have defended 75 doctoral and 552 candidate thesis; 58 teachers have been granted the academic status of professors and 114 teachers – of assistant professors (see the Annex). The existing statistics shows that over 90 candidate thesis and over 12 doctoral thesis are defended in the Republic annually, which, generally, is an optimistic indicator; however, unfortunately, many of TS with academic degrees move to other jobs with better salaries when the opportunity occurs. This is the main cause of the existing situation when TS with academic degrees form 30% to 35% in most of HEIs; moreover, this indicator tends to decrease every year.

According to the data, the average teacher's salary is USD 15-20 or USD 60-70 with bonuses from contract-based teaching. Furthermore, the majority of teachers with academic degrees are older than 55. In order to increase the HE quality it is necessary to advance the quality of TS as one of the priority tasks, which could be fulfilled through raising TS wages. (Table 70)

**Table 70: Official salaries of teaching staff**

	2000	2001	2002	2003	2004	2005
<b>Chair Head - Professor</b>						
With doctoral academic degree	13.6	13.6	19.04	22.84	28.55	42.83
Without doctoral academic degree	12.6	12.6	17.64	21.16	26.45	39.68
<b>Professor</b>						
With doctoral academic degree	12.6	12.6	17.64	21.16	26.45	39.68
Without doctoral academic degree	11.2	11.2	15.68	18.81	23.51	35.27
<b>Assistant Professor</b>						
With academic degree	9.7	9.7	13.58	16.29	20.36	30.54
Without academic degree	8.7	8.7	12.18	14.61	18.26	27.39
<b>Senior lecturer</b>						
With academic degree	8.7	8.7	12.18	14.61	18.26	27.39
Without academic degree	7.8	7.8	10.92	13.1	16.37	24.56
<b>Assistant Lecturer</b>						
With academic degree	7.2	7.2	10.08	12.09	15.11	22.67
Without academic degree	5.4	5.4	7.56	9.07	11.33	17
Probationer teacher	5.4	5.4	7.56	9.07	11.33	17
Average salary	9.35	9.35	13.1	15.71	19.63	29.45

### **Internal HE quality control**

When solving the problem of HE quality, an important place is given to the internal quality control performed by the HEIs themselves. The mechanisms ensuring the internal education quality control envisage an assessment of the key components influencing the quality of HE; among them:

- Teaching staff (TS);
- Mechanisms of continuous interim and final control;
- Availability of material and technical resources;
- Availability of information and communication technologies;
- Availability of training and methodological materials and resources; and
- Equipment and quality of libraries

The general situation of TS related problems have been discussed above. The mechanism of internal HE quality control puts high emphasis on the knowledge system including running and final checks of students' knowledge. The continuous control of students' knowledge - performance evaluation at group, faculty and university level - is implemented twice or three times a semester; five-, ten- or hundred- performance assessment system and specialized subsystems are used. Some of the HEIs rank students based on continuous and final knowledge results, which positively influences their academic activeness. The final control is implemented using the five-score system in accordance with requirements of the State HE Standard. In addition, the assessment of knowledge is evaluated during presentation of papers, term papers, projects and assignments, graduation thesis and state examinations.

The existing system of knowledge quality control may produce positive results only in case of impartial assessment of students' knowledge. Unfortunately, low wages of TS have lead to some cases when students receive good marks by bribing their teachers. The corruption

existing in education system is one of the causes of low level of knowledge and skills of students. It is necessary to continue taking specific measures for corruption liquidation, which will contribute to improvement of specialist training quality.

Due to insufficient funding, the material and technical resources and training-laboratory equipment have not been renewed in recent years and became outdated. Lately, some measures have been taken in computerization of HEIs and use of information and communication technologies in educational activities. In some universities, especially those of technical and natural sciences, the number of computers is counted as one computer per 10 to 12 students, and in other HEIs – one computer per 25 students. HEIs have access to the Internet, however, the institutions still poorly use modern computer technologies in education process - innovative and interactive training methods in HE system are at a very low level.

The total number of hours for specialist training in current educational standards includes, besides mandatory classes, conducting some independent work. Usually, the scope of independent work makes about 50% of the total amount, and for some specialties – more than 50%. This is a priority in reforming the HE system to improve the quality and requires provision of HEIs libraries with modern textbooks and training and methodological manuals in both paper and electronic formats. The libraries were formed during Soviet era - the existing literature is outdated and, in most cases, fails to meet the modern requirements; electronic training and methodological literature is not available; libraries are poorly equipped with computers and do not have Internet access; students do not have an opportunity to use modern information technologies for their independent work, which, undoubtedly, has negative impact on the quality of their training.

### **External HE quality control**

The state control of the HE quality is aimed at provision of a uniform national policy, improvement of specialist training quality, and efficient use of budget funds allocated for HE system. The external quality control is executed by the Department of Educational Institutions Certification established at the Ministry of Education of RT.

The procedure of external assessment of HEI status includes three stages and is conducted every five years in accordance with the existing standards. The *first stage* is the licensing, which allows a HEI to carry out educational activities on the basis of the established modern requirements.

According to the Licensing Rules, a HEI should meet certain qualification requirements including material and technical resources, library availability, area of scientific research, as well as student/teacher ratio, TS, etc., according to the established norms. The license is granted for the period from 1 to 5 years; after that, the state certification is required.

The *second stage*, considered as the main one, is the state certification of a HEI; the first certification is performed not earlier than in three years after licensing, but not later than the date of first graduation. There are several dozens of criteria and indicators for assessment of the HEI status.

At the *third stage*, the State Accreditation is carried out as often as once every five years after certification. The State Accreditation defines the status and type of a HEI taking into account the capacity for implementation of educational programs, compliance of educational process to SES requirements, and allows the institution to issue the state-standard documents to its graduates.

In our opinion, the existing mechanism of HE quality assessment does not fully meet the international quality assessment requirements since all three stages are conducted by the same agency without involvement of independent bodies or external experts. Moreover,

having certification and accreditation is excessive; it would be more efficient to combine these two stages and implement only two stages of external quality control – licensing and accreditation.

The quality of HE is greatly influenced by conducting fair admission examinations. Unfortunately, the unified national testing (UNT) system for competitive selection has not been introduced yet. It is planned to conduct pilot testing in some regions in 2007.

**Recommendations on quality improvement:**

- To develop a common HE quality management system ;
- To conduct a survey of main HEIs to assess their performance, activities, etc. affecting the quality of educational process;
- To identify indicators of educational process quality and results, and methods of their measurement;
- To develop guidelines and procedures of HEI quality management system;
- To develop self-assessment model and methodology of HEIs’ activities and to test them;
- To develop continuous advanced teacher training system;
- To provide sufficient financing for effective implementation of changes and improvement of educational activity;
- To fight corruption in evaluating students’ knowledge and in the educational system as a whole; and
- To prepare and approve the provisions on ranking of HEIs at the country level

**Relevance and Labor Market Outcomes**

In the RT, the number of both graduates and entrants tends to increase, however, this is mainly due to increased number of students studying economics and law (see Table 71). For example, in 1999 the share of graduates of industrial area was 10% of the total number of graduates, while in 2003 this indicator was only 7.11% - four times less than the share of graduates with degree in economics; for economics and juridical specialties, this indicator in 2003 was 39.29 % and 15.2% respectively.

**Table 71: Graduation from tertiary education institutions by their sectoral specialization (as of the beginning of the academic year)**

YEARS	Total of graduated students	Educational institutions						
		Industry	Agriculture	Economy	Health, gymnastics and sport	Education	Arts and cinematography	Law
1999	13122	1321	1028	1525	1554	6794	162	460
2000	13621	1495	875	1685	1518	6682	128	945
2001	12032	1355	862	2255	1159	5937	120	344
2002	11599	1087	889	4419	790	3901	136	377
2003	13385	952	766	5260	1043	2836	116	2039

Source: Education in the Republic of Tajikistan. – Dushanbe, 2004. - p.72.

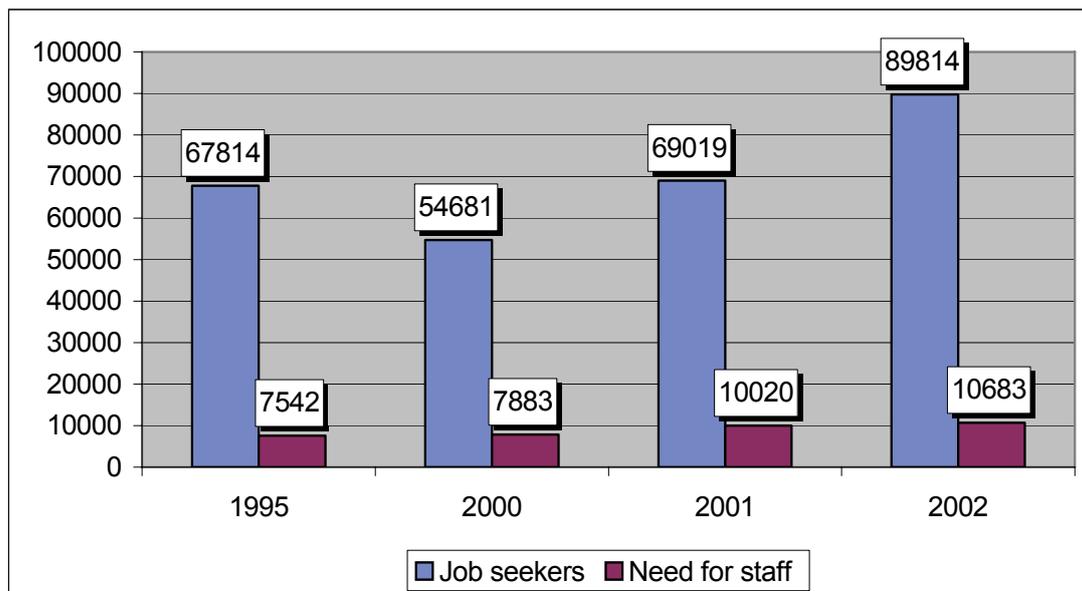
The demand for humanity and engineering areas of study has decreased among applicants because of collapse of economy infrastructure and acute economic crisis in the last ten years of XX century and beginning of XXI century.

Reduction of labor market demand because of the economic crisis has led to decreased demand for HE. For example, during the period from 1991 to 2000, the weight of employees in industry and construction has declined from 20.5% to 9.1%, in transport and communication – from 4.7% to 2.4%, which resulted in reduction of enrollment and graduation of students in these sectors. In 1991, the weight of graduates for these sectors was 23.5%, in 1995 – 20.1% and in 2000 – 17.4% of the total number of graduates.

Correlation between labor market and HEIs depends on the demand for specialists on the labor market, which, in turn, is stipulated by the economic development. The official statistics indicate that the level of demand on the labor market is lower than the level of supply.

As it is seen from Figure 40, there is a great discrepancy in labor market demand and supply. Such difference is related to the lack of high-technology production and underdevelopment of industry.

