Education in Central Asia,
With Particular Reference to the Kyrgyz Republic

Michael Mertaugh

[From *The Challenge of Education in Central Asia*, edited by Stephen P. Heyneman and Alan J. DeYoung, Information Age Publishing, Greenwich Connecticut, 2004]

INTRODUCTION

This chapter begins by describing the challenges to the education systems of Central Asia that resulted from independence and the move from a command economy to a market economy, and the general features of Central Asian[1] education systems under the transition. It then presents a case study on the transition experience of education programs in the Kyrgyz Republic, looking in particular at issues of efficiency, finance, and management of education. The Kyrgyz Republic embodies all of the generic features of education systems of the Central Asian countries described below. With a per-capita income of little over US$ 300 per year, it is the second poorest of the Central Asian countries (behind Tajikistan). Because of the depth of poverty in the Kyrgyz Republic, financing issues are crucial to the prospects of the education sector. But even the richest of the Central Asian countries, Kazakhstan, faces the same education issues as the Kyrgyz Republic, even if its resource endowment makes those issues less constraining than they are in the other Central Asian countries. Turkmenistan remains an exceptional case because of the isolation and the personality cult imposed by its President.

THE CHALLENGES OF TRANSITION

A New Role for Education Programs

The unraveling of the Soviet Union at the end of the 1980s presented the newly independent Republics of Central Asia with many challenges. Not the least of these was the need to transform the inherited education systems. As appendages of the Soviet Union, the education systems of the Central Asian Soviet republics had been guided and provisioned from Moscow. Education served an ideological and economic role – to promote the goals of the Soviet state and to meet the skill needs of the centrally planned economy. Compulsory education was ten years in duration, followed by one or two years of specialized secondary education – often vocational. Skill needs of the economy were known with precision: They were derived from production goals established in Moscow. A large proportion of secondary students were oriented to specialized vocational programs whose content was designed by and offered through state enterprises that also employed most of the graduates. Access to higher education was strictly controlled. The content of higher education programs emphasized the engineering and technical needs of the economy. Few programs were available in social sciences and humanities.

---

1. Central Asia comprises the five countries that lie between Afghanistan and Russia: Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.

The collapse of the Soviet economic block and the move to a market economy[2] brought two fundamental needs to the education systems of Central Asia. The first was to create functioning Ministries of Education with the capacity to establish education policy as well as to oversee the provision of education and to ensure its quality. The second was to reorient education programs to the new needs arising from the transition from a command economy to a market economy. The content and delivery of education needed to be changed in order to make education responsive to the needs of the global economy. As the old economic order collapsed, it was all but impossible to foresee which specializations would be most heavily demanded under the new economic order. But it was clearer which *generic* skills would be needed in the global economy.[3] Education programs needed to be more flexible, more student-centered, more focused on problem solving and application and synthesis of concepts, rather than simple mastery of facts. Secondary and higher education needed to become more demand-driven rather than centrally directed. Vocational education at the secondary level needed to teach more generic skills for a few broad families of occupational specializations rather than highly specific skills for a large number of narrow occupations. Vocational education needed to give more emphasis to developing numeracy skills, problem-solving skills, communications skills (including foreign language proficiency), and teamwork skills, and less to job-specific skills. Primary, secondary, and higher education needed to provide more opportunities for students and teachers to apply IT throughout the curriculum, including the use of PCs to access and share information on the Worldwide Web. Career counseling needed to be developed to provide students, teachers, and parents with up-to date information on the implications of education choices for employment opportunities and options for further education. Higher education needed to be more flexible at entry and to offer easier transfer opportunities across programs and faculties. Higher education needed to provide stronger performance incentives to students and faculty. The legal and fiscal environment needed to be changed to encourage employers and local governments to develop life-long learning programs to meet local (and global) skill needs. At same time, the sharp contraction of public resources for education called for a diversification of financing, more efficient management of education, and a new formula for allocating public resources that rewarded efficiency, innovation and responsiveness to the demands of students and the economy.

---

2. All of the Central Asian republics have launched reforms to realign their economies with the global market economy, although they have not pursued these reforms as aggressively as the EU accession countries. The extent of reform in the Central Asian republics is further described in The World Bank. Transition, the First Ten Years: Analysis and Lessons for Eastern Europe and the Former Soviet Union. 2002.

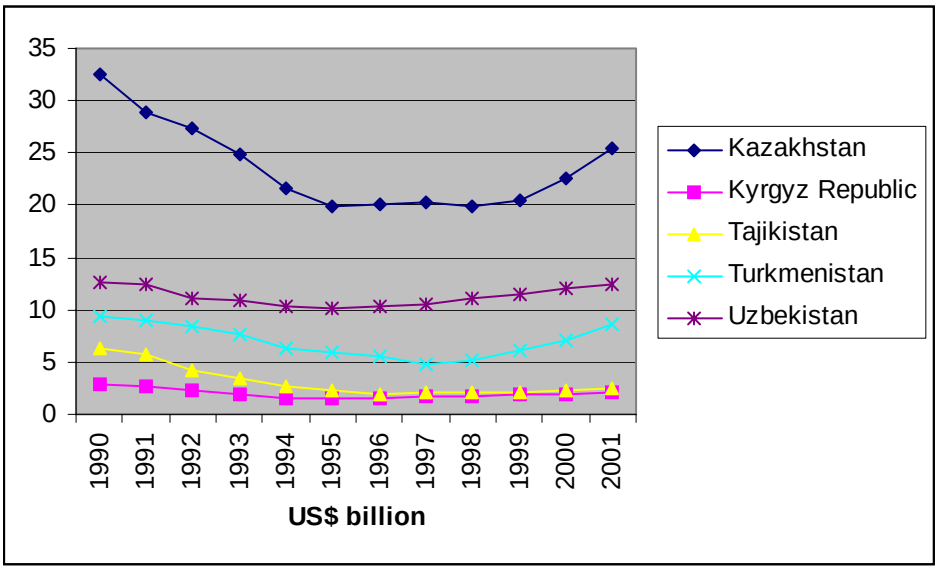
3. These are described in various sources, including David N. Ashton and Johnny Sung, *Supporting Workplace Learning for High Performance Working*, Geneva, International Labour Office, 2002; Organization for Economic Cooperation and Development, *Education and Policy Analysis: Education and Skills*, Paris, 2002; Klaus Schwab, Michael Porter, and Jeffrey Sachs, editors, *The Global Competitiveness Report, 2001/2001,* Geneva, World Economic Forum, 2001; United Nations Children's Fund, Innocenti Research Centre, *Social Monitor 2002: Social Trends in Transition, HIV/AIDS and Young People, Quality of Learning in Schools*, Florence, 2002; and Bruno Laporte and Dena Ringold, *Trends in Education Access and Financing During the Transition in Central and Eastern Europe,* World Bank Technical Paper No. 361, Social Challenges of Transition Series, Washington, D.C.,1997.

