

Chapter III. Education and Poverty*



The preceding analysis has shown the clear relationship between the education level of an individual, access to economic opportunities, and their poverty status. It is thus particularly important for poverty reduction prospects that Belarus ensures access to appropriate education to all segments of society. Belarus is attempting to do this while facing both declining school-age populations due to falls in fertility and increasing costs of inputs (e.g. utilities). During the preparation of this report the Government introduced several changes reflecting its focus on equal access to quality education.

The analysis using data from 2002 shows that while education enrollment rates are still very high on average, children from poorer households have lower enrollment rates and higher drop-out and repetition rates than children from richer households. Particularly in rural areas, poorer children are less able to access the new types of secondary schools and specialized classes.

The education authorities have embarked on a wide-ranging set of reforms to improve the effectiveness of its considerable public resources while maintaining universal coverage of services. The analysis of a special module of the HIES (2002) commissioned on education, health and social protection finds a higher burden of private expenditures on poorer versus richer households. These disparities may have been reduced later due to the national expansion of school improvement interventions.

The restructuring that has started needs to deepen and be continually assessed if Belarus is to improve the effectiveness and equity of its education system. The dimensions of system efficiency and equity in education outcomes are closely linked, since public savings gained from efficiency improvements are necessary to create the fiscal space for pro-poor measures (also true for the health care system) which can improve education outcomes for low-income households. For example, even though student-teacher ratios are very—maybe even too—low, the number of teachers has actually increased in the last few years. Resizing the teaching force may enable Belarus to address the low pay and morale of teachers and/or obtain savings on the wage bill which can be redistributed to poorer schools to defray operating and maintenance costs.

3.1 Overall Performance

The main components of the Belarusian education system are: preschool education; primary education followed by lower secondary, which together constitute the basic or compulsory cycle; upper secondary education, which may be academic, vocational or specialized (also known as technical or professional) education; and higher education. Educational alternatives for children with disabilities are also offered at all levels of education. Throughout this report, “general secondary education” refers to the combination of basic education with academic upper secondary education.

The education sector in Belarus in the 1990s shows relatively stable and high gross enrollment rates (GER) at the preschool and basic education levels. The preschool 2000 GER of 65.6% is slightly higher than Russia’s and Latvia’s; higher than Poland’s, Ukraine’s, and Lithuania’s; but lower than Estonia’s. For basic education, the 2000 GER of 95.4% implies near

* This chapter is based on the findings reported in Abu-Ghaida (2003).

universal enrollment in the compulsory basic cycle and is above the 2000 rates in Russia and Ukraine although it remains below the rate for 5-14 year-olds in OECD countries (97.9%).⁹

The total upper secondary enrollment rate, on the other hand, declines in the early 1990s, and although it rises again in the second half of the decade, in 2000 it remains below its 1990 level. This is the result of precipitous declines until 1996 in the enrollment rate in vocational and specialized secondary education. The academic upper secondary track (general secondary) begins exhibiting an increased enrollment rate in 1994, while the enrollment rate in higher education mounts dramatically at the same time, resulting in a 2000 GER of 31.7% that is almost 1.5 times the 1990 GER. Still the higher education enrollment rate lags behind the Russian and Ukrainian rates of 36.2% and 32.6% respectively. Overall, recent trends indicate a movement away from the vocational and specialized secondary tracks and into general secondary followed by higher education.