**Figure 40: Demand for and Supply of workforce**



Source: Year-book of the Republic of Tajikistan, Dushanbe, 2003, p.72

According to official data, the indicator of number of unemployed per one announced vacancy in 2002 was 8.4, which is by 21% more than in 2000. Specialist training in the RT greatly depends on development of economic sector. At this stage, one may observe growing investments in such priority economic sectors as tourism, power industry, and agriculture. Considering this development, separate programs are being prepared in HEIs for training of relevant specialists; in the last two years, an increase in supply and demand for training of specialists in these areas is observed. Labor market demand is greatly dependent on the recovery of sectoral industries and economic growth as a whole.

According to the statistics, the share of unemployed population with HE is only 4.3%. Prior to the beginning of economic revival, this indicator was 7.6%. The share of unemployed people with secondary and incomplete secondary education is 81.94%. However, the actual

share of unemployed people with HE is much higher than the figures stated in the official statistics.

In the RT, due to the lack of data, it is difficult to assess the degree of interrelation between the labor market and the HE. Since the labor market is underdeveloped, its influence on HE is practically inappreciable. Another problem is that there is no mechanism of information exchange between HEIs and the labor market; that is why the statistical data on the number of employed graduates from republican HEIs is not available. In the late 1990-s, a mechanism of information exchange between HEIs, MOE, and employers was introduced; however, in practice all the references submitted from employer were invalid/false.

According to the MOE of the Republic, the situation of graduates' employment has improved: in 2000, 63.5% of graduates did not take the job assigned to them upon graduation (according employment allocation plan) while in 2005 this indicator decreased to 35.1%. This shows that almost 65% of HEI graduates are demanded by labor market. However, this indicator is insignificant as compared to that of 1991.

#### **Recommendations to strengthen connection between labor market and HE:**

- State order should be planned taking into account main economic sectors demand for human resources;
- A mechanism for monitoring of employment of HEIs' graduates should be developed and introduced; and
- Marketing services should be established and developed at HEIs in order to study labor market demand for specialists.

#### ***Financing of Higher Education***

Financing of state HEIs is administered by the state education management agency or executive bodies governing these institutions; non-state HEIs are financed by their founders. A HEI may provide paid services in the area of education; state HEIs independently define the categories and procedures of funds disbursement received from the state budget or other sources.

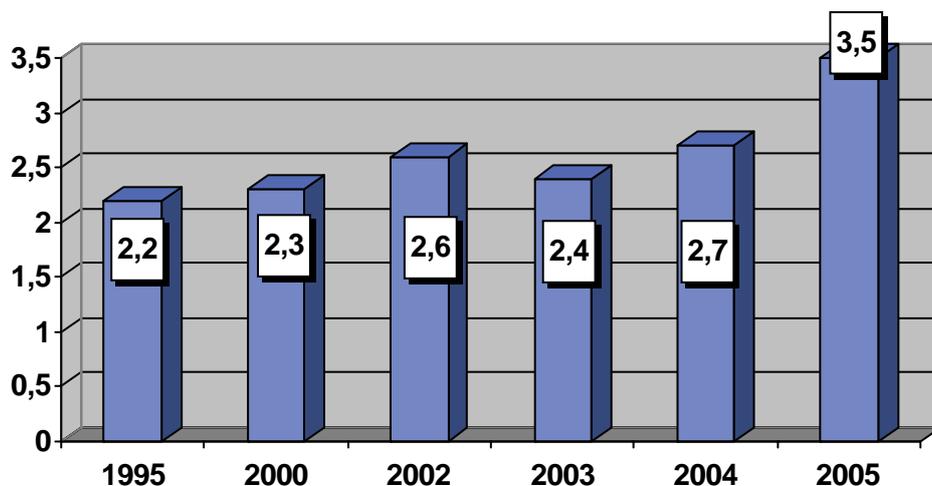
There are three sources of HE financing: state budget, private funds (from tuition fees) and other sources (from scientific and production contracts and provision of broad- spectrum educational services, and from international foundations).

In Tajikistan, the share of consolidated budget expenditures for education and professional staff training in GDP in 2005 has increased by 1.3 points as compared with 1995 (see Figure 41 and Table 72). In 2000, the share of education budget in GDP was 2.3%, while in 2004 this indicator increased to 2.7%, and in 2005 – to 3.5%. All this is related to the growth of national economy, i.e. GDP amount.

**Table 72. Share of the education budget in GDP and total state expenditures**

#		2000	2001	2002	2003	2004	2005	2006
1	Share of the education budget in GDP	2.3	2.4	2.6	2.4	2.7	3.5	4.5
2	Share of the education financing in the total state budget expenditures (%)	15.9	16.6	16.6	15.4	16.0	19.4	22.1

**Figure 41: Consolidated budget expenditures for education and vocational training (% of gross domestic product)**

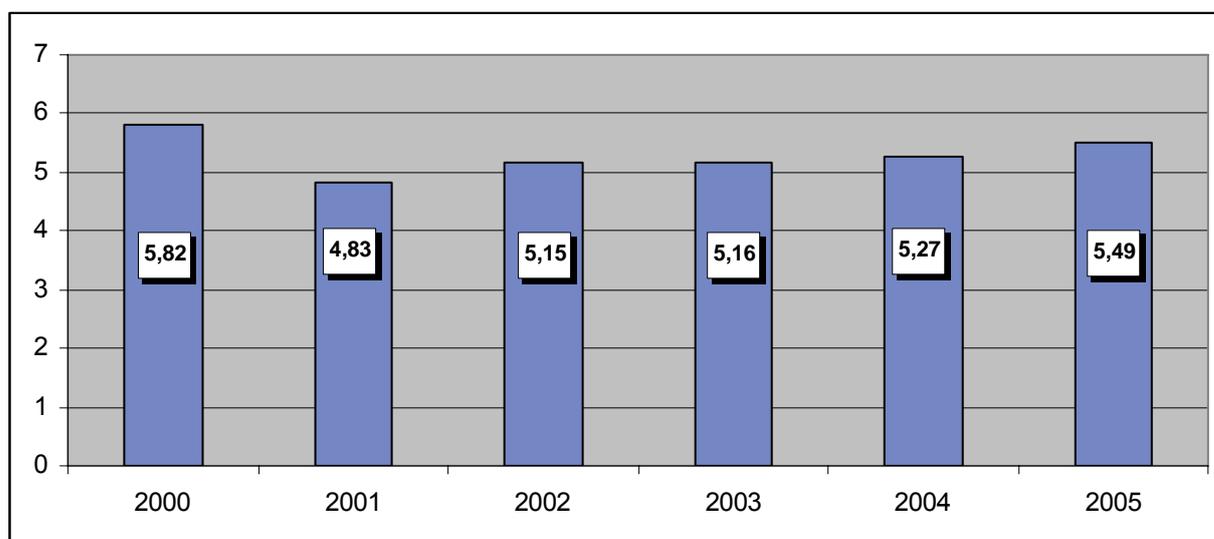


The general state expenditures on education have also increased from 16.9% in 2001 to 19.45% in 2005 and to 22.1% in 2006. Accordingly, the share of the state financing of HE with respect to GDP grows as well: 0.13% in 2001 and 0.19 % in 2005.

**Table 73: Basic macroeconomic indicators**

#		2000	2001	2002	2003	2004	2005	2006
1	Real GDP (US\$ mln.)	986	1085	1217	1554	2080	2336	2838
2	GDP per capita (US\$)	160	162	175	221	291	320	382
3	Planned education budget (US\$)	17.5	22.0	28.4	36.6	55.5	250.1	127.7
4	Growth of the education budget (%)	-	32	30	22	32	34	37

**Figure 42: Share of expenditures for higher education in the structure of state education expenditures (percent)**



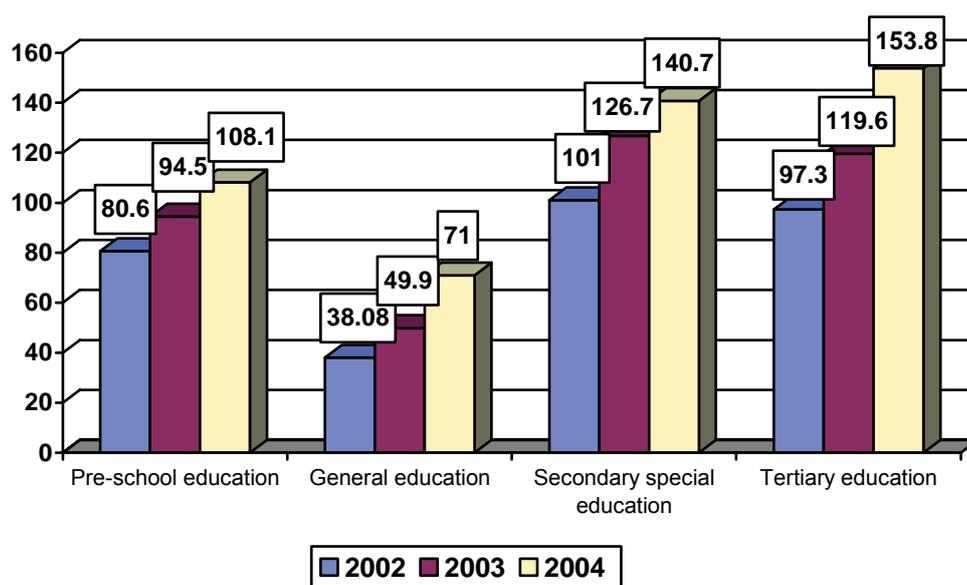
The share of expenditures for HE as to the total expenditures for education in 2005 shows a declining tendency due to decreased number of state budget-funded students: 5.82% in 2000 and 5.49% in 2005. In 2005, only 44.4% of students in the country were funded by the state budget.

**Table 74: Expenditures by education levels in 2000-2006**

	2000	2001	2002	2003	2004	2005
Pre-school education	2304	3015	4038	4929	6708	9630
Secondary education	31848	46311	66572	88186	124822	174016
Primary vocational education	1463	2006	2947	3791	5267	7083
Secondary vocational education	905	1666	2350	3182	4463	6543
Tertiary vocational education	2422	2945	4471	5789	9149	13732
Others	2664	4988	6491	6205	23343	39066

The state per capita expenditures for HE increase year after year and reached Somoni 153.8 (USD 48) in 2004. This is by Somoni 13 (USD 4.2) more than the state per capita expenditures in secondary special schools and by 82.8 Somoni (2.2 times) more than in general schools.

**Figure 43: State expenditures in the education sector per one trainee/student (Somoni)**



Source: Database of PPRC "Pulse".