Shrinking Resources

Collapsing economic output and public revenues meant that there were far fewer resources to maintain inherited education programs, staffing and infrastructure – let alone to reform education systems to respond to the new needs of the global market economy. Under the Soviet Union, the Central Asian Republics had been the poorest of the Soviet Republics in terms of output levels. Central transfers supported the development of much more costly education and health systems than these countries could have afforded through their own resources. As these transfers ended with the breakup of the Soviet Union, the Central Asian Republics struggled to maintain the inherited education programs, staff, and infrastructure.

The loss of central transfers was compounded by the decline in national production in all of the Central Asian republics following independence (Figure 1). Real GDP fell by over half in Tajikistan, and by over a third in Kazakhstan, the Kyrgyz Republic, and Turkmenistan. These declines were extremely serious – greater than the cumulative decline of production in the United States during the Great Depression. Even in Uzbekistan, the country least affected by falling output, real GDP fell by over 18 percent in the five years following independence. In most cases, state revenues fell even more than GDP, which seriously compromised governments' abilities to maintain inherited education programs.

Figure 1 – Decline of National Production in the Central Asian Republics (in billions of 1995 US $)[4]



4. World Bank, *World Development Indicators*, Washington, D.C., 2002.

Increasing Inequality

Not surprisingly, the transition led to an increase in inequality of earnings and incomes. Gini coefficients increased slightly (from .30 to .35) in Kazakhstan, and by far greater amounts in Tajikistan, Turkmenistan, and the Kyrgyz Republic (Table 1). This increase in inequality resulted from several factors, including disruption in economic production, the suspension of transfers, and the impact of declining revenues on pension benefits and other safety-net programs.[5]

Table 1 – Changes in Gini Coefficients under the Transition[6]

	1987-1990	1996-1999
Kazakhstan	.30	.35
Kyrgyz Republic	.31	.47
Tajikistan	.28	.47
Turkmenistan	.28	.45

Another important cause of increasing inequality was the greater dispersion of earnings that emerged under the market economy than under the former command economy. This growing dispersion of earnings had important implications for education programs. The distribution of wage and salary levels under the Soviet Union was artificially compressed and determined on the basis of ideological principles that rewarded low-skill occupations such as mining far above their value under a market economy and undervalued many high-skill occupations. The move to market-determined levels of earnings led to a sharp realignment of education/earnings patterns, with skills in English language and IT, for example, bringing very high returns, while earnings in most low-skill occupations declined. These adjustments in rates of return to skills and skill acquisition are certain to continue as economic reforms progress. Education systems play an important role in this evolving pattern of earnings. If education systems are flexible in responding to changing demands for specific skills, this will minimize earnings dispersion and income inequality; rigidities in education programs will exacerbate earnings dispersion and income inequality. Education programs can play an important role in poverty alleviation by providing good access to educational opportunities to improve the situation of the poor.

Decentralization

Education programs in Central Asia both affected and were affected by growing income inequality during the transition. Changes in education management and finance

---

5. The impact of declining revenues on social safety net programs in Central Asia is described in Chapter 9 of World Bank, *Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia*, Washington, D.C., 2000.
6. World Bank, 2000, Table 4.1.

which were designed to respond to the new economic conditions accentuated inequality of income and of education quality. Two changes were of particular importance in this regard: decentralization, and diversification of financing for education.

In Central Asia, as in the other countries of the former Soviet Union, one of the first acts of the newly independent republics was to legally decentralize the responsibility for finance and provision of most primary and secondary education to regional or local governments. Decentralization was motivated both by necessity (falling budget revenues at the republic level) and by ideology (the centrifugal pressures for local self-government).

In principle, the decentralization of responsibilities for education finance and management to local governments offers the potential to make the management of education more efficient and the content of education more responsive to local needs. It could also encourage the mobilization of additional resources for education. But decentralization also involves serious risks. Shifting the responsibility to local governments for provision of basic education entails the risk of under-provision and under-financing, as economic theory suggests.[7] It also leads to more unequal educational outcomes, as richer communities are able to provide higher quality education than poorer communities. Compensatory budget transfers in the form of equalization grants and categorical grants[8] can reduce these differential impacts, but do not eliminate them.

Primary and secondary education management has ostensibly been decentralized in Central Asia. School ownership has been transferred to *oblast* (regional) and *rayon* (local) governments that are nominally responsible for managing, financing, and maintaining them. In reality, little real decentralization has occurred, for two reasons. The first is that centrally imposed norms on class size and teaching loads severely constrain regional and local governments' discretion to manage education programs, including reconfiguring schools and right-sizing the teaching force to achieve better efficiency and performance. The second is that revenues of regional and local governments fall far short of the amounts needed to operate schools. In order to keep schools in operation, teacher salaries (and sometimes utilities) are being financed by state budgets. This is meant to be a temporary measure, but there is very little prospect in any of the Central Asian countries that *oblast* and *rayon* revenues will be adequate to finance teachers' salaries for at least a decade. The few other inputs (including textbooks) that are being provided are financed by parental or community contributions. This situation has led to the emergence of conspicuous quality differences between poor communities that are not able to supplement meager state budget resources for education and the more

7. It is not economically efficient for local governments to finance education that generates benefits beyond the immediate local area. The presence of these externalities is a commonly invoked reason for state financing of basic education.

8. Equalization grants are untied, general-purpose transfers which are inversely proportional to local government's income or revenues; categorical grants are formula-determined, and are designated to be used for a specific purpose such as payment of teacher salaries.

prosperous communities that are able to do so. It has also led to differences in access and performance between children whose parents cannot afford textbooks and school supplies for their children and children whose parents can afford these inputs.

Diversification of Financing

Collapsing state budgets also motivated efforts to mobilize additional sources of financing through various non-budgetary sources, including contributions of parents and communities for textbook rental and other educational inputs at the school level, through income-generating activities such as rental of school premises and production of articles for sale, and through the establishment of fee-paying "contract" places in higher education for students who fail to qualify for free, budget-subsidized places.

These efforts to mobilize additional resources offer potential advantages of stimulating a more active involvement of parents and communities in the activities of their schools (which can itself lead to improved school performance) and encouraging educationally relevant linkages between educational institutions, industry, and employers. But they also involve a number of risks: Requiring children to pay for textbook purchase or rental denies textbooks to poor children.[9] Income-generating activities (such as mass-production in vocational schools) can displace the educational mission of educational institutions. Instituting contract places in public universities blurs the distinction between public and private, and often provides an incentive for the best faculty to teach the least-qualified, contract students because of the financial advantage that it provides. Throughout the Central Asia region, as in much of the former Soviet Union, the practice of private contributions to schools has been subverted from its original purpose of augmenting educational resources at the school level. It has often contributed to corrupt practices such as "selling" examination grades and places to the most coveted schools and programs, and has eroded the credibility of diplomas and degrees to employers and the public.