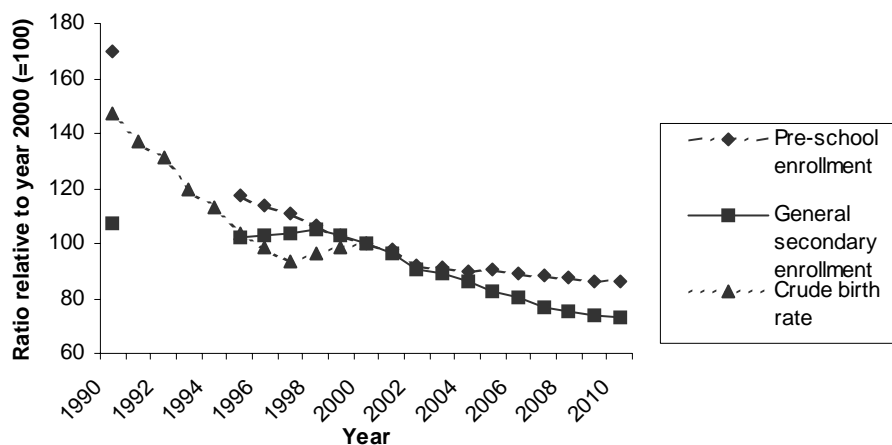
Stable enrollment rates but shrinking size of student body. Despite relatively constant enrollment rates, the absolute number of preschool establishments and students exhibits a secular decline throughout the 1990s, resulting in a student body in 2000 that is less than two-thirds the size it was in 1990. The number of general secondary establishments also goes down throughout this period, and while the number of students only begins to shrink in 1999, by 2001 the number of general secondary students is smaller than it was in 1990. In 2000 alone, the number of students in general schools dropped by almost 50,000, compared to 1999. Constant enrollment rates in the face of shrinking student bodies is reconcilable given population trends in Belarus, where the annual population growth rate turned negative in 1994 and the crude birth rate declined continuously during 1987 to 1998 (Box 10). The number of students at pre-school and general secondary levels of education is projected to continue its decline, with important implications for reform of education service delivery.

Box 10: Declining Number of Students

In the last part of the '90s, the opportunity cost of raising children rose, as the cost of child-care increased while the supply of such services fell. A larger number of adults, especially mothers, are dropping out of the labor force to raise children. The increase in the relative cost of raising children and the increased economic insecurity contributed to the sharp decline in fertility. The numerous policies intended to support fertility, such as generous medical leave for mothers, birth grants and child allowances, were not enough to stop its decline, a trend observed in many other transition economies.

The figure below depicts the past trend in the crude birth rate as well as past and projected enrollments in preschool and general secondary education.

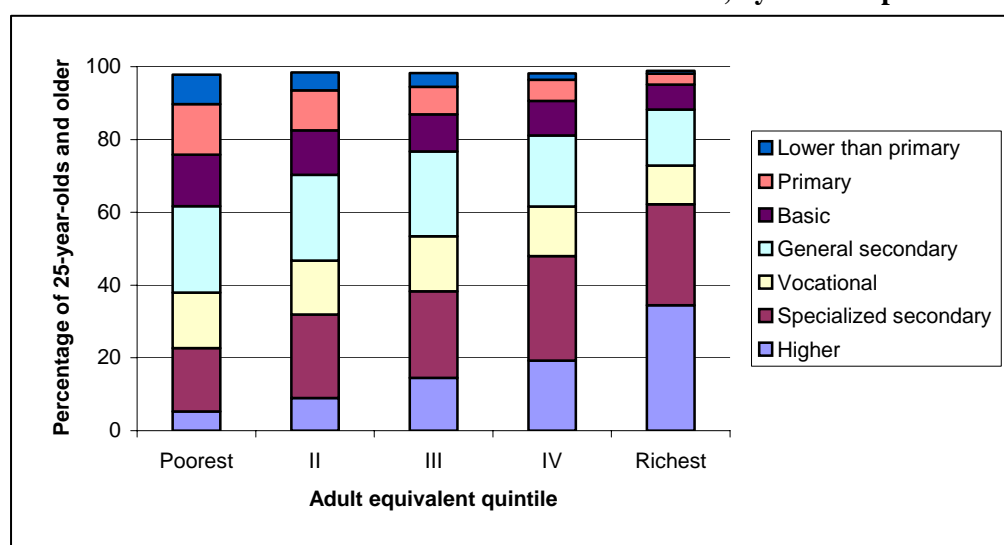
Figure B1: Demographic and Student-Body Size Trends, 1990-2010



Despite high overall coverage, some disparities in educational attainment are apparent. Belarus exhibits clear differences in educational attainment across regions, poorer and richer households, and gender. These emerging disparities are signals of a system needs to ensure uniform opportunities and quality of service to the population.

- *Geographical differences.* In rural areas it is noteworthy that fully 40% of the population aged 25 years and older (i.e., those who can be expected to have completed their education) has an educational attainment of basic schooling or *less*. This is largely due to the high proportion of elderly people in rural areas, an age cohort who have lower educational attainment levels than younger age groups. The share of the population with higher education in Minsk city is roughly three times that in rural areas. Those with specialized secondary education constitute the largest share in cities (other than the capital), while the share of general secondary and vocational attainment is approximately the same across all areas.