In 2000, the share of salary in HEIs expenditures was 69.70% compared to 48.80% in 2002. Thus, the share of salary decreases, while the share of expenditures for major repairs and procurement of equipment increases; in comparison with 1998, these expenditures in 2002 increased 4 and 1.8 times respectively. The reason is that many HEIs aim at strengthening their material and technical capacity. (see Table 75)

**Table 75: Itemized structure of tertiary education institutions' expenditure in 1998-2002,%**

	1998	1999	2000	2001	2002
Salary with assignments	69.70%	69.70%	56.80%	52.10%	48.80%
Stationery and other office expenditures	4.00%	4.60%	2.90%	3.30%	2.60%
Studentships	10.40%	11.30%	21.20%	18.20%	13.30%
Major repairs	4.20%	8.20%	7.20%	13.20%	18.50%
Procurement of equipment	6.30%	6.00%	7.50%	5.70%	10.80%
Others	5.40%	0.20%	4.40%	7.50%	6.00%

In the new conditions of market economy and insufficient state financing, various mechanisms to raise off-budget funds are developed. One of the main off-budget sources are the private funds, in other words, tuition fees paid by students studying on contract based agreements. According to the Law of the RT “On higher and postgraduate vocational education” (Articles 35-36) and the Standard Regulations on Higher Vocational Education Institutions of the RT (Chapter XII), off-budget funds can be used for supporting and development of universities’ activities including increase of staff wages. However, there is no statistical data on off-budget funds spending since it is not recorded in any official information sources (HEIs do not report this information to the MOE). Therefore, it is difficult to assess and analyze the private financing in HE.

**Recommendations to improve the HE financing mechanism:**

- To increase annually per capita state spending;
- To develop a mechanism to monitor off-budget resources allocation and disbursement;
- To develop special tax allowances to increase private investments to HE; and
- To develop and introduce new mechanisms of HE financing – grants (personal) and education credit systems.

***Role of Higher Education in Research and Innovation***

The basic principle of the HE science is its integration with the educational process; its main goals include:

- Elaboration of theoretical and applied problems;
- Preparation of textbooks and manuals;
- Training of high-skilled staff; and
- Conducting scientific and methodical research

Evaluation of scientific activities and its connection to the educational process is carried out by the MOE and other sectoral ministries governing the relevant HEIs. Requirements and procedures of scientific research conducted by HEIs are set by the MOE in coordination with the Academy of Science of the RT, which identifies and implements the state policy in the field of scientific research. The outcomes of evaluation of scientific activities affect general assessment of HEI’s activities during its state accreditation and create a basis for the MOE to approve the type of a HEI. Different requirements of organization, administration, and evaluation of scientific activities are set for three different types of HEIs – an institute, academy, and university. The planning of scientific work is mandatory for HEI’s teaching staff and usually makes about 20-25% of their total workload.

Scientific research conducted by HEIs is financed from the state budget, funds received from commercial activities, bank credits, own assets, donations, and other sources. As discussed in the previous chapter, the share of education budget in GDP in 2005 was 3.5%, which is significantly lower than in other countries of the region. Estimations show that minimal GDP share required for education sector should be raised up to 6-7%.

The HEIs also receive additional *targeted state funding* for scientific research conducted on special topics approved at the republican level. According to statistics (see the Annex), state financing of scientific research grow each year, however, it is still insignificant. For example, if we refer to 2005 with the highest level of state budget financing of scientific research (Somoni 241,298 or USD 70,970 for 53 topics/subjects), on average, Somoni 4,552 (USD 1,422) was allocated per topic; since it takes about 2-3 years of research per topic, it comes to USD 500-700 per year, which is hardly sufficient for paying wages at the rate of USD 8-10 a month. (Table 76).

**Table 76: Scientific subjects supported at tertiary education institutions and scientific institutions**

	Financing and number of subjects by years				
	2001	2002	2003	2004	2005
Financing	Somoni 32829	Somoni 59198	Somoni 70000	Somoni 117579	Somoni 241298
Number of obligatory subjects	54	54	63	21	53

In 2005 the state financing of science was 0.13% of GDP, with the largest part spent on fundamental sciences administered by the Academy of Sciences of the Republic. Previously, during the Soviet era, priority topics were determined at the republican level and funded from the state budget in sufficient amounts; similarly, the Union-level priority research subjects were announced and financed from the Union budget funds. Besides, during the Soviet times, specialized “Problem Laboratories”, which were financed from the state budget, were established at HEIs.

Currently, in order to receive targeted state financing, HEIs submit justifications on every topic/subject to the MOE and other sectoral ministries. The MOE, in turn, considers the proposal and, if approved, submits it to the Republican Scientific and Technical Council (STC) at the Academy of Science for consideration. In case of STC’s approval, the MOE issues an order and determines the funding amount and time framework of research. When determining the research topics, the priority is given to scientific research areas related to specifics of the Republic and the region. Unfortunately, at present the economy of the Republic undergoes difficult times; the industry virtually stands idle and, therefore, the scientific relations between HEIs and industry, except for the aluminum plant, have been lost.

As noted above, the scientific and technical research activities in HEIs may be performed on the basis of contractual agreements with enterprises and organizations using the funds received from the concluded commercial contracts. In most cases, these activities are of applied nature and are brought to practical introduction. Since currently the economy is virtually paralyzed and many enterprises do not operate, the amount of research conducted on commercial basis is insignificant.

Recently HEIs have managed to conduct some research activities under various projects with international organizations using the grants, which are transferred to scientific staff or HEI in the established order. It is initiated by scientists, departments, faculties, and

universities that establish partnership with international organizations and submit their project proposals for receiving a grant.

The quality and effectiveness of scientific research is evaluated based on annual interim reports presented in the end of the year, and the final report upon completion of the work. The following indicators are used as the criteria for assessing the quality and effectiveness of scientific research:

- number of publications (articles, monographs, report thesis, manuals, etc.);
- number of defended thesis;
- availability of postgraduate students;
- practical outcomes;
- records of achieved economic effect;
- involvement of students into work implementation; and
- presentation of papers at conferences.

Evaluation of HEI's activity is usually performed during the state accreditation of the institution; HEI's scientific activities in general, its components or individual research topics are assessed.

Due to the lack of sufficient funds allocated for science, the problem topics are poorly researched in HEIs; research conducted jointly by several scientific groups does not exist. There are virtually no research and development activities implemented in cooperation between HEIs and industries.

The following may be mentioned as the main reasons of insufficient involvement of HEIs in research and development activities for development of the country's economy:

- Lack of demand for HEIs' scientific research on the labor market, which is caused by the poor development of most sectors of republican industry and economy as a whole;
- Lack of creative partnership between sectoral ministries and HEIs' scientists;
- Poor material and technical capacity of HEIs, which prevents conducting quality scientific research and using modern information and communication technologies; and
- Lack of creative partnership between academic science (Academy of Sciences) and HEIs' science; under insufficient funding conditions such division slows down the development of science in the Republic.

### **Recommendations on improvement of scientific, research, and development activities of the HEIs:**

- Establishment of training, scientific, and production centers, which include educational and research institutions of Academy of Science, at the leading universities; it will allow consolidate scientific capacity to solve specific sectoral problems;
- Identification of state-financed priority scientific areas at the republican level and their implementation on competitive basis;
- Expansion of partnership with HEIs and scientists from other Central Asia countries in order to jointly implement research activities aimed at solution of urgent regional issues with support from international organizations; and
- Increased cooperation with factories, enterprises, and organizations of different type of ownership for scientific research and development purposes on the contractual basis

### *Internationalization and Globalization*

One of the national policy priorities in the area of HE in the RT is the establishment and strengthening of partnership with HEIs of CIS and other countries. This is witnessed by numerous agreements and contracts concluded at the level of the Governments, Ministries of Education, and HEIs. Recently the government-level agreements on cooperation in the field of education have been concluded with the Russian Federation, Kazakhstan, Kyrgyzstan, Uzbekistan, Belarus, Ukraine, China, Turkey, India, and Iran. According to these agreements, Tajikistan citizens can study at HEIs of Russia, Belarus, Kazakhstan, China, and Turkey. For example, following the agreement between the MOE of the RT and the MOE and Science of Russian Federation, over 60 students of the Republic are annually sent to study at Russian HEIs; under a different agreement about 100 students are sent to Turkey; there is an agreement on increasing the number of students to be sent to study to Kazakhstan up to 100 starting from 2006; similar agreement was made with the People Republic of China. Since the State educational standards of the RT have been developed on the basis on Russian standards of education, many HEIs of the Republic send 2nd and 3rd year students to continue their studies in Russian HEIs under the agreements with these institutions.

The qualification compliance system has been established among CIS member countries based on the Russian national standards, which is very important for the graduates of HEIs of Tajikistan, as it allows them to work abroad and receive adequate remuneration. An agreement was signed with the regional countries on mutual recognition of diplomas and cooperation in other areas including distance learning. For this purpose, the regional level RENATO Association has been formed comprising scientific and educational networks of the three republics – Kazakhstan, Kyrgyzstan and Tajikistan (KazRENA, KzNET, and TARENA). The Russian-Tajik Slavic University and three HEIs of the Modern Humanitarian Academy of Moscow City have been established in the Republic where, along with traditional technologies, the specialist training involves distance learning technology. In cooperation with Russian and other CIS countries' HEIs, the Distance Learning Centers have been established in some education institutions; students graduate from foreign partner HEIs and receive their diplomas without leaving the country.

It is necessary to note that the State Education Standards of 1996 and 2002 have been developed on the basis of the educational standards existing in Russian Federation. Currently, as the Russian Federation has joined the Joint Convention of the European Council and UNESCO, the Tajik classification of specialties also received the same international status. In addition, it should be mentioned that the Specialized Councils operating in the Republic have been approved by the HCC of Russia, and the dissertations accepted at the Councils are sent to Russian HCC for approval. Certification of teaching staff, i.e., approval of academic statuses of professors and assistant professors, is performed by the Certification Committee at the MOE and Science of the Russian Federation with issuance of relevant certificates.

With the purpose of being part of educational zone of the European Countries, Tajikistan is planning to join the Bologna process. The current republican SES envisages the possibility of accepting the two-stage "bachelor-master" specialist training system in the near future. A pilot project of a credit-based technology of education is being conducted in two HEIs. Experience of these institutions will underlie the development of appropriate regulations for a wider introduction of the credit-based technology in the republican HEIs.

***List of adopted laws and regulations on the tertiary education reform:***

- 1) The Constitution of the Republic of Tajikistan adopted in 1994, with amendments and alterations introduced in 2003;
- 2) The Law of the Republic of Tajikistan “On education” adopted in 1993, new edition adopted in 2004;
- 3) The State Standard of Tertiary Vocational Education of RT, dated February 23rd, 1996, No. 96;
- 4) The Standard Provisions on Tertiary Vocational Education Institution of RT dated February 21<sup>st</sup>, 1996, No. 71;
- 5) The Classifier of the areas and specialties of tertiary vocational education dated 23 February 23rd, 1996, No. 96;
- 6) On certification, accreditation and licensing of educational institutions of RT, dated January 17th, 1997, No. 50.
- 7) The Law of the Republic of Tajikistan “On tertiary vocational education and postgraduate vocational education”, 2003;
- 8) The Law of the Republic of Tajikistan “On education”, new edition of 2004;
- 9) The State Educational Standards, second edition, 2002-2003;
- 10) The National Education Concept, 2002;
- 11) The Resolution of the Government "On the order of certification, accreditation and licensing of educational institutions of the Republic of Tajikistan", 2003;
- 12) The Resolution of the Government of RT "On approval of the Standard Provisions on Tertiary Vocational Education Institution of RT", 2005.
- 13) The Program of National Education System in the area of human rights in RT, 2001;
- 14) The National Program of Teaching Staff Training for the period from 2005 to 2010, 2004;
- 15) The National Program of Improvement of Teaching and Studying of Russian and English Languages for the period from 2004 to 2014, 2003;
- 16) The Implementation Plan of the Education System Reform for the period from 2004 to 2009, 2004;
- 17) The Program of Economic Development of RT for the period till 2015, 2004;
- 18) The National Strategy for Development of Education in the Republic of Tajikistan for the period from 2006 to 2015, 2005;
- 19) Resolutions of the Government of RT dated January 17th, 1997, No. 50, and February 5th, 2003, No. 54 " On the order of certification, accreditation and licensing of educational institutions of the Republic of Tajikistan".