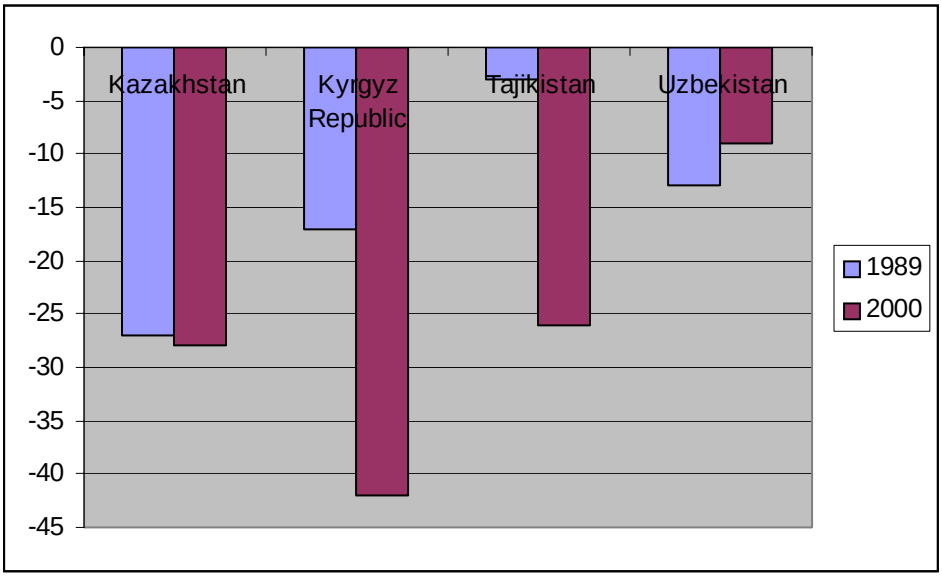
Inadequate Teacher Salaries

Teachers are bearing the brunt of resource-deprivation in the education sector. As shown in Figure 2, teacher earnings were below average earnings at the start of the transition in all the Central Asian countries. Average earnings have fallen throughout the region since independence, but teacher salaries have fallen far more than average salary levels. The extraordinarily low level of teacher salaries means that most teachers have to work at additional jobs in order to stay alive. It also creates serious problems of teacher morale, as well as perverse incentives for educationally harmful practices such as offering higher grades or admission to the most desired programs in exchange for payments from students. Survey results confirm that corruption in education has become

9. All of the Central Asian countries provide for exemption of textbook rental charges for the poorest children, but this exemption is limited to 10% of enrollments in any school. When the number of poor children exceeds this amount, children are usually not provided with textbooks even if the school has an adequate supply.

widespread throughout the region. This has seriously undermined public confidence in education programs and diplomas. Restoring teacher salaries and public confidence in education should be a central priority of education reform in the region.

Figure 2 –Teachers' Earnings in Relation to Average Earnings, 1989 and 2000[10]
(expressed as percent of average earnings)



EDUCATION IN THE KYRGYZ REPUBLIC

Population

Kyrgyzstan's population of 4.9 million people is predominately ethnic Kyrgyz but also includes significant ethnic and linguistic minorities of Russian, Uzbek, Tajik, and Turkish populations. Major emigration after independence reduced the share of the Russian population from 21.5 percent in 1989 to 12.4 percent currently. Unlike most of the former Soviet Union, Kyrgyzstan's population is growing -- at about 1.1 percent per year.[11] Fertility was higher prior to 1990. The declining fertility trend means that the size of the school-age cohort – from 7 to 15 years old – is expected to decline from 1.053 million in 2000 to 1.020 million in 2005 and at an annual rate of 1.7 percent over the next decade. The former high fertility also means that Kyrgyzstan has a younger population

10. United Nations Children's Fund, Innocenti Research Centre, Figure 3.8.

11. According to the results of the 1999 Population Census and the 1997 Demographic and Health Survey, The population of Kyrgyzstan is growing at 1.1 percent per year, resulting from a 1.4 percent rate of natural increase (births minus deaths), and net out-migration of 0.3 percent per year.

than most of the countries of the former Soviet Union, with 45 percent of the population 19 years old or younger, versus 26 percent in the Russian Federation and similar levels in the other CIS countries.

One of the particular challenges for education delivery is the high proportion of the population that lives in rural areas. In the aggregate, 65 percent of Kyrgyzstan's population lives in rural areas – mostly in mountainous areas. In Naryn and Chui *oblasts*, more than 80 percent of the population is rural. The predominance of the rural population presents a challenge for delivery of education in terms of both education delivery and demand for education. It complicates the delivery of education and raises education costs because the greater dispersion of population in rural areas leads to smaller class sizes, smaller school sizes, and often to lower teacher utilization rates. Rural location also affects the demand for education and quality of education because: a) poverty is more widespread in rural areas, such that many families cannot afford the cost of textbook rental, school supplies, and presentable clothing for their children; b) the public revenue base is much smaller in rural areas, such that many local governments are not able to finance school inputs beyond the meager inputs financed through the Republican budget; c) rural schools are generally less well-equipped and maintained than urban schools;[12] d) rural parents have lower levels of educational achievement than urban parents, and rural households offer fewer educational stimuli and resources than urban households, and e) school-age children in many rural households miss part of the school year because they need to participate in seasonal agricultural labor in order to contribute to household income.

The Inherited System

The Kyrgyz education system comprises preschool education for children between one and six years of age, primary education (grades one through four), lower secondary education (grades five through nine), upper secondary education (grades ten and eleven), and higher education.[13] In addition to the formal sector, there are numerous out-of-school institutions and organizations to meet the education and training needs of the population. Specialized schools within the public education system provide instruction in each of the major minority languages. Kyrgyzstan entered the transition with relatively high levels of educational participation. Under the former Soviet system, the Kyrgyz education system benefited from centrally developed curriculum, teacher

12. The National Survey of Primary Education Quality that was carried out in November, 2000 found that 28 percent of rural schools lacked electricity, 45 percent lacked adequate heating, and 78 percent lacked adequate furniture. (Center for Public Opinion Studies and Forecast, *Monitoring Learning Achievement: National Survey of Primary Education Quality*, Bishkek, Kyrgyz Republic, Ministry of Education and Culture, United Nations Children's Fund, United Nations Educational Scientific, and Cultural Organization, 2001.)

13. The initial years of formal education in the Kyrgyz Republic are referred to as "secondary education." Initial schools offer grades 1 through 4. Basic schools or "incomplete secondary schools" offer grades 1 to 9. "Complete secondary schools" offer grades 1 through 11. For clarity, we use the more conventional terminology of primary education to refer to the compulsory initial 9 years of formal education, and secondary to refer to grades 10 and 11, including general and vocational/technical education.

training, textbooks, and educational materials. The system was sustained at a relatively high level of coverage and performance by direct and indirect subsidies of many kinds from the more prosperous Soviet republics. Education was free at all levels and compulsory through grade ten. But curricula and teaching methods at all levels were dominated by ideology and denied any questioning and critical thinking. Teaching was teacher-centered and emphasized repetition as evidence of mastery. Students were not invited to be inquisitive or to apply concepts to real-life applications. The bulk of enrollments at the secondary level were in narrowly specialized academic, technical, and vocational programs that conveyed a static set of skills for a specific occupation. Access to higher education was very limited, with less than a fifth of secondary school graduates going on to higher education. Programs in higher education concentrated on science and engineering, with few offerings in social sciences and humanities. Virtually all students were assured of jobs at the completion of their secondary or higher education studies, and could expect to keep these initial jobs throughout their working lifetimes.