Figure 11. Educational Attainment of 25-Year-Olds and Older, by Consumption Groups



Categories do not add up to 100% since non-respondents and those with an educational attainment of "incomplete higher education" are excluded.

Source: HIES 2001

- *Poorer versus richer households.* A clear correlation exists between an individual's level of education attained and the consumption quintile in which their household is placed (quintile 1 being the poorest 20% of the population). Figure 11 shows that the higher the economic status of the household, the higher is the share of the population with higher or specialized secondary education. The poorest groups tend to have larger shares of population with only a basic education or less. These variations simply reflect the links between education, income opportunities and household welfare, which have already emerged from the poverty profile.
- *Pre-school.* Our analysis shows that there is no clear pattern of gender disparities in enrolment at this level (2-5 year olds). The only clear *regional disparity* indicates that children in rural areas are less likely to be enrolled in preschool than in urban areas (whether Minsk City, large, or small cities). Disparities by welfare of the household are apparent when considering enrollment of 2-year-olds specifically, where the enrollment rate increases with welfare status of the household, and when considering the non-poor compared to the (extreme) poor. Non-poor enrollment rates are higher than that of poor children.
- *Basic cycle.* Enrolments are near-universal across the board for 7-13 year-olds – it is only at the end of the relevant age group that disparities are apparent. For 15-year-olds, enrollment

rates are highest for the richest quintile and lowest for the extreme poor; indeed, for 14-year-olds already, the average enrollment rate is approximately 10 percentage points lower for the extreme poor than for the non-poor. At age 15 males exhibit higher enrollment rates than females; after Minsk city, enrollment rates decline for large cities, followed by small cities, and finally rural areas; and enrollment rates are highest for households whose heads have higher education. The analysis also indicates differential drop-out rates across these groups.

- While overall repetition rates in basic education are at 1.3%, they are highest in rural areas at 2.2% (interestingly followed by Minsk city at 1.6%) and highest for the poorest quintile at 3.6% (compared with 0.7% for the non-poor).¹⁰ In analyzing physical access (distance) to schools, we find that the percentage of basic education students with their school within 1 kilometer of their residence is lowest for students in rural areas, as would be expected. In terms of oblasts, this percentage is lowest for students in the Minsk oblast, indicating that many students there probably travel to Minsk city to attend school. Interestingly, the richest quintile have the lowest rate of schools within 1 kilometer of residence, which probably means that students from this socioeconomic group travel to better schools rather than attending the closest public school.
- *Upper secondary and higher education.* Enrollment rates amongst 17-22-year-olds also vary by welfare of the household, where individuals in the richest quintile are almost 1.5 times more likely to be students as are individuals in the poorest quintile, and the enrollment rate amongst the poor is three-quarters the rate amongst the non-poor. The educational attainment of the household head is also correlated with enrollment of 17-22-year-olds in the household, so that enrollments are at 53% in households with a head with higher education and decline progressively for households with heads with a specialized secondary or vocational education, reaching 35% for heads with general secondary education.
- *Quality of education.* The question of the quality of education, i.e. education outcomes and how much and what students actually learn, is a difficult one to address in Belarus given the lack of internationally standardized tests of educational achievements. Anecdotal evidence suggests that there are differences in quality of education between urban and rural areas. Moreover, the need, for example, to supplement the entrance examination scores of rural university applicants in 2002 also suggests lower quality in rural areas relative to urban.

3.2 Improving the Efficiency of the Education System

Box 11: Is Sector Reform Really A Poverty Issue?

The trends in student body size noted above highlight the importance for Belarus of assessing and improving the efficiency of the resources (both capital and labor) used to achieve education outcomes. But is the objective of improving overall sector performance really a poverty-related issue? In our view it is for three reasons. *First*, it is children from the poorest households who are least able to compensate for any gaps or deterioration in the quality of education services. *Second*, inefficiently allocated resources can further compound the constraints on service performance created by overall lack of resources in poorer areas. Performance and access issues can thus be better redressed by generating efficiency-induced savings. *Third*, the education sector is undergoing important changes and our concern is about seeing what initial impacts these changes seem to have and continuing to monitor and reassess them to make sure that they don't adversely impact the poor. Given these factors, the poverty assessment reviews the effects of education service delivery reforms as well as the pattern and trends in public expenditures on education, to assess whether or not these resources are allocated efficiently and distributed equitably.