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2. The Law of the Republic of Tajikistan “On tertiary vocational education and postgraduate vocational education”, Dushanbe, 2004 – 40 pp.
3. The State Standard of Tertiary Vocational Education.
4. The Implementation Plan of the Education System Reform for the period from 2004 to 2009
5. The National Program of Teaching Staff Training for the period from 2005 to 2010.
6. The Resolution of the Government of RT "On the order of certification, accreditation and licensing of educational institutions of the Republic of Tajikistan"
7. The National Education Concept, Dushanbe: Matbuot, 2003 -24 pp.
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## REPUBLIC OF UZBEKISTAN

### COUNTRY POLICY REPORT ON TERTIARY EDUCATION

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#### *National Context*

Since the Republic of Uzbekistan (RU) declared independence on 1<sup>st</sup> September 1991, the government has promoted several educational policy measures of which the most notable are;

- The fundamental law, “On education” and follow-up subordinate legislation;
- Introduction and development of national educational standards;
- Introduction of enrolment tests and student performance evaluations;
- Introduction of new curriculum, programs, together with the corresponding didactic materials;
- Established new types of educational institutions, etc

However, the inherited educational system, is no longer meeting the requirements of new labor market for recent developments have failed to ensure the relevance of education and training to the new socio-economic demands facing the country.

The economic reforms provided the conditions for economic growth beginning in 1996-1997 with a real GDP growth rate of 1.6 percent (1996) and 5.2 percent (1997), capital investments of 7 percent and 17 percent and industrial output growing at 6 percent and 6.5 percent respectively for 1996 and 1997. The Government of Uzbekistan’s monetary, and fiscal policy was supported by regulations and subordinate legislation on taxes which helped develop both a market infrastructure and social reforms particularly those of education and personnel training. Investments increased by 60 percent in priority sectors.

The Presidential decree “Fundamental Reforms in Education and Personnel Training system”, 6 October 1997, established a three stage National Personnel Training Program (NPTP):

- Stage I (1997-2001): setting legal, scientific and methodological, financial, and material conditions for the reform and development of the existing personnel training system;
- Stage II (2001-2005): full implementation of the national program, with adjustments/modifications depending on the labor market and socio-economic conditions
- Stage III (2005 and subsequent years): further development and improvement of personnel training based on the acquired experience and analysis in accordance with the country’s socio-economic development perspectives.

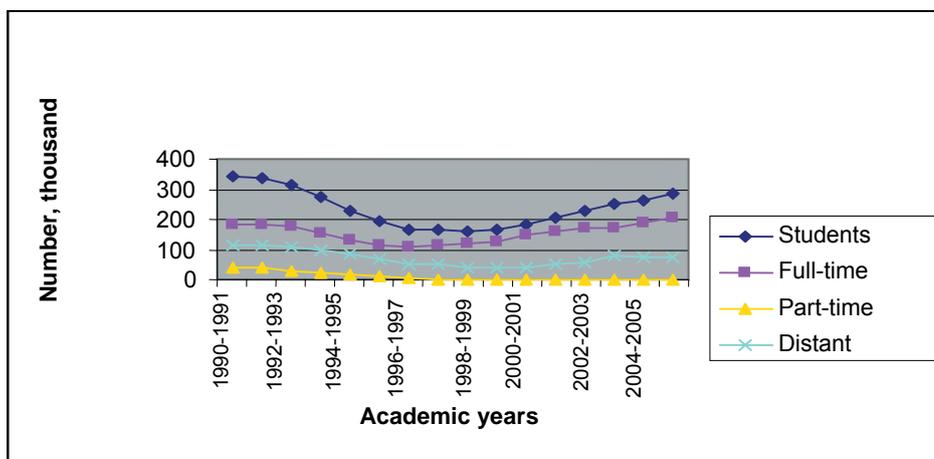
Since the initiation of the reforms, the number of Tertiary Educational Institutions (TEIs) has increased from 46 in 1990 to 62 in 2005 (see Table 77) while both the number of students and teaching staff have grown since 2000 (Figures 44 and 45, Table 78).

**Table 77: Student enrolment in TEIs, 1990-2005**

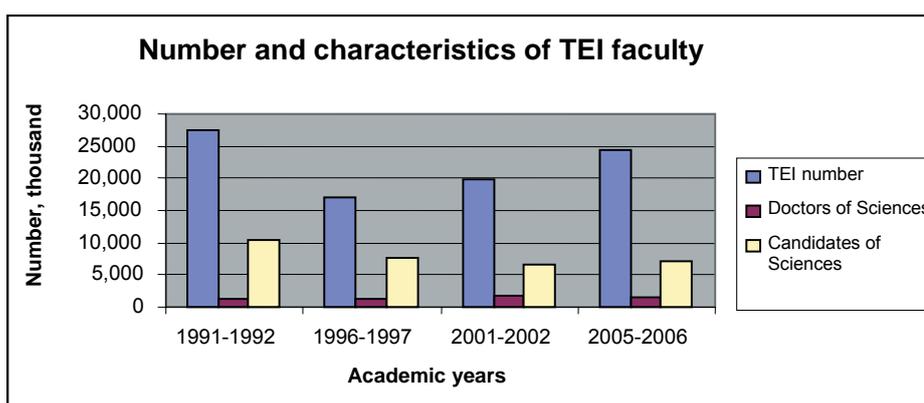
Academic year	Number of TEIs	Number of students (thousand)	including			Enrolment (thousand)	including			Graduates (thousand)	Including		
			Full-time	Evening	Corresp.		Full-time	Evening	Corresp		Full-time	Evening	Corresp
1990-1991	46	340920	183430	42500	114960	61640	37650	6610	17390	50850	26640	7000	18210
1991-1992	52	337433	185510	37840	114080	58220	35870	5380	16960	53280	28080	6990	18200
1992-1993	54	316200	176200	30270	109760	43500	28660	3750	11100	57800	31400	6660	19730
1993-1994	55	272320	152000	20850	99470	28730	22760	1420	4550	63000	37900	5660	19430
1994-1995	55	230110	131550	14720	83840	23080	18250	1250	3580	51970	31200	4290	16440
1995-1996	58	192070	116500	8700	66900	23280	19980	0	3290	53200	29200	2600	21400
1996-1997	58	165650	108800	4500	52300	27910	24130	0	3790	49020	28000	2200	18800
1997-1998	60	158210	113190	2190	48820	35140	29910	0	5220	44820	25200	1600	18000
1998-1999	60	158690	119730	970	37990	37167	31290	0	5870	35650	20700	1180	13800
1999-2000	61	168500	127530	450	40520	44890	38560	0	6330	35350	27320	570	7460
Including Bachelor	61	166470	125490	450	40520	42863	36520	0	6330	35350	27320	570	7460
Master	25	2036	2036	0	0	2036	2036	0	0	0	0	0	0
2000-2001	61	183750	145930	0	37820	50740	45556	0	5174	33820	28780	0	5040
Including Bachelor	61	178540	140720	0	37820	47553	42379	0	5174	31840	26800	0	5040
Master	38	5210	5210	0	0	3187	3187	0	0	1980	1980	0	0
2001-2002	61	208210	158870	0	49340	54265	47775	0	6490	36910	30700	0	6210
Including Bachelor	61	199690	151540	0	48155	48925	43625	0	5300	33950	27740	0	6210
Distance special	8	1185	0	0	1185	1185	0	0	1185	0	0	0	0
Master	45	7330	7330	0	0	4150	4150	0	0	2960	2960	0	0
2002-2003	61	229171	173319	0	55852	57750	48340	0	9400	46269	34869	0	11400
Including Bachelor	61	216281	164300	0	51981	50447	43750	0	6690	41672	30272	0	11400
Distance special	19	3871	0	0	3871	2712	0	0	2712	0	0	0	0
Master	53	9019	9019	0	0	4586	4586	0	0	4597	4597	0	0
2003-2004	61	253184	174095	0	79089	60954	49706	0	11248	51538	38701	0	12837
Including	61	235641	164346	0	71295	51994	44697	0	7297	46014	34314	0	11700

Academic year	Number of TEIs	Number of students (thousand)	including			Enrolment (thousand)	including			Graduates (thousand)	Including		
			Full-time	Evening	Corresp.		Full-time	Evening	Corresp		Full-time	Evening	Corresp
Bachelor													
Distance special	20	7750	0	0	7750	3907	0	0	3907	1137	0	0	11370
Master	58	9793	9749	0	44	5053	5009	0	44	4387	4387	0	0
2004-2005	62	263858	188100	0	75758	61322	55983	0	5339	59608	42818	0	16790
Including Bachelor	62	241198	177336	0	63862	50464	50464	0	0	51990	38090	0	13900
Distance special	20	11854	0	0	11854	5339	0	0	5339	2890	0	0	2890
Master	59	10806	10764	0	42	5519	5519	0	0	4728	4728	0	0
2005-2006	62	285134	208120	0	77014	65944	59536	0	6408	61532	39456	0	22076
Including Bachelor	62	255821	195820	0	60001	53129	53129	0	0	52285	34091	0	18194
Distance special	21	16974	0	0	16974	6408	0	0	6408	3882	0	0	3882
Master	59	12339	12300	0	39	6407	0	0	0	5365	5326	0	39

**Figure 44: Changes in the number of students in 1990-2005**



**Figure 45: Number and characteristics of teachers and professors in 1991-2005**



**Table 78: Students enrolment per 10 thousand of population**

	1991	1998	2004
Number of students per 10 thous. of population	162	66	102

Despite the increase of public expenditures, those for tertiary education as a share of GDP declined between 2000 and 2005 (see Table 79). This suggests that the implementation of the National Personnel Training Program's second phase implementation was not systematically nor adequately funded. Although off-budget funding has increased over last few years, the TEIs lack of autonomy in managing these funds has not allowed it to tackle important issues related to quality of educational services, retaining qualified teaching staff, and support for scientific research.

**Table 79: Structure of TE expenditures in the GDP in 2000-2005\***

	2000	2001	2002	2003	2004	2005
GDP, in mln. \$US	22,75	14,980	10,854	10,064	12,423	14,183
Public budget expenditures on TE, in mln. \$US	106.892	67.766	48.410	42.463	49.887	56.729
% of GDP	0,47	0,45	0,45	0,42	0,40	0,40

\*Calculations are based on the data by State Statistics Committee of Uzbekistan.