Transition Challenges and Responses

The dissolution of the Soviet Union and the expanded role of competition led to pervasive changes in structure and performance of the Kyrgyz economy. National output declined by 50 percent between 1990 and 1995 and recovered only very slowly thereafter. By 2000, real GDP was just 64 percent of its level in 1990.[14] Public revenues declined even more sharply. The greater reliance on markets led to bankruptcy of some state enterprises and shifted others to private ownership and management.

The transition also led to fundamental changes in the education system. Many people questioned the utility of education when graduation no longer led to assured employment and when many families needed the contribution of all household members in order to sustain themselves. Lacking resources to maintain the education system as it had been, the Government reduced the duration of compulsory education to nine years, shifted much of the responsibility for financing public primary, secondary, and higher education to local governments and parents, and authorized schools to raise money from the rental of facilities and other activities. Students were required to purchase or rent textbooks that formerly had been provided free.[15] The Government also encouraged the private provision of education at all levels and instituted a system of contracted, fee-paying education within public universities and specialized upper secondary schools – essentially creating a segregated system of private instruction within ostensibly public educational institutions. As described below, central budget resources have managed to keep existing primary and secondary schools and higher education institutions alive, but only barely alive. The quality of education has declined seriously in all schools except the few urban schools that benefit from significant parental and community contributions.

---

14. World Bank, 2002.

15. By comparison to the minimum monthly salary in 2000 of 220 *soms*, a set of textbooks costs 160 *soms* for grade 1, 220 *soms* for grade 5, and 430 *soms* for grade 11, and a school uniform costs 240 to 480 *soms*. (Kyrgyz Ministry of Education and Culture *Educational System of the Kyrgyz Republic: Current Status and Developmental Pathways in 1991-2001*, Bishkek, 2001.)

Education Coverage

As shown in Table 3, the largest changes in enrollments occurred in preschool education and higher education. Recorded enrollments in preschool education declined precipitously throughout the 1990s, with virtually the entire decline occurring in schools managed by ministries other than the MEC. Enrollments in higher education more than doubled. Enrollments in primary and secondary education increased at an average of slightly under 2 percent per year, with an initial decline in enrollments in grades five through nine and a rapid recovery in the latter years of the decade. At the same time, university enrollments have increased significantly -- from 10.8 percent of the age group in 1990 to 15.2 percent 1998, largely due to growth in enrollments in private institutions.

Table 3 – Enrollments by Level, 1992/93-2000/01[16]

	Preschool	Grades 1-4	Grades 5-9	Grades 10-11	Total Grades 1-11	Higher Education
1991/92	190,100					
1992/93	143,200	367,000	458,500	114,000	939,500	38,414
1993/94	92,200	378,900	454,400	101,000	934,300	38,384
1994/95	58,900	386,200	460,800	97,800	944,800	39,902
1995/96	46,100	471,900	402,900	95,900	970,700	47,416
1996/97	47,300	475,800	425,000	105,400	1,006,200	53,102
1997/98	46,100	472,100	446,700	121,100	1,039,900	63,498
1998/99	46,600	470,700	467,500	140,400	1,078,600	75,196
1999/00	45,000	464,393	478,273	153,611	1,096,277	88,924
2000/01		456,274	555,190	99,004	1,110,468	
2001/02		451,900	553,844	106,991	1,112,735	

What do these enrollment figures imply about coverage of education programs? Clearly, coverage in preschool education as a percentage of the age group has declined sharply, whereas coverage in higher education has increased. For primary and secondary education, the evidence is mixed. The Government's official country report for the *Education for All* program[17] reports a gross enrollment ratio for primary education of 97.5 percent and a net enrollment ratio of 97.1 percent for 1998, with virtually identical rates for boys and girls.[18] These rates are consistent with the results of the Kyrgyz

16. Higher education enrollments are for full-time, day students only.

17. Kyrgyz Republic, *Country Report on Education for All*, Bishkek, 1999.

18. The gross enrollment ratio expresses the number of enrollments in a given stage of education divided by the estimated number of children in the normal age group for that stage. The net enrollment ratio is the same ratio, except that the numerator includes only enrollments of children within the normal age range for the education stage in question. Because the gross enrollment ratio includes overage children in the numerator but not in the denominator, it overstates the actual coverage of education. By excluding overage and underage children from the numerator, the net enrollment ratio attempts to correct for that error.

Poverty Monitoring Surveys that were carried out in 1996, 1997, and 1998[19] and the Household Budget Survey that was carried out in 2001. These surveys reported average coverage rates (corresponding to net enrollment ratios) ranging from 95.3% to 97.4%. But the recent (2002) National Poverty Reduction Strategy reports a basic education coverage rate of 89.5 percent for 1999. This lower coverage rate is consistent with the 89.9% gross enrollment ratio that results from dividing 1999 registered enrollments in grades 1 through 9 by enumerated 1999 population aged 7-15 years. These lower enrollment rate estimates imply that there are about 100,000 children of primary-school age who are not enrolled in school. Resolution of the ambiguity about coverage of primary schooling will require new, more detailed data.

Education Quality

Although there are no time-series data to track changing education quality in the Kyrgyz republic, there is a consensus on the part of teachers, students, and parents that education quality has deteriorated seriously over the past decade in all but a few well-endowed urban schools. Declining quality results mainly from the budgetary neglect that is described below, resulting in depleted stocks of textbooks and other educational materials, in an underpaid and demoralized teaching force, and in physical deterioration of schools. The increasing reliance on formal and informal parental contributions to meet essential school needs also results in a more unequal distribution of education quality. Large differences have emerged in teaching conditions and educational outcomes among *oblasts* and between urban and rural schools. In a recent national assessment of fifth-grade students, results in numeracy skills varied markedly by *oblas*t and urban/rural location. As shown in Table 4, four times as many students in Batken *oblas*t received assessment scores in the lowest category as in Bishkek, and 70 percent more students in Bishkek received scores in the highest category than in Batken *oblast*.[20] Similar but smaller differences in assessment results were recorded between rural and urban schools across *oblasts*.

19. World Bank, *Kyrgyz Republic: Poverty in the 1990s in the Kyrgyz Republic*, World Bank Report No. 21721-KG, June 2001.

20. Center for Public Opinion Studies and Forecast, 2001.

Table 4 – Fifth-Grade Assessment Results in Numeracy by Oblast, November, 2000[21]

	% receiving lowest category scores	% receiving highest category scores
Bishkek	10.2 %	32.1 %
Chui	17.0 %	23.3 %
Naryn	11.6 %	33.8 %
Issykul	21.1 %	33.3 %
Talas	26.5 %	27.6 %
Osh	20.3 %	29.6 %
Jalalabad	14.8 %	27.4 %
Batken	41.2 %	18.9 %

Education Efficiency

Rural/urban differences in school size and class size in the Kyrgyz Republic are less than in the other Central Asian countries, reflecting expanding rural enrollments as a result of population growth, and relatively modest rural-urban migration rates. But intensity of teacher use by oblast varies significantly in terms of teaching load (TL), teachers per class (TC), and teaching hours per class (HC), as shown in Table 5. The significantly lower number of teachers per class and higher teaching load for Chui oblast, for example, indicates a higher intensity of teacher use that, if emulated in the other *oblasts*, would lead to significant budgetary savings. The scope for achieving such savings is discussed below.