Service delivery reforms are underway. The education system of Belarus has undergone several changes since the early nineties (Box 12). These changes aimed to address the issues of declining student population, outdated curricula content, changed structure of labor demand, and strained public resources for services.

Class sizes remain at too low a level. Given declining school-aged populations, class sizes and student-teacher ratios are unusually low in Belarus. Average *class size* in the rural areas of Belarus is half that of the urban areas, and it is only the urban class size of 24 that is comparable to the overall OECD average of 22 for primary and 24 for lower secondary education. While some argue for smaller class size emphasizing the greater amount of attention students are likely to receive from teachers, it is perhaps more important to focus on *student-teacher ratios* in this regard (Table 8). At 10.2 students per teacher in 2000, Belarus' student-teacher ratio is even low compared to OECD countries, which had a ratio of 17.7 and 14.3 for primary and secondary education levels respectively. The Belarusian student-teacher ratio is also lower than the 2000 ratio in basic education in Poland (15.1) and Russia (10.8), the latter already considered low by international standards. Indeed, as Table 10 shows, Belarus' student-teacher ratios have declined consistently since 1990, reaching a remarkable low of 6.6 in rural areas in 2001.

Box 12: Main Elements of Belarus' Education Reform Program

Traditionally, education at all levels was free; today, while general secondary and vocational education remains free, a proportion of higher education students pay tuition. School meals continue to be subsidized across the board for all preschoolers and primary school students and for certain groups of students in lower and upper secondary school. Textbooks, traditionally provided free of charge, are now rented at 50 percent of their cost.

In addition, Belarus formally launched a multi-pronged reform of its education system in 1998 (completion planned for 2010). One element of the reform impacts schooling duration by reducing the school entrance age from 7 to 6 years, extending the compulsory cycle from 9 to 10 years (i.e. 6 years of lower secondary schooling), and replacing the 6-day with a 5-day school week. In terms of curriculum content, the reform seeks to promote foreign language instruction in general secondary education, in particular English, French, German, and Spanish (Russian and Belarusian are the standard languages of instruction in the country). Increased availability of computers in schools to provide students with hands-on learning in their computer studies classes is a further component of the reform. Finally, the reform encourages the establishment of new educational establishments at the general secondary level, known as lyceums and gymnasiums, which are to model the above-mentioned reform elements as well as specializing in mathematics and the sciences (physics, chemistry, and biology).

Table 10: Trends in School Size and Student-Teacher Ratio in Urban and Rural Areas

Year	School size			Student-teacher ratio		
	Total	Urban	Rural	Total	Urban	Rural
1990	278	927	96	12.2	15.9	7.4
1995	316	900	113	11.5	14.0	7.5
1996	321	896	116	11.1	13.5	7.4
1997	326	895	118	11.0	13.2	7.3
1998	333	907	119	10.8	12.9	7.2
1999	330	884	119	10.4	12.4	7.0
2000	324	853	117	10.2	12.1	6.9
2001	316	820	114	9.8	11.6	6.6

Source: Statistics Yearbook 2002.

OECD (2001) findings indicate, however, that student-teacher ratios below 10 are associated with negative effects on student performance, precisely because they tend to occur in small rural schools. At the same time, differences in student-teacher ratios ranging from 10 to 25 are

associated with relatively small effects on learning outcomes, and it is only when ratios rise above 25 that a decline in performance is detected.

Several rural schools were closed, yet the number of teachers rose. The government of Belarus reacted to these apparent inefficiencies in remote rural areas by implementing a policy of school closures combined with busing of students to nearby schools. Table 11 shows the number of closed rural schools for 1998-2001 by oblast and the resulting reduction in total number of schools in the oblast. It also shows, however, that the number of teachers continued to increase, with the result that the overall student-teacher ratio *declined* by 10.7% in the 1998-2001 period. During the last two years, however, the trend has stopped since the teaching force decreased by more than 6 thousand teachers. School size also declined in this period, despite the closures, due to a smaller student body, but by a smaller percentage than the student-teacher ratio (3.2%).