### ***General Characteristics of Tertiary Education System***

Pursuant to the Law “On education”, tertiary education is provided after graduation from general secondary (11 years) and secondary special and vocational school in Tertiary Education Institutions (TEIs). Tertiary education has two levels: undergraduate [Bachelor] (not less than 4 years of studies) and graduate [Master] (not less than 2 years of studies) supported by relevant national standard certificates.

The law ‘On education’ defines the main national policy-making agencies in the area of tertiary education: the Cabinet of Ministers (CM), authorized public educational management agencies, and TEIs. The Ministry of Labor and Social Protection of Population (MLSPP), Ministry of Finance (MF), Ministry of Justice (MJ), as well as other sectoral ministries and agencies (and associated TEIs) actively participate in policy development of tertiary education.

Bachelor and Master level programs are provided in line with the “National Educational Standard on Tertiary Education: Classifier of Fields and areas of tertiary education” approved as Resolution 343 of the Cabinet of Ministers of the Republic. The areas of training in TEIs are based on the labour market demand.

There are three types of equally ranked TEIs in Uzbekistan; university, academy and institute.

The *university*:

- Provides both undergraduate and graduate educational programs in several areas of specialization;
- Implements continuous professional training;
- Conducts fundamental and applied scientific research in a wide range of scientific topics;

*Academies* and *institutes* differ from universities in providing narrower scientific programs. Currently in Uzbekistan there are 62 TEIs, made up of 22 universities, 2 academies, and 38 professional institutes.

TEIs can have branches, learning/training centres, specialized colleges, scientific and research laboratories, postgraduate and doctor schools, training subdivisions of complementary vocational education, and other structural subdivisions. There are also scientific and research institutes (SRI), lyceums, gymnasiums, enterprises, and organizations of different legal status as types of TEIs.

Postgraduate education can be obtained in TEIs and scientific research institutes. The academic degrees of candidate to science and doctor of science are awarded on a thesis defense and results of final national assessment, followed by the national standard diplomas.

Uzbekistan's TEIs provide educational training in the following areas: industry, construction, transport, communications, agriculture, economy, law, health, sports, education, arts and cinema. In recent years the number of students in selected areas (economics and communications) has changed greatly while the number of TEIs has more or less remained the same. (see Table 80).

**Table 80: TEIs by sectors \***

	number of TEIs		number of students		
	1999-2000	2005-2006	1999-2000	2005-2006	Changes, in %
Total	61	62	166466	278674	67,41
including, industry	11	11	23463	35350	50,66
construction	1	1	1279	2432	90,15
transport	2	2	5290	6972	31,80
communications	1	1	3553	8829	148,49
agriculture	4	4	12846	16751	30,40
economy	3	6	8330	26527	218,45
law	1	1	2593	3372	30,04
health	7	6	16127	21511	33,39
sport and recreation activities	1	1	1186	2092	76,39
education	27	26	90376	151816	67,98
arts and cinema	3	3	1423	3022	112,37

\* Source: State Statistics Committee of Uzbekistan.

The distribution of TEIs associated with ministries and agencies is shown in Table 81. Apart from the newer TEIs, education students in the TEIs of the Ministry of Public Education (MOPE) show the greatest increase reflecting the need to train teaching staff as part of the national program of secondary education development.

**Table 81: TEIs by ministries and agencies\***

	number of TEIs		number of students	
	1999-2000	2005-2006	1999-2000	2005-2006
Total	61	62	166466	278674
Navoi metallurgical plant	0	1	0	2503
Uzbek Railways	1	1	2255	2970
Uzbek telecommunications agency	1	1	3553	8829
Ministry of health	7	6	16127	21511
MHSVE	34	33	109733	179984
MOFA	1	1	1186	1317
MOPE	5	5	14412	32807
Ministry of culture and sport affairs	5	5	3222	5587
CM	1	1	100	660
Ministry of Justice	1	1	2593	3372
Ministry of agriculture and water management	4	4	12946	16751
State Tax committee	0	1	0	317
Fine arts academy	1	1	439	1014
Westminster University	0	1	0	520
Enterprises with foreign investments	-	-	-	532

Source: State Statistics Committee of Uzbekistan.

The workload of teaching staff in national TEIs has not changed significantly (Table 82), however, the transition from 5-year to 4-year undergraduate programs has increased student workloads; the existing curriculum requires students to take more courses with the same number of academic hours (for example, the curriculum of a five-year undergraduate program requires 38-40 courses compared with the current four-year undergraduate curriculum with 50 courses on average). In addition, the new performance evaluation system also complicates the learning process for students. In this connection, it is worthwhile to initiate regular reviews to improve educational programs.

**Table 82: Recommended workload for teaching staff (based on 1,540 hours per teacher)**

Type of activity	Head of chair	Professor	Associate professor	Senior teacher	Teacher (assistant)
Teaching	40%	45%	50%	55%	60%
Scientific-methodological	25%	25%	20%	10%	5%
Scientific research	20%	20%	20%	15%	15%
Organization and methodological	10%	5%	5%	5%	5%
Educative	5%	5%	5%	15%	15%

Teaching in TEIs is expressed in different languages (Table 83). The main problem is the shortage of textbooks and other relevant literature for students who use the Latin alphabet (most literature in the TEIs' libraries is available in the Cyrillic alphabet). Substantial investments are needed to revise and publish textbooks using in the Latin alphabet. So for the time being, it is advisable to teach the Cyrillic alphabet at schools.

**Table 83: Distribution of TEIs' students by languages of instruction, as percent of the overall number of students \***

	2001/2002	2005/2006
Total	100	100
Including those instructed in		
Uzbek	74,0	81,4
Russian	20,1	14,1
Karakalpak	3,4	3,6
Kazakh	0,5	0,5
Tadjik	0,1	0,2
Turkmen	0,1	0,0
Mixed	1,8	0,0
English	-	0,2

\*Source: State Statistics Committee of Uzbekistan

## ***Organization (Management), Planning, and Regulation of Tertiary Education***

### **System level**

The principles of managing and regulating tertiary education at the system level are defined in the existing regulatory and legislative framework, which sets out the following main objectives for the Ministry of Tertiary and Secondary Vocational Education (MTSVE):

- To implement national policy in the area of higher and secondary vocational education;
- To provide learning-teaching and scientific-methodological supervision and coordination of TEIs' irrespectively of their subordination or type of ownership;
- To analyse and meet labor market as well as population demands for educational services and specialist trainings, taking into account priorities of the national socio-economic development;
- To advance the system of continuous professional training and retraining for teachers and other specialists;
- To organize scientific research (SR) in TEIs, improve the efficiency of conducted research and provide broader implementation of its outcomes in practice;
- To regulate profits generated by TEIs from all sources, in particular, from paid education contracts, and its efficient allocation.

To fulfil these objectives, the Ministry takes the following actions:

- Develops and approves national educational standards in various areas of education of undergraduate and graduate programs, curriculum, etc.;
- Jointly with the Ministry of Economy and Ministry of Labour and Social Protection of Population of the RU determines the list of areas of undergraduate and graduate studies, taking into account national socio-economic development priorities;
- Initiates amendments and modifications to the curriculum (Classifier) covering the major fields of tertiary education with the approval of the CM;
- Develops and approves provisions (Statute) of TEIs and other organizations subordinated to the Ministry;
- Jointly with the State Testing Center develops and implements measures to improve the quality of tertiary education; presents proposals to the CM of the RU about the student enrolment process for the TEIs; requests marketing research to be conducted in the area of tertiary education;
- Develops and approves the rules of election and promotion of candidates for position of rectors, pro-rectors, and deans of faculties in TEIs;
- Approves budget estimates for maintenance of subordinated TEIs and other organizations;
- Approves budget and expenditure estimates of education based on contractual basis (paid); controls revenues and expenditures of off-budget funds

The Ministry also has other responsibilities in line with legislation of the RU: it is entitled to approve subordinate legislation to improve the educational quality, the training of specialists, and teacher performance.

### **Institutional level**

A TEI is headed by a Rector. The CM appoints Rectors to public TEIs while founder(s) appoints a Rector for private TEIs. The Rector is fully responsible for the TEI's performance, he/she represents institution's interests with all agencies and organizations, manages the property, enters into contractual agreements, executes power of attorney, opens bank accounts for TEI, manages loan/credit process as stipulated in a Statute. A Rector is personally responsible for the implementation of national educational standards of tertiary education. TEIs are authorised to provide learning and methodological guidelines to academic lyceums (opened within EIs) and to supervise relevant vocational colleges.

The structure of a TEI depends on the number of students, staff, and budget (state budget and off-budget funds). The property of public TEIs belongs to the state. Public TEIs are entitled to manage their land plots; they have the right to receive and independently manage revenues generated from commercial operations; and revenues and property received from legal entities or individuals as donations, contributions, etc. The rules and regulations of receiving and managing property and revenues by a private TEI are defined in its Statute. A TEI maintains intellectual property rights as a creative output resulting from its work.

TEIs have Scientific Boards to consider key operational issues; the general framework (for example membership, activities etc.) are defined by regulations approved by the MHSVE. The main objective of a Board of Trustees, which is an advisory body of a TEI, is to guide the TEI's activities in order to improve the quality of education. Boards of Trustees include representatives of local government bodies, enterprises, finance and science, mass media, public organizations and associations, (including foreign institutions) regardless of type of ownership.

New areas of studies and educational programs are proposed by marketing departments of TEIs. TEIs, based on those proposals, initiate new educational programs; develop national educational training standards; estimate the required number of graduates in a particular area of study, and submit the proposal for new undergraduate/graduate studies to the MHSVE and CM of the RU. They make the decision based on the availability of required facilities, teaching staff, and demand for particular area of expertise.

The Law "On Education" envisages the establishment of private TEIs, they become a legal entity and have the right to undertake educational activities after receiving state accreditation. A private TEI is not allowed to start its operations without accreditation. However, in order to obtain it, a TEI has to provide services for a certain period of time to prove that applicable standards are being met. Thus, there is an obvious contradiction in the legislation, which limits the development of private tertiary education.

### ***Access, Opportunities, and Equality***

TEIs enrol students annually on the basis of state-sponsored scholarships and quotas for paying (contract-based) students, (consistent with relevant CM decisions). Enrolment is based on test results. The State Enrolment Commission conducts annual entrance examinations; those with the highest scores receive state-sponsored scholarships while applicants with lower scores can be enrolled with a tuition contract but within the limits of given quota.

The tests are the responsibility of the State Testing Centre; TEI's also have a separate set of tests based on areas of education and language of instruction (specialized enrolment tests

include three subject areas with scoring system from 1.1 to 3.1). Additional exams are conducted together with testing to assess the knowledge and skills of applicants in selected subject areas.

There are a number of exceptions to entrance through examinations. Winners of international and republican Olympics and contests held by the MOPE and Ministry of Sport and Cultural Affairs are enrolled on a non-competitive basis that is without taking tests or additional exams. Applicants who complete compulsory military service and were recommended by military units are also a priority, (an extra 20 percent of the maximum possible score is added to the actual score received by an applicant).