Table 5 – Intensity of Teacher Use by Oblast, 1997

	rural schools			urban schools		
	TL	TC	HC	TL	TC	HC
Kyrgyz Republic	19,18	1,58	30,36	22,13	1,50	33,12
Jalal-Abad	19,70	1,53	30,07	23,33	1,38	32,18
Issyk-Kul	18,36	1,67	30,61	20,31	1,56	31,68
Narin	16,69	1,83	30,54	17,41	1,82	31,70
Osh	18,32	1,66	30,49	22,09	1,48	32,62
Talas	19,17	1,58	30,31	21,58	1,59	34,25
Chui	22,37	1,36	30,32	24,08	1,32	31,86
Bishkek				23,42	1,49	34,91

21. Center for Public Opinion Studies and Forecast, 2001.

Management and Finance of Education

The management of public education institutions in the Kyrgyz Republic varies by level and type of institution. Most preschools are managed by the Ministry of Education and Culture (MEC), although there are still a few surviving preschools managed by other ministries.[22] Most primary and secondary general education schools are intended to be managed by local governments. But local governments' actual management discretion for these schools is very limited because the MEC, through its rayon-level Departments of Education, appoints principals and teachers, and because the Republican budget finances teachers' salaries under financing arrangements that are described below. The Republican budget also directly finances several categories of specialized schools, including boarding schools for orphans, handicapped students, and other students with special needs, the national network of non-diploma secondary vocational schools which are managed by the Ministry of Labor and Social Protection, and the national network of professional secondary schools managed by the MEC, the Ministry of Health, and the Ministry of Agriculture. Most of the students in specialized vocational and professional secondary schools are financed by the Republican budget, but a growing percentage of students – currently, about 25 percent of the enrollments -- are contract students who pay fees that range from 7,000 *soms* per year to 14,000 *soms* per year. Public universities are also managed by the MEC and combine both budget-financed and fee-financed students. Only one third (or 32,340) of the 64,941 full-time public university students are budget-financed.[23] The rest are contract students who pay fees ranging from 3,000 *soms* per year to 60,000 *soms* per year.

The decline in national output and revenue since the start of the transition is, by far, the most important factor affecting the financing of education in the Kyrgyz Republic during the past decade. The second most important factor affecting financing of education programs has been the Government's evolving decentralization policy. Under this policy, local governments were initially given responsibility for managing and financing all costs of primary schools and general secondary schools, regardless of the adequacy of local government revenues. During the first two years that this policy was applied, it had disastrous effects on education programs. In all but the most affluent communities, schools lacked teaching materials of all kinds, heating and utilities, and teachers were either not paid at all or paid only after long delays. Most schools continued to function, and enrollments increased. But the number of teachers declined and the conditions for teaching and learning in most schools deteriorated sharply.

To respond to this problem, the Government in 1997 introduced categorical grants to oblasts that were specifically designed to meet the essential costs of education and health services at the local level. The Government initially intended that the categorical grants would finance primary and secondary education provision on a capitation basis,

22. Over one thousand of these preschools formerly managed by other ministries, and often attached to public enterprises, have close since the start of the transition.
23. The proportion of contract students has increased in recent years. The proportion of contract students in the incoming class for 1999/2000 was 19.7 percent.

allowing local governments the flexibility to decide how to provide these services in the most efficient manner possible. In principle, categorical grants were reduced in proportion to the oblasts' own revenue capacity. In practice, only Bishkek municipality and one other oblast has had its categorical grant reduced. For education, the basic per-student grant was to be multiplied by an age-related coefficient that was designed to capture the higher costs of providing education at higher levels.[24] But it quickly became apparent that strict application of the capitation formula would lead to mass layoffs of teachers in some oblasts. To prevent that outcome, the categorical grants were redefined to cover only the salaries and benefits of existing teachers in each oblast. In using the categorical grants, oblasts were instructed to give priority to paying teacher salaries and benefits. Other essential inputs to the teaching and learning process, including textbooks and teachers' manuals, are either financed by parents or, when parents cannot afford it, are not provided at all. In communities where local governments and parents cannot afford to finance textbooks and other essential teaching inputs, the quality of primary and secondary education has fallen to unacceptably low levels. This includes most rural primary and secondary schools, which are often in very poor condition and lack heating, and where many children lack textbooks because their parents cannot afford even the modest cost of renting them. (Textbook rental costs are ten *soms* or thirty cents per textbook in the initial grades, and fifteen *soms* or forty-five cents each in the upper grades). Many children in rural schools lack textbooks. This is particularly frequent above the second or third grade, because families that cannot afford to rent textbooks for their children in all grades generally give priority to providing them in the earliest grades.

In January 2001, Parliament adopted a new Law on Teacher Status that requires that teacher salaries and benefits for public primary and secondary education be financed fully and on time by the Republican budget. Although the Law on Teacher Status does not specifically amend the law that established the categorical grants, it effectively supersedes that legislation. Transfers are now being provided to oblasts with instructions to use them fully to meet the cost of teacher salaries and benefits.

Public funding for higher education used to be based largely on historical costs, with negotiation of the amount ultimately provided. Starting in September 2002, financing is being provided on a per-student basis, with average per-student allocations averaging 5,000 *soms* per year. Within public higher education, there is a system of "contract education" that is equivalent to private universities operating within ostensibly public universities. Currently, about 75 percent of the students in public higher education institutions are "contract students" who pay fees ranging from 3,000 *soms* per year to 60,000 *soms* per year, averaging about 10,000 *soms* per year. Budgetary funding of higher education students is limited to "budget students" who score above a designated threshold on the university entrance examination. The number of budget places for

24. Under this scheme, local governments would receive the normal allocation for each student aged 7 to 13. This allocation would be multiplied by a coefficient of 1.2 for each student aged 14 or 15, of 2.3 for each student aged 16 or 17, and of 2.0 for each student in boarding schools. Additional coefficients were to be developed for students in mountainous and rural areas to reflect the higher costs of providing education in these areas.

students in higher education is set by the National Antimonopoly Committee, based on a judgment of national needs in each area. Budget students are especially numerous in fields such as agricultural and industrial engineering, which were developed and promoted to meet the needs of the planned economy under the former system. Contract students are heavily concentrated in fields such as management, economics, and humanities, which have grown rapidly in recent years to meet the needs of the new market economy.