Graduate programs follow a similar procedure: enrolment is also based on state-sponsored scholarships (awarded to those with the highest scores) and quotas for contract-based students in line with the relevant CM Resolution. Applicants take written exams on “Basics of Theory and Practice of Building Democracy” and other selected subjects depending on the proposed area of concentration.

The CM decisions about admission to Uzbek TEIs are approved every academic year and published in the mass media. Detailed information on quotas by TEIs as well as areas of education is available to the public through advertisements, brochures, and events held in secondary schools. Tuition fees are set by the State Enrolment Commission and differ by level and forms of education, including tuition fees for foreign students.

Tuition fees, as shown in Table 84, 85, 86 and 87 are high when compared to average wages, (around USD 900 in 2005). Many students who passed admission tests are not eligible for state-sponsored scholarships can not afford to study on a contractual basis (Table 88) shows the considerable difference between those who passed the tests and those actually enrolled). Many applicants take expensive private lessons to pass the admission tests; bribery is widely tolerated during the admission process.

**Table 84: Annual tuition fee for Bachelor programs in TEIs of Uzbekistan in 2005-2006 academic year by areas of training**

Area of training	Full-time		Distance	
	Soums	Dollars at the rate of CB on 1.09.05	Soums	Dollars at the rate of CB on 1.09.05
Training of teaching staff and pedagogics	410.300	362,24	120.500	106,39
Art criticism	544.000	480,27	-	
Humanities	426.100	376,18	130.000	114,77
Turkic languages	511.300	451,40	-	
Roman Germanic philology	511.300	451,40	-	
Social sciences	446.800	394,46	142.400	125,72
Journalism	493.000	435,25	170.200	150,26
Business and management (economics)	570.100	503,32	216.400	191,1
International economic relations	645.200	569,62	261.500	230,87
Law	672.400	593,63	277.800	245,26
Natural sciences	447.900	395,43	143.100	126,34

**Table 85: Annual tuition fee for Master programs in TEIs of Uzbekistan in 2005-2006 academic year by areas of training**

Area of training	Full-time	
	Soums	Dollars at the rate of CB on 1.09.05
Art criticism	598.300	528,21
Humanities	468.700	413,79
Turkic languages	562.400	496,52
Roman Germanic philology	562.400	496,52
Social sciences	491.500	433,92
Journalism	542.300	478,77
Business and management (economics)	627.100	553,64
International economic relations	709.700	626,56
Law	739.600	652,96
Natural sciences	492.700	434,98

**Table 86: Annual tuition fee for second specialty studies in TEIs of Uzbekistan in 2005-2006 academic year by areas of training**

Area of training	Full-time		Distance	
	Soums	Dollars at the rate of CB 1.09.05		Soums
Roman Germanic philology	562.400	496,52	-	
Journalism	542.300	478,77	198.300	175,07
Business and management (economics)	627.100	553,64	249.300	220,10
International economic relations	709.700	626,56	299.000	263,97
Law	739.600	652,96	317.400	280,22

**Table 87: Annual tuition fee for foreign students in TEIs of Uzbekistan in 2005-2006 academic year by levels of education**

Area of training	Tuition Fee, USD
Bachelor studies	2000
including, medicine	2500
Master studies	2500
including, medicine	3000
Post-graduate studies	3000
Secondary special educational institutions	1000

**Table 88: Results of admission to Bachelor programs of TEIs in Uzbekistan as of the early 2005-06 academic year**

	Tested	Passed	Enrolled	Competition*
Full-time Bachelor	250.111	81.307	48.504	5,2
Distance Bachelor	23.957	5.202	5.191	4,6
Master	12.875	8.057	5.411	2,4

\*Calculations based on the data of the State Statistics Committee are the ratio of the tested to the enrolled, times

Access for low income groups to TEIs is a serious issue. Some of these difficulties appear to have been alleviated by commercial bank loans (10 years for undergraduates and 5 year loans for graduate studies). Interest-free loans are provided to orphans and persons handicapped from birth. Students from low-income families pay only 50 percent of accumulated interest.

The youth from rural and undeveloped regions of Uzbekistan need more targeted program support. The situation is aggravated by recent restrictions on tertiary level distance learning.

Thus, the main issues are:

- High tuition fees;
- Corruption in the enrolment process;
- Low access to tertiary education for the poor and the lack of distance learning opportunities;
- Highly centralized system; TEIs have limited decision making powers in the enrolment process.

### ***Quality and Quality Control***

According to the NPTP, the key element to improve the quality of learning and teaching is the creation of a competitive environment in TEIs. This is to be implemented by advancing a system of continuous professional education and recruitment; introducing a rating system for teaching staff and TEIs; and an accreditation and evaluation process (including self-assessment).

The following criteria are used to assess the quality of education:

- Level of teaching staff qualification;
- Relevance of educational programs for the contemporary requirements of the labor market;
- Availability of educational resources – libraries, learning and methodological materials, etc;
- Availability of adequate financial and technical resources

An economic slowdown in 1990s (in industrial production and high-end technologies) resulted in decreased labor demand for specialists with tertiary education (in particular, those who had specialized in natural and technical areas). Students did not have the motivation to obtain quality tertiary education; also the level of knowledge of applicants and first year students was rather poor. The underfunding of tertiary education has had a negative impact on the educational process, reducing the laboratory and methodological infrastructure of schools so seriously that it affects the quality of education. The impact can be illustrated by average age of teaching staff for at the beginning of the reform period the young and talented moved to other sectors and jobs. This coupled with the unsatisfactory performance of graduate and postgraduate programs, (and which have failed to fill that gap and compensate for shortages), has resulted in an ageing teaching staff.

The main agencies of assessment and quality assurance system of tertiary education are the Ministry of Higher and Secondary Vocational Education, Departments of Education Management and Administration of other sector ministries and agencies, Department of Quality Assurance of Personnel Training and Teaching Staff and TEIs Attestation at the State Testing Center of the CM. All TEIs established departments of marketing to research labor market demands with employers, about placements and the perceived quality of tertiary education.

Self-assessment and self-attestation of TEIs are one of the most effective evaluation mechanisms to measure the quality of services. However their continuous use is not fully established. There is an absence of relevant regulatory recommendations about the self-evaluation of teachers, chairs, faculties, and TEIs in general.

In addition, it is necessary to organize truly impartial, independent, and legitimate public evaluations of all educational materials, curriculums, programs, personnel training and retraining systems.

One of the ways of committing to tertiary education quality is to recruit teaching staff on a competitive basis. Regulations on competition (in line with the Resolution of the CM) define the main rules of competition for reelection or new academic positions.

The provision of continuous professional training and retraining of teaching staff in TEIs needs a timetable, and requirements about who should attend training courses as well as other parameters.

The most important quality indicator for teaching staff is their involvement in scientific research. Currently, the prestige and effectiveness of science in TEIs of Uzbekistan are very low. It requires substantial financial investments from the state or other sources (both local and foreign).

It is necessary to adopt the national “TEI Science Program” to implement the following:

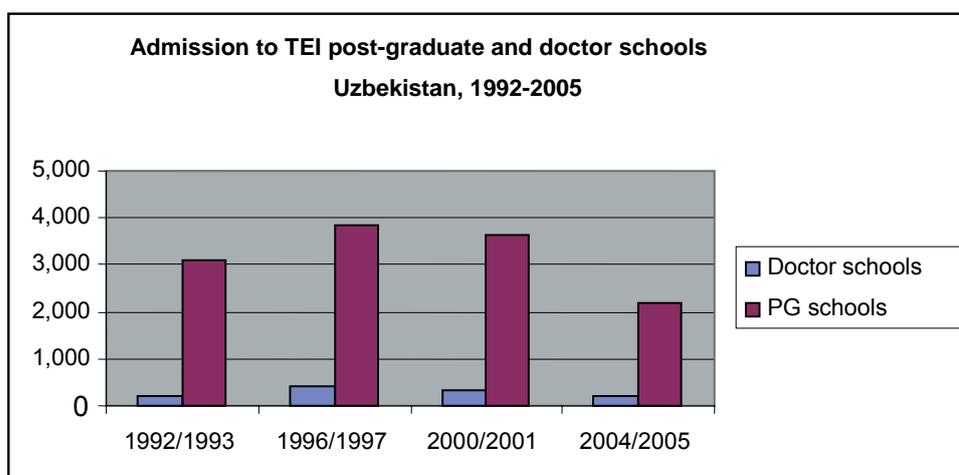
- public grants for Science and Technology Centers (under the CM); research grants for applied scientific research based on requests from ministries and agencies, sector enterprises and institutions, public organizations and foundations, educational institutions, using, if necessary, external credit opportunities;
- Support teaching staff to improve their skills and knowledge (financing trainings and business trips, participation in conferences, etc); organize scientific workshops, fora, and student clubs.

It is obvious, that one of the most important ways to improve the quality of tertiary education is to provide financial incentives to the teaching staff. Staff are poorly paid and there are insignificant differences between high and low level positions (Table 89). This devalues academic titles and degrees, so that younger staff are not motivated to pursue further professional development and it discourages them from taking postgraduate studies. The first impact is the outflow of qualified and promising graduates from TEIs and which showed up, starting in 1996, with reduced postgraduate and doctoral admissions, (Figure 45).

**Table 89: Monthly average salary of teaching staff in 2005-06 academic year**

Teaching positions	Category	Monthly average salary	Number of positions	% of overall staff (22690)
Head of chair	18-19	70547-74044	1640	7,23
Professor	17-18	67116-70547	1232	5,4
Associate professor	15-16	60376-63723	4885	21,5
Senior teacher	13-14	53834-57067	7267	32,07
Assistant	11-12	47470-50628	5030	22,2
Part time			2646	11,6

**Figure 46: Admission to doctor and post-graduate schools**



An indirect factor that influences the quality of education is the range of scientific literature published in the country. In addition the creation of expert and consulting groups, as well as sites for testing of the scientific and creative activities of TEI's staff will reinforce authors' personal responsibility for the quality of their work (scientific, methodological or teaching).

Creative activities and publishing serve as an intellectual foundation for quality education. Further it can support both the implementation of modern pedagogical principles in our TEIs and confirm the value of transparency for educational programs. That is why it is necessary to review the existing funding for scientific services. The current low level, which does not even cover expenses to prepare a manuscript, may eventually destroy any initiatives for publication of books, scientific, methodological, and educational literature.

Teaching and scientific laboratories at Uzbekistan's TEIs require significant upgrades. The provision of supplies and necessary equipment is unsatisfactory. Special attention should be given to the restoration and development of domestic scientific and technological parks, production sites and bases. The quality of education cannot be improved without the fundamental upgrading of scientific laboratories and other key facilities. Government support, particularly finance, is required for small and medium businesses to produce educational and scientific equipment.

The overall quality of teaching and research assessment methods are quite diverse and require modern teaching techniques, information and communication technologies. Their use in present day Uzbekistan is quite limited. Greater modernization of the structures of both graduate and postgraduate education will lay the foundation for quality education that meets contemporary standards. In order to restore the country's academic, scientific and pedagogical capacity the number of admissions to postgraduate and doctoral studies should be increased; adequate wages paid and to create a new policy position of scientific adviser and consultant and many other measures.

### ***Labor Market and Tertiary Education***

There is a direct nexus between tertiary education and labor market. Starting from academic year 2005/2006, a system of job placement with a mandatory 3-year base service was introduced in educational institutions, enterprises, and organizations for graduates who received public grants.

According to the data, the ratio of employed people with tertiary education is increasing (Table 90); the labor market shows relative and absolute increases in supply of qualified labor from 2001 to 2004, (Table 91) but from 2005, the supply of labor force with tertiary education shown a downward trend.

**Table 90: Structure of employees in economic sector in Uzbekistan by gender and level of education (end of the year, percent) \***

	1997	1998	1999	2000	2001	2002	2003	2004
Employed population, total	100	100	100	100	100	100	100	100
Higher	15,6	16,2	16,6	17,6	18,0	18,9	19,4	21,1
Secondary specialized	19,9	19,9	21,1	21,7	22,2	22,6	23,1	24,8
Secondary and incomplete secondary	64,5	63,9	62,3	60,7	59,8	58,5	57,5	54,1
Women – total	100	100	100	100	100	100	100	100
Higher	15,3	15,4	16,8	18,0	19,4	19,9	20,6	21,8
Secondary specialized	21,5	21,3	22,9	24,2	24,8	25,5	26,2	28,1
Secondary and incomplete secondary	63,2	63,3	60,3	57,8	55,8	54,6	53,2	50,1
Men – total	100	100	100	100	100	100	100	100
Higher	15,8	16,9	16,4	17,3	16,8	18,0	18,3	20,4
Secondary specialized	18,6	18,7	19,5	19,4	20,0	20,1	20,3	21,7
Secondary and incomplete secondary	65,6	64,4	64,1	63,3	63,2	61,9	61,4	57,9

\* Calculations based on the data of the State Statistics Committee of the RU.

**Table 91: Share of citizens with tertiary education among those registered at employment services in Uzbekistan \***

	2001	2002	2003	2004	2005
Total	462753	448175	430484	424986	410342
Including with TE	24739	24940	27338	31442	25972
Share of persons with TE	5,3	5,6	6,4	7,4	6,3
Including					
Women	5,4	5,7	6,1	6,8	6,8
Men	5,3	5,5	6,6	7,9	5,8

\* Calculations based on the data of the State Statistics Committee of the RU.

In general, women are less economically active than men. Those with higher education (21.8 percent) are mainly employed in healthcare, social services (75.3 percent, education, culture and arts (73 percent), where wages rates are only 64-70 percent of the national average wage.

Table 92 shows the average monthly wages in different economic sectors, reflecting demand and requirements for specialists. TEI marketing departments should study labor market demand for specialists and TEIs should conduct a 3-year follow-up monitoring study of graduates to analyze their employment opportunities and propose how this might impact enrollment.

**Table 92: Monthly national average wages by sectors (ratio of the national average rate, average wage, percent)**

	1999	2000	2001	2002	2003	2004	2005
Total	100	100	100	100	100	100	100
Industry	165,2	189,6	199,7	165,8	179,3	174,3	168,2
Agriculture and forest sector	51,66	60,9	50	-	-	-	-
Construction	162,4	164,4	161,9	131,1	149,3	153,3	154,3
Transport	143,4	173,9	186,5	145,7	138,6	160,4	167,7
Communications	194,2	199,2	230	188,7	149,9	132,6	118,2
Commerce, public catering, material and technical supply, procurement	79,4	80,9	86,2	66,3	59,4	77,9	72,6
Municipal housing economy, consumer services to population	131,5	138,3	141	107,2	82,1	98,9	91,9
Health, physical culture, sport and social security	57,78	62,3	63,9	55,4	53	56,6	67,3
Education	62,98	71,3	64	56,5	57,2	66,6	70,3
Culture and arts	83,24	83	73,3	59,5	59,4	62,1	64,2
Science and scientific services	122,4	138,4	138,3	117,8	120,7	99,2	91,8
Credit activities and insurance	227,6	260	240	249,1	270	182,5	163,3
Administrative staff	116,3	123,5	132,5	101,9	91,8	-	-

Calculations based on the data of the State Statistics Committee of the RU

The demand for a particular specialization can be identified by the number of applications per place (Table 93). Law, healthcare, and economics continue to be highly competitive. Even though certain regions have a surplus of these specialists, demand for places remains high. Graduate studies admission data demonstrate that there is quite strong competition to obtain a Master's degree in law, communications, and economics (Table 94). On the other hand, there is a shortage of specialists in agriculture, pedagogy, and other fields that are considered low income professions.

**Table 93: Competition rate for admission to TEIs\***

Field of study	Competition rate				
	2001	2002	2003	2004	2005
All TEIs, including:	6	4	4	4	5,1
Industry	4	4	3	4	4,6
Construction	5	4	3	3	3,2
Agriculture	4	5	4	5	3,7
Transport	6	4	8	4	5
Communications	5	3	3	4	5,1
Economics	5	4	4	4	5,4
Law	11	9	7	7	8,3
Health care	4	3	3	3	6,1
Physical culture, sport and social security	2	2	2	2	1,9
Education	6	5	4	5	5,3
Culture and Arts	2	2	2	2	2,3

\* Calculations based on the data of the State Statistics Committee of the RU.

**Table 94: Results of admission to Master programs (early 2005/2006 academic year)**

<b>Line specialization</b>	<b>Competition</b>
All educational institutions, including	2,4
Industry	1,7
Construction	1,8
Transport	1,8
Communications	2,1
Agriculture	1,7
Economy	2,0
Law	2,4
Health	2,0
Physical culture and sport	1,4
Education	2,9
Arts and cinema	1,9

\* Calculations based on the data of the State Statistics Committee of the RU.

There is a relatively high demand for specialties in high-end technology (industry and communications) and infrastructure (transport).

The labor market is largely spontaneous (unplanned) and unbalanced. Since it takes at least six years to train a specialist (four years of undergraduate and two years of graduate studies) TEIs need long term labor market predictions. However, the methodology to forecast of labor market demand is not available and there is no particular agency responsible for such forecasting. As a result, the demand for professionals in particular areas remains undetermined.

The educational services market faces difficult issues as it moves toward a market economy. There are many questions to answer:

- a) what is the demand for specialists?;
- b) what should be the level/quality of their professional training?;
- c) what knowledge and skills are required for specialists to adjusted to the new market economy;

Government officials and TEIs would be helped by the organization of expert boards (with appropriate representation) to:

- Obtain feedback from and about the 'real' economy;
- Monitor particular segments of the labor market and educational services;
- Learn to adapt to the changing demand in an effective and rapid way (including introduction of amendments and corrections to the curricula);
- Influence labor and educational services market;
- Implement specialist retraining for science-intensive and high-tech branches of industry

A number of suggestions can be made to improve educational/employment relations. They should be based on monitoring the labor market and identifying specialist training opportunities. Student admission figures should be based on requests from public and private enterprises, institutions, and organizations. TEIs should enter into contractual relations with these enterprises and organizations for training as well as funding purposes. TEIs' proposals based on employers' demand should be coordinated with local administration offices in charge of tertiary education as well as regional administrations of labor and employment.. The MTSVE should evaluate the TEIs' proposals, summarize them, and allocate resources for training. This system would make TEIs more aware about graduate employment, especially in the transition to a per-capita

financing system. Coordination of specialist training plans with mid-term and long-term forecasts of socio-economic development is one of the most important challenges elements of labor market monitoring.

### ***Financing of Tertiary Education.***

The economic reforms require new ways of financing of TEIs and new methods of generating off-budget (non-governmental) funds. Policies have developed by the CM of the RU for a more effective use of public financial resources. The Council of Ministers adopted the Resolution, “Improving the procedure of financing of state-financed organizations” with the purpose of allocating the budget in a more effective and targeted manner. These regulation are to be found in “Contract-based education in educational institutions and procedure of off-budget funds spending”, together with recommendations for raising off-budget funds.

There are two types of financial resources of TEIs: state budget and off-budget funds. Direct financing is made to a TEI directly from the national budget.

The budget expenditure estimates are based on the costs of state grants for students, student quotas, fixed assets, buildings and equipment. To determine the wage of tertiary education staff a 9:1 student/teacher ratio has been applied since 1996 (in practice it varies depending on the area of study).

The main sources of additional revenues generated by TEIs are:

- Paid educational services;
- International activities;
- Commercial activities;
- Sponsorship

Off-budget financing increased by 8.6 percent in 2005 compared to 2000 (Table 95). Also the ratio of state budget /off-budget financing of tertiary education decreased by 0.445, which shows the increasing share of off-budget financing in tertiary education. Table 96 shows the financial indicators for TE expenditures as a share of GDP.

**Table 95: Ratio of budget and off-budget financing of TEIs in 2000-2005**

<b>№</b>	<b>Indicators</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
1	Overall financing, %	100	100	100	100	100	100
2	Including budget, %	60,1	56,5	55,0	52,6	53,1 *	51,5
3	Off-budget, %	39,9	43,5	45,0	48,4	46,9	48,5
4	TE budget financing / TE off-budget financing, index.	1,506	1,298	1,222	1,087	1,132	1,061

\* Contractual amount received from students were not indexed, and distance education closed down.

**Table 96: Financial indicators of TE expenditures as share of GDP\***

Indicators	2000	2001	2002	2003	2004	2005
Per capita gross domestic product (soums)	133,4	198,6	295,6	384,3	468,8	577,9
TE expenditures/ GDP	0,0071	0,0076	0,0083	0,0073	0,0070	0,0068
All TE expenditures per student / per capita GDP	0,0009	0,0009	0,0009	0,0007	0,0007	0,0006
Public TE expenditures / state budget	0,0162	0,0173	0,0174	0,017	0,0172	0,0162
Public TE expenditures / Total public spending on education	6,9	6,6	6,7	6,6	6,4	6,45

\* Calculations based on the data of the State Statistics Committee of the RU.

Educational financing reforms expect that educational spending as a share of GDP will increase;

- Introduce multiple financial sources(budget and off-budget);
- Develop self-financing for TEIs;
- Attract private and foreign investment in education ;
- Develop a credit/loan system for Uzbek students with flexible repayments;
- Increase donor and sponsor participation in financing continuous educational training;
- Encourage increased revenues by TEIs generated from paid educational services, consulting, publishing, production, scientific, and other types of activities.

The policy document “Improved mechanism of financing of state-financed institutions initiated new financing arrangements” (Resolution of the CM/RU, 1999) provides the following guidelines:

- Broader independence and strengthened responsibility of managers of state-financed institutions for more efficient, effective, and targeted use of budget funds; strengthening of budget discipline;
- Simplified of financing mechanism for state-financed institutions and broader opportunities for funds management to maximise their efficiency;
- Introduction of new financing arrangements through one-line allocation ;
- Combined budget financing with increased production and sales by TEIs operations;
- Incentives for tertiary education staff (to improve their performance and increase motivation);
- TEIs have the right to generate development funds from the following sources:
  - Saved (unused) public budget allocations from the preceding fiscal year;
  - Revenues generated by TEIs’ production and sales of goods;
  - 50 percent of revenues generated from leasing of temporarily unused premises and other public property; the other 50 percent goes to the to the local budget;
  - Sponsorship support from legal entities and individuals.