The fees paid by contract students are much higher than the average per-student budget of 5,000 *soms* per year ($100) provided by the MOF for higher education institutions.[25] Contract students tend to be of lower ability because of the lower exam performance requirement for entrance.[26] In spite of this fact, university faculty often prefer to teach in the classes for contract students because this offers salary supplements from the contract student fees. University faculty in the public universities earn about 2,000 *soms* per month under the unified salary scale. But average earnings of university faculty are actually about 5,000 *soms* per month, resulting both from supplements financed by contract students and multiple teaching assignments held by many of the faculty.

The Government also initially intended to finance centrally managed education programs on a differentiated capitation basis. But here, too, the actual allocation process had reverted to financing inputs, with priority given to teacher salaries, electricity and water, student stipends, and meals in boarding schools. An April, 2002 Presidential Decree required that actual capitation financing be implemented starting in September, 2002, with average per-student allocations of 5,000 *soms* per year. Actual allocations differ by field of specialization, under a cost-based schedule developed by the Ministry of Finance.

Issues

The Duration of Secondary Education. The current eleven-year system of primary and secondary education in the Kyrgyz Republic evolved from the former Soviet system in which all students were required to complete eight years of primary education and two years of either general secondary education or vocational/technical education. After ten years of compulsory education, students could enter university education. After the dissolution of the Soviet Union, Russia extended the duration of primary education from eight years to nine years, which raised the coverage of secondary education to grades ten and eleven. In 1994, the Kyrgyz Republic did the same.

In May 2002, the Government approved a proposal to further extend the duration of secondary education to twelve years by 2010, in line with the practice in most of the OECD countries. This change could yield important benefits for the Kyrgyz economy and society and should be implemented as soon as it is feasible to do so

25. The 1998 Kyrgyz Poverty Monitoring Survey reported higher education tuition payments of 2,402 soms per year, averaged over all students (contract and budget students in public higher education, plus private higher education). The 2001 Household Budget Survey reported average higher education contract fee payments of 4,673 soms per year.

26. But there are reports that some budget students are actually of lower ability but obtained their budget positions through corruption, rather than by scoring above the threshold score on the national examination.

effectively. But there are serious questions of feasibility and sustainability of this proposal at this time. Full implementation of the proposed twelve-year secondary schooling would require years of preparation and a serious commitment in terms of investment and recurrent budget resources. Embarking on this policy before the core educational needs (including textbooks, educational materials, and in-service teacher training) of existing primary and secondary schools are fully met would lead to further deprivation and erosion of educational quality in primary and secondary education.

Education Governance. Under the Government's decentralization policy, most primary and secondary schools in the Kyrgyz republic are meant to be managed and financed by local governments. In reality, local governments exercise very limited control over their primary and secondary schools. Local governments' discretion to manage education resources—including discretion to consolidate schools and reduce staffing—is fundamentally circumscribed by centrally mandated norms that specify for each level and type of course the minimum and maximum permissible class sizes and the minimum and maximum number of teaching hours per teacher, and by the fact that teachers and school principals in "locally managed" primary and secondary schools are appointed by *r*ayon education departments, rather than by local governments themselves. There is thus a fundamental disconnect between local governments' responsibilities for delivering secondary education and their means for doing so.

These centrally imposed constraints are intended to ensure that locally managed secondary education meets national standards for quality and content. But these are not effective instruments for providing quality assurance for education. A far more effective approach to quality assurance would be for the rayon and oblast education departments to concentrate on ensuring that actual teaching practices are consistent with the approved curriculum and reflect the changes in pedagogy that are intended under the education reform program -- including a more student-centered, inquiry-based approach, and an emphasis on synthesis and application of knowledge rather than accumulation of factual knowledge. In the medium term, educational evaluation should reflect educational value added in terms of changes in learning achievement at the school level as measured through student assessment. Student assessment is being introduced in the Kyrgyz Republic currently, but is not yet well enough established to serve as a basis for evaluation of teaching effectiveness.

To address these governance issues, the roles of central and local authorities need to be changed in order to align responsibilities and accountabilities for managing primary and secondary education. In general, this means empowering local councils to manage schools effectively, including hiring school principals and teachers and carrying out actions such as staff reduction and school consolidation which are necessary for improved efficiency. Quality assurance should be provided by the MER and its oblast and rayon education departments through observation and assessment of actual teaching practices and classroom results, rather than through managing teacher recruitment and assignment and controlling class sizes and teaching loads. Applying this new approach would require the preparation and promulgation of the enabling legislation and decrees, dissemination of the plan, and development of capacities at the central and local levels to

discharge these new roles. Student assessment should continue to be developed as an instrument for evaluating schools' performance, including, eventually, their contribution in terms of value added in student achievement.

Education Finance. There are distinct issues of education finance that relate to a) the overall level of public support for education, b) teachers' salaries, c) the level at which education services are provided, d) the formula for apportioning budget funds to specific education institutions and uses, and e) the mixture of public and private financing in public higher education. The issues and recommendations for each of these topics are summarized in the following paragraphs.

Level of Public Support. As shown in Table 6, the share of consolidated public budget allocated to the education sector was essentially the same (20 percent) in 2000 as in 1990, and increased to 23 percent in the 2001 budget year. But in spite of this increased level of commitment, the share of GDP devoted to education has fallen by exactly half during the 1990s – from 7.4 percent in 1990 to 3.7 percent in 2000. This decline reflects the smaller size of the public sector under the market economy. As shown in Table 7, this is a lower share of GDP spending on education than in other countries in the region, with the exception of Russia and Tajikistan, and considerably below the average for the OECD. Expressed in real terms, public expenditures on education have fallen even more sharply – to just one-third of their 1990 level, reflecting the combined effect of the smaller public sector and the sharp decline in GDP.

Table 6 – Public Expenditures for Education as a Share of Total Public Expenditures, 1990-2001

	Education Expenditures (in millions of current soms)	**Education Expenditures** (in millions of 1995 soms)	**Total Public Expenditures** (in millions of current soms)	**Education as % of Total Public Expenditures**	**GDP** (millions of current soms)	**Education as % of GDP**
1990	3.2	2,381.0	15.9	20.1 %	43	7.4 %
1991	5.6	1,775.5	24.4	23.0 %	93	6.0 %
1992	37.3	1,271.4	231.1	16.1 %	741	5.0 %
1993	227.2	906.3	1,225.8	18.5 %	5,355	4.2 %
1994	730.8	1,038.0	2,812.8	26.0 %	12,019	6.1 %
1995	1,064.9	1,064.9	4,610.5	23.1 %	16,145	6.6 %
1996	1,222.8	903.5	5,202.4	23.5 %	23,399	5.2 %
1997	1,514.0	937.6	6,695.7	22.6 %	30,686	4.9 %
1998	1,681.6	954.7	7,298.3	23.0 %	34,181	4.9 %
1999	1,892.3	780.9	9,042.2	20.9 %	48,744	3.9 %
2000	2,289.9	740.17	11,284.5	20.3 %	62,203	3.7 %
2001	2,849.3	854.3	12,257.0	23.2 %	73,890	3.9 %

Table 7 -- Public Expenditures on Education, Kyrgyz Republic and Selected Comparator Countries, 1997[27]

Country	Public Expenditures on Education as percent of GDP
Belarus	5.6 %
Czech Republic	4.2 %
Denmark	8.2 %
Estonia	6.8 %
Finland	7.5 %
France	5.9 %
Germany	4.6 %
Hungary	4.6 %
Kazakhstan	4.4 %
Kyrgyzstan	3.9 %
Latvia	6.8 %
Lithuania	6.4 %
Russia	3.5 %
Tajikistan	2.2 %
Uzbekistan	7.7 %

What effect has this budgetary contraction had on education programs? Among the most serious effects are:

- Widespread deprivation of the basic educational materials needed for effective teaching and learning and for modernization of education programs. The recent National Survey of Primary Education Quality found, for example, that 80 percent of primary schools lacked a complete supply of textbooks for students, 70 percent lacked teachers' guides, 20 percent lacked desks and chairs for students, 70 percent needed repairs to school furniture, 23 percent of schools lacked water supply, and 39 percent lacked telephones.[28]

- A serious decline of teachers' salaries, that has eroded teachers' morale and motivation, induced many teachers to take additional jobs, and exacerbated problems of corruption.

- Increasing inequality in quality of education and access to education as the shrinkage of central budget support has led to increasing reliance on unevenly available local financing, parental contributions, tutoring, supplementary financing through rental of premises and non-educational

27. World Bank, 2002. Expenditure figures are for the most recent year reported.
28. Center for Public Opinion Studies and Forecast, 2001.

activities. On average, 35 percent of the reported expenditures of primary schools in urban areas and 25 percent of reported expenditures of rural schools come from non-budget sources (Table 8). The increasing reliance on these non-budgetary sources is not only a source of increased inequality, but also threatens to displace the core teaching function of primary and secondary schools

- The cessation of new school construction that has led to excessively intensive use of existing school facilities. Only 10 percent of primary schools operate on a single shift. Fully 76 percent of the rural schools and 68 percent of the urban schools operate on double shifts. Four percent of rural schools and 13 percent of urban schools operate on triple shifts.[29]

- The development of parental contributions as an important source of financing for school maintenance, fuel, and other necessities in urban schools. Parental contributions to urban schools often function as informal fees for attending the most prestigious schools. These charges amount to over $500 per year for the most prestigious schools in Bishkek. Parents also contribute to schools in rural areas, but widespread poverty means that income from this source is very limited. The reliance on parental contributions is a major source of inequity in quality of education.

- The re-emergence of arrears in teachers' salaries. The Ministry of Education and Culture reports that payment of teachers' salaries is in arrears in the amount of 43 million soms (about US$930,000) as of September 2002.

Table 8 – Sources of Financing for Primary School Expenditures

	Urban schools	**Rural schools**
Government budget (Republican + local)	65 %	75 %
Tutoring	19 %	2 %
Parents' fees	13 %	7 %
NGO contributions	2 %	8 %
Private sponsors	1 %	6 %
Income-earning activities	0 %	2 %

Source: *Monitoring Learning Achievement: National Survey of Primary Education Quality*, Center for Public Opinion Studies and Forecast, Bishkek, 2001.

29. Figures refer to 2001/2002 school year.

Low Teacher Salaries

Teacher salaries in the Kyrgyz Republic, which averaged 857 *soms* per month in 2001, are low in both absolute and relative terms. In absolute terms, they are only half the minimum consumption level for individuals, not to mention households. As a result, teachers lack motivation and are compelled to work at other jobs in order to support themselves and their families. In higher education, low faculty salaries have contributed to a serious problem of corruption, with students often paying for admission and grades. This has led to a serious deterioration in the quality of education. More significantly, it has led to cynicism on the part of employers and the public about the significance of higher education diplomas, except for the few institutions that have been able to prevent or control corruption.

Teacher salaries are also low in a relative sense, as shown in Table 9. Average monthly earnings in the education sector are just 857 soms, versus the considerably higher average earnings in all other sectors except forestry and health. It is notable, in particular, that average teachers' salaries are less than 40 percent of average earnings in public administration.

Table 9 – Average Monthly Earnings in 2001 by Sector
(in current *soms*)

Sector	Average Monthly Earnings
Health	710
Education	857
Industry	2,466
Transport	1,684
Communication	3,030
Construction	1,894
Trade	936
Finance	4,650
Public administration	2,159
Forestry	556

Sourc[30]e: National Statistical Committee

Under the reforms that are being piloted in the health sector, the introduction of co-payments and health insurance payments, accompanied by a sharp reduction in staffing, have led to major efficiency gains and significantly higher earnings for physicians and other health staff.[31] They have also sharply reduced corruption as under-the-table payments for health services have been replaced by the more transparent system of co-payments. Teachers do not have equivalent opportunities to supplement their income, although some activities such as mentoring new teachers or providing

31. These improvements have been undermined during the 2002 budget year because the Ministry of Financed has reduced central financing by the amount of the efficiency savings, thereby removing the incentive for health sector staff to maintain the reforms.

community education or remedial education could be and should be recognized and compensated through supplementary income. Moreover, whereas co-payments are desirable in the health sector to discourage excessive use of health services, they are not desirable in the education sector at the compulsory education level, where fuller use of education is to be encouraged, not discouraged. Although class sizes in urban schools are relatively large by OECD standards, there are opportunities in some cases to raise class sizes and release resources that might help finance increased teacher salaries.

To address the issue of inadequate teacher salaries, it is desirable that the Government adopt a more differentiated salary scale which provides financial incentives for applying the desired new teaching methods, and for assuming non-classroom roles (such as mentoring of less experienced teachers) which are important to the success of the new teaching approach. The basic capitation financing formula should provide incentives for *rayons* to achieve savings in teacher deployment through rationalization measures which reduce the total number of teachers and, where possible, increase average class sizes in conformity with international standards. To increase the incentive for local governments and teachers to pursue such efficiency gains, local governments should be allowed to use the savings from these measures to provide for educational improvements, including through increased teacher salaries.

Central or Local Financing?

Economic theory predicts that reliance on local financing for services that provide widespread benefits (or "externalities") will lead to lower levels of financing and provision than central financing. Education expenditures are widely recognized to generate widespread indirect benefits for society, beyond the direct benefits that accrue to the individuals who are educated. This is particularly true of initial education. Relying on local governments to finance primary and secondary education in any setting risks under-spending on education, or providing a lower level of education than the economically efficient allocation. This is a predictable outcome of decentralizing financing responsibility for pre-university education, and it is broadly what happened in the Kyrgyz Republic after decentralization. Although education expenditures as a percentage of total public expenditures did not decline significantly after decentralization, they did decline quite sharply as a percentage of GDP and in real terms (Table 6). The proportion of GDP devoted to education in the Kyrgyz Republic (3.9 percent) is among the lowest in the region (Table 7). The low level of education expenditures may undermine the country's efforts to raise productivity and growth performance in the future. Decentralization to date has made this situation worse, not better. The changes in the financing formula that are outlined below would help to address this problem. In carrying out improvements to the financing formula, a key principle is that the central budget should guarantee that all core education costs are met, at least at the compulsory education level.