TEIs development funds expenditures are limited to:

- Paying debts/Repayment of obligations and loans;
- Improve the TEIs’ material and technical basis;
- Social development activities and financial incentives of tertiary education staff.

All sponsorship funds provided by legal entities and individuals are invested in strengthening the institution’s material and technical resources if not otherwise specified by a sponsor. The law provides for firm regulations with regard to the use of revenues generated from leasing public property – these funds are only invested in tertiary education development and the

improvement of learning and teaching process. According to the new financing regulations, TEIs are exempt from paying state taxes and duties on revenues generated from off-budget sources. The wages in total expenditures for tertiary education, however, remain almost unchanged (Table 97 and 98).

**Table 97: Expenditures on TE**

	2000	2001	2002	2003	2004	2005
Expenditures on TE (%)	6,9	6,6	6,7	6,6	6,4	6,45
Including:						
• Wages	2,2	2,0	2,0	2,2	2,1	
• Stipends	2,1	1,8	1,5	1,5	1,5	
• Social and other funds	0,9	0,8	0,8	0,8	0,7	
Capital Costs	0,3	0,5	0,6	0,6	0,7	
Other	1,4	1,5	1,8	1,4	1,4	

**Table 98: Key indicators of salary in TE system\***

Indicators	2000	2001	2002	2003	2004	2005
Salary in education/ Total expenditures on education	0,44	0,43	0,43	0,46	0,38	0,40
Salary in TE / Total TE expenditures	0,317	0,31	0,295	0,33	0,32	0,32
Average salary in TE / National average wages	0,96	0,96	0,968	0,975	0,978	0,98
All TE expenditures per student (soums M)	0,126	0,181	0,269	0,285	0,323	0,365
Expenditures on education/ GDP	0,068	0,069	0,067	0,064	0,063	0,062

\* Calculations based on the data of the State Statistics Committee of the RU

Tax privileges established under existing legislation have several implications:

- TEIs as budget organizations are exempt from some payments regardless of their off-budget operations (land fees, property tax etc);
- The state has established tax privileges for certain operations conducted by TEIs (paid educational services, research and development, etc.);
- TEIs are exempt from income tax charged against various off-budget activities if the income is reinvested in TEIs

However, despite the legally established mechanism for generating and spending off-budget funds, there are several unsettled issues that impede TEIs from expanding these sources.

*First*, the banks play an important role in the calculation of staff salary rates from off-budget funds. As there are few estimates with little or no staff salary schedules, the bank calculate salaries, (as well as other relevant expenditures) together with increments for off-budget funds, according to a common formula. Thus if labor productivity increases by 1 percent, salaries increase by 0.7 percent. Using this approach without unified legally established procedures means that salary growth rate calculations are subject to very different and complicated interpretations and results.

*Second*, the rules for the use of funds for paid-educational services and the Budget Organization Development Fund are unclear not least because while the sources of these funds

are the same, their spending regulations are different. In this regard, TEIs face the following problems in spending of off-budget funds:

- Difficulty or inability to identify the amount of saved funds that could be transferred to the Budget Organization Development Fund before the end of a fiscal year;
- Obligation to pay student stipends at the expense of students' tuition fees;
- The existing accounting and financial reporting systems assume that control is exercised by the Ministry and other financial agencies which in turn complicates reporting by educational institutions and financial agency control.

Finally, these are general issues which concern the funding of all tertiary education; these are (1) insufficient state funding of tertiary education; (2) lack of autonomy of TEIs in managing their off-budget revenues; (3) inadequate financial incentives for teaching staff.

### ***Role of Tertiary Education in Research and Innovation***

Learning and scientific research are the two essential components of knowledge production and dissemination at educational institutions.

Scientific research areas are identified independently by TEIs based on the priorities of contemporary science; their material and technical capacities; requests from branches of industry, and national program requirements. Most teaching staff are also involved in scientific research and it is an important component of staff assessments and qualifications. The average amount of time spent by teaching staff on scientific research is around 200-400 academic hours. Besides, additional scientific research is carried out during course teaching. Other products are theses and papers, implementation of scientific and methodological work, practical student training, preparation, writing, and improvement of learning materials and literature, etc.

The Decree of MTSVE on "Development of Scientific Research in TEIs" lists scientific research areas encouraged by MTSVE and which have priority funding from the National Scientific and Technical Program and National Program for Fundamental Research.

Scientific research and development requires highly-qualified scientific staff in TEIs, necessary research and production facilities and equipment. The country's scientific human resources (doctors and candidates in science) are mainly employed in TEIs (over 60 percent according to the data of Table 99). In 2005, 42.4 per cent (61 out of 144) of all postgraduate courses were conducted in TEIs with 917 (46.3 percent) students out of 1,980 in total.

**Table 99: Distribution of scientific potential by ministries and agencies in 2005-2006**

№	Name of a ministry	Number of professors and teachers	Share (%)	Including :			
				Doctor of sciences, professor.	Candidate of sciences, docent	Aspirant	Doctorant
1.	MHSVE	13346	62	954	4758	885	65
2.	Ministry of agriculture and water management	1 153	5	87	509	93	6
3.	MH	3002	14	421	1038	345	56
4.	MPE	1 656	8	49	404	31	5

5.	Ministry of Sport and Culture affairs	652	3	31	153	28	-
6.	Other ministries and agencies	1 658	8	130	524	84	3
	Total	21467	100	1672	7386	1466	135

Calculations based on the data of the State Statistics Committee of the RU

Main sources of research funding include:

- State financing within the framework of the National Scientific and Technical Program and National Program for Fundamental Research;
- Off-budget financing:
  - Contract-based research;
  - Consulting and advisory services;
  - Introduction of high technologies in the regions;
  - Leasing of scientific equipment and inventories;
  - Research conducted upon requests of government institutions, local governments, or commercial entities;
  - Scientific and technical assistance for small and medium business;
  - Organization of science and techno parks and innovation incubators;
  - Sale of patents, inventories, and licenses;
  - Organization of scientific and research centres and laboratories with commercial firms and enterprises;
  - Establishment of joint ventures with participation of foreign investors;
  - Organization of paid scientific conferences and workshops;
  - Promotion of scientific and research services provided by tertiary education institutions;
  - Audit;
  - Other types of innovative activities not prohibited by the legislation of the RU.

State funds are allocated by competition; a total of USD 5,300 thousands was allocated from 2003 to 2005 for TEIs research by NSTP, NPFR and National Innovation Program (NIP) of the Science and Technology Center under the CM of the RU. The greatest share of grants (77 percent) was received by TEIs of MTSVE (Table 100). The allocation of state grants for scientific research from 1994 to 2005 is show in Table 101.

**Table 100: Allocation of CST grants by ministries and agencies, UZS mn \***

Ministry of higher and secondary vocational education	4 234,6	77%
Ministry of health	433,8	8%
Ministry of agriculture and water management	383,9	7%
Ministry of public education (MOPE)	91,4	2%
other ministries and agencies	354,1	6%

\* Calculations based on the data of the State Statistics Committee of the RU

**Table 101: Ratio of grants for scientific and research activities (SRA) to TE budget \***

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Scope of SRA/ TE budget (%)	2,6	2,0	3,1	2,6	2,0	2,2	2,4	2, 3	2,2	4,6	4,7	4,3

\* Calculations based on the data of the State Statistics Committee of the RU

In 2003-2005, the value of TEIs / MTSVE contract-based research amounted to USD 1,867.2 thousand, and generated off-budget funds of around USD 2,382.5 thousand. In 2005, the TEIs generated off-budget funds valued at USD 430.5 thousands, which is 3.5 times greater than that generated in 2000 (Table 102). TEIs received funds from international agencies valued at USD 2,646 thousands and EURO 2.6 millions, which is 5 times greater than 2000, and 26 greater than in 2004.

**Table 102: Scope of scientific and research activities and TEI contracts by years, UZS mn\***

	2000 г.	2001 г.	2002 г.	2003 г.	2004 г.	2005 г.
Scientific and design works	231	331	473	1139	1281	1439,8
Economic contracts	142	187	254,2	425,1	523,2	481.2
Total	373	518	727,2	1564,1	1804,2	1921

\* Calculations based on the data of the State Statistics Committee of the RU

The main issues which concern tertiary education about scientific research are:

- Insufficient state financing of TEI's scientific research;
- Poor material and technical facilities for conducting scientific research.

Recommendations:

- Diversify funding sources for scientific research;
- Integrate the scientific research capacity of TEIs with Scientific Research Institute of the National Academy of Science and its branches.

### ***Internationalization and Globalization.***

International partnerships are being undertaken in the following areas:

- Establishment of joint TEIs;
- Involvement of foreign teachers and scholars in education process and joint research projects;
- Organization of international conferences on priority issues of tertiary education, innovative technologies, resources and energy conservation;
- Attraction of foreign investments

A branch of the Russian Academy of Economics, named after Plekhanov, was opened in 2002; and a branch of the International Westminster University, also in Tashkent, opened in 2003. This is likely to be followed by a branch of Moscow State University.

There are many international organizations such as JICA, ACCELS, British Council, DAAD, and KOICA implementing programs in the area of tertiary education in Uzbekistan. They

involve student and teacher exchange programs, participation in advanced training, joint research programs, etc.

The President Fund “Umid” was established to support talented youth and provide an opportunity to receive an undergraduate or graduate degree overseas. Between 1998 and 2002, as many as 927 students studied in prestigious schools of developed countries. Another Fund “Ustoz” was established to provide continuous training for teachers’ to advance their skills and knowledge. 935 teachers and scholars have benefited from in-service training in 29 different areas, and 752 received grants to participate in international workshops and conferences.

In 2003 these two Funds were merged into one “Ist’edod” Fund. The goal of that fund is to support and increase the intellectual and scientific potential of the country, develop pedagogy and economy, provide grants to young teachers/scholars etc.

The recognition of foreign degrees is regulated by different provisions and carried out by the Department for Quality Control of Education, attestation and educational agencies of State Testing Center under the CM.

During the very first years after independence there was a decrease in the number of students (from 4 thousand to 56 thousand) in 1996 (Table 103). Since 2000 this been growing again which demonstrates a gradual normalization of political situation in the region, the establishment of stable intergovernmental relationships among CIS countries, and, most importantly, with the Central Asian neighbours.

**Table 103: Number of foreign students studying in Uzbekistan\***

<b>Academic years</b>	<b>Number of students</b>
1990-1991	3955
1991-1992	3771
1992-1993	2657
1993-1994	1351
1994-1995	1313
1995-1996	695
1996-1997	56
2001-2002	135
2002-2003	135
2003-2004	145
2004-2005	145
2005-2006	153

\* Data by MHSVE.