The Financing Formula for Primary and Secondary Education

The current practice of financing primary and secondary teachers' salaries under the Republican budget (described above) has the very compelling advantage that it ensures that even the poorest localities are able to pay teachers' salaries and keep their schools open. But it also has two serious disadvantages: The first is that it does not provide scope or incentives for improved efficiency through redeployment of teachers and consolidation of schools, since maximum class sizes and teaching loads are set by the MEC, and since local governments perceive that the Ministry of Finance would reduce their budget to offset any savings that they might achieve by reducing the number of education staff. The practice of financing teacher salary costs under the Republican budget treats existing teacher costs as non-discretionary and hence tends to legitimate what may be an inefficient delivery of education.

The second disadvantage of the current financing formula is that it does not include financing for textbooks and other essential inputs to effective education. As described above, textbooks are financed by parents under a textbook rental scheme, and other educational inputs are available only to the extent that parents can provide for them. Although rental charges appear modest in an absolute sense, the extremely low level of incomes means that many households cannot afford the cost of textbook rental, thus preventing children from having textbooks. This is a major reason for low quality and incomplete school attendance in poor areas of the country, including many rural areas.

Another problem is that the current financing formula provides virtually no financing for in-service teacher training. Failure to fund teacher training is a high-risk and low-efficiency option, because it means that the education system's most important asset – its teachers – are not equipped to perform their work effectively, especially in introducing the important innovations planned under the education reform. The financing formula should also include provision for heating and other essential utilities, which account for an unusually large share of recurrent costs. Expenses for heating and utilities fall most heavily on small, rural schools in mountainous areas. These communities are least able to bear these costs. Inadequately heated classrooms due to lack of fuel and inefficient stoves are a major factor in explaining low attendance in rural schools.

In the short term, it is desirable that primary and secondary education textbooks and utilities, as well as teacher salaries, be financed under the Republican budget in order to provide more equal learning opportunities to all children. In order to improve the efficiency of education delivery in the medium term, it is desirable that the financing of core educational costs for primary and secondary education move from an input-based formula to an output-based (students and educational results) formula, and that the allocation formula be differentiated to reflect the intrinsic cost differences for different subject areas, different levels of education, and different parts of the country (reflecting, for example, the higher cost of providing education of adequate quality in areas with highly dispersed populations, difficult access, and particularly severe weather conditions). In order to help guide the development of an objective, cost-differentiated capitation formula for education, it would be valuable to carry out a study of factors

affecting costs of efficient delivery of education in primary, secondary, and higher education.

The 2001 Law on Teacher Status requires that teacher salary costs be fully financed by the Republican budget. By not taking local revenue capacity into account, this legislation unnecessarily inflates budget costs. The Republican budget should *guarantee* that the core costs of education are met, but should not directly finance those costs when local governments have the capacity to meet them from their own resources. Categorical grants to oblasts for education should be reduced for those oblasts which have the capacity to cover part of those costs through their own revenues.

Higher Education Finance

There are too many (43) higher education institutions in the Kyrgyz Republic. In the absence of any effective quality control, education varies widely in quality. Corruption is a problem at all levels of the education system, but particularly in higher education, where informal payments often secure university admission or a good examination grade. As a result, diplomas are suspect except in the few universities that have strict controls on corruption.

The current system of financing most public higher education through a combination of budget finance and fee payment by lower-performance students in public universities is highly inequitable and blurs the distinction between public and private sectors. It also effectively relies upon segregated, private programs within ostensibly public universities to meet student demands for the new subjects that are particularly important to the country's future and uses public, budget financing to support traditional courses that are in less demand by students. The system suffers from corruption at entry, corruption within the system, and regressive incidence, since students from poor households are least likely to have attended high-quality secondary schools and have scored highly enough on the university entrance examination to qualify for budget-subsidized positions. The system is inefficient because it encourages the most capable faculty to concentrate on teaching the least capable students (where they receive salary supplements from retained fees). It also consumes a disproportionate share of public resources for education in relation to the compulsory cycle (Table 19). There is a need for more selectivity in public financing of higher education, both in order to free some resources to reallocate to compulsory education and to limit public financing to centers of excellence that can serve as models for privately financed higher education institutions. There is also an urgent need to reduce corruption in higher education through application of more objective entry criteria and strict sanctions on corruption within higher education.

Table 19 - Consolidated Education Expenditures (Republican Budget + Local) and Per-Student Expenditures By Level of Education, 1998

	Preschool	Secondary	Higher
Public expenditures (millions of *soms*)	109.3	1,079.0	322.9
Enrollments (public)	46,100	1,131,100	121,000
Per-student expenditures (current *soms*)	2,370.9	954.0	2,668.6

A preferred approach would be to use public financing in higher education much more selectively by essentially pursuing a policy of triage as a deliberate instrument to improve the quality of higher education. Ultimately, this could take the form of student vouchers for the most capable students. But, in the short term, it would be more effective to limit public support to the few institutions that genuinely have the potential to be centers of excellence and letting the other higher education institutions fend for themselves. The practice of designating which specific field of studies receives budget support could be replaced with a system that encourages educational excellence in all fields. These changes in financing could also be accompanied by measures to develop a) an objective, examination-based process for university admission, b) an independent accreditation body for higher education institutions and programs, and c) trustee management for higher education institutions as an instrument for developing a broader base of accountability.

REFERENCES

David N. Ashton and Johnny Sung, *Supporting Workplace Learning for High Performance Working*, Geneva, International Labour Office, 2002.

Bruno Laporte and Dena Ringold, *Trends in Education Access and Financing During the Transition in Central and Eastern Europe*, World Bank Technical Paper No. 361, Social Challenges of Transition Series, Washington, D.C.,1997.

Center for Public Opinion Studies and Forecast, *Monitoring Learning Achievement: National Survey of Primary Education Quality*, Bishkek, Kyrgyz Republic, Ministry of Education and Culture, United Nations Children's Fund, United Nations Educational Scientific, and Cultural Organization, 2001.

Kyrgyz Ministry of Education and Culture, *Educational System of the Kyrgyz Republic: Current Status and Developmental Pathways in 1991-2001*, Bishkek, 2001.

Kyrgyz Republic, *Country Report on Education for All*, Bishkek, 1999.

Organization for Economic Cooperation and Development, *Education and Policy Analysis: Education and Skills*, Paris, 2002.

Klaus Schwab, Michael Porter, and Jeffrey Sachs, editors, *The Global Competitiveness Report, 2001/2001,* Geneva, World Economic Forum, 2001.

United Nations Children's Fund, Innocenti Research Centre, *Social Monitor 2002: Social Trends in Transition, HIV/AIDS and Young People, Quality of Learning in Schools*, Florence, 2002.

World Bank, *Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia*, Washington, D.C., 2000, Table 4.1.

World Bank, *Kyrgyz Republic: Poverty in the 1990s in the Kyrgyz Republic*, World Bank Report No. 21721-KG, June 2001.

World Bank, *World Development Indicators*, Washington, D.C., 2002.