Table 11: Changes in Labor and Capital Use in General Secondary Schools, 1998-2001

Region	No. of closed rural schools	Change in total no. of schools	Change in total no. of teachers	% change school size	% change in student-teacher ratio
Brest	34	-32	700	-2.1	-8.7
Vitebsk	21	-17	800	-5.4	-10.8
Gomel	48	-48	700	0.0	-9.0
Grodno	34	-29	700	-1.0	-8.6
Minsk	63	-60	700	-2.5	-11.3
Mogilev	28	-26	600	-3.0	-10.0
Minsk city	Na	12	1700	-12.9	-16.1
Belarus	228	-212	4200	-3.2	-10.7

Source: Ministry of Statistics and Analysis (2002b).

The policy of school closures as implemented at present may not be adequately addressing either efficiency or equity issues. *First*, while it is clear that rural areas exhibit inefficiencies that need to be corrected, they are also the areas with the lowest enrollment rates, highest repetition rates and higher poverty levels in the country. Thus, given that communities must fund the busing of students themselves as well as the severe winters in Belarus, there is a risk of further losses in attendance if schools are closed and busing is not regularly available. *Second*, the closure of schools was not accompanied by reductions in the teaching force. The value of the policy with respect to correcting inefficiencies is therefore questionable, in particular given the continuing dominance of the wage bill in the financing of education (see below). *Third*, not only did the size of the teaching force increase, the weekly work norm in Belarus for teachers remains at a low level. The normative of 18 hours per week is very low even by the standards common in FSU and CEE countries.¹¹ Typically the weekly work norm in other countries is 24 hours although it might be as low as 12 hours in Azerbaijan.

Based on our analysis, new types of schools are being used by children from better-off areas. The introduction of new specialized types of general secondary schools, called lyceums, gymnasias, or colleges, has been mentioned. These schools are being accessed mostly by the urban and better-off households. These new schools remain tuition-free, but entry into them is on a competitive basis. They enroll a small share, approximately 6%, of basic education students.

¹¹ In September 2003 the Government revised the average weekly norm of hours of teaching setting an upper limit of 36 hours per week.

However, this share is as high as 12% for residents of Minsk City, compared to being almost negligible (0.3%) in rural areas, indicating that the reform has barely reached these areas. In addition, roughly 6 times as many students from the richest 20% of the population attend these schools than do students from the poorest quintile (and attendance being almost negligible for the extreme poor).

The education sector in Belarus is overwhelmingly state-financed.¹² **The state dedicates substantial resources to the education sector.** Despite a decline in total public expenditures as a percentage of GDP over the period 1999-2001 (Table 12), the share of education expenditures relative to GDP increased from 6.4 to 6.8% with a concomitant increase in education's share of total public expenditures from 16.9 to 19.0%. By comparison, in 1999, OECD countries spent (on average) 5.2% of GDP and 12.7% of total public expenditures on education. Belarus' spending on education is high if compared to most of its neighboring countries as well: in 1999, public expenditures on education in Russia amounted to 3.2% of GDP, in Poland 5.1%, in Ukraine 3.7% – only Lithuania (6.5%) and Latvia (6.7%) resemble Belarus in this regard.

Table 12: Public Expenditures on Education as % of GDP and Total Public Expenditures, 1999-2001

	Year			OECD 1999
	1999	2000	2001	
GDP (millions of current BYR)	3,026,064	9,125,600	16,912,600	
Total public expenditures	1,142,843	3,236,394	6,023,461	
-- as % of GDP	37.8	35.5	35.6	
Public education expenditures	193,144	565,987	1,143,532	
-- as % of GDP	6.4	6.2	6.8	5.2
-- as % of total public expenditures	16.9	17.5	19.0	12.7

Sources: GDP data from World Bank SIMA database. Data on expenditures from Ministry of Finance.

OECD data from OECD, 2002, Table B3.1.

General secondary education is becoming more expensive...but why? The breakdown of total public education expenditures reveals that the largest line items are general secondary education (approximately 40% of the consolidated budget) followed by preschool education (approximately 20%) and higher education (approximately 10%). Moreover, the shares of general secondary and higher education have grown during the period 1999-2001, while preschool education's share has gone down. However, while the upward trend for higher education is plausible given growing higher education enrollments, the reasons behind the trend for general secondary are less apparent given the declines in student body size.

In per-student expenditure terms, both preschool and vocational education were roughly twice as expensive as general education during 1999-2001 (Table 13). This is understandable for vocational education, where, for example, the equipment requirements are greater than in general secondary education. For preschool education, this is surprising and a stark contrast to the 1999 ratio of 0.93 in OECD countries but it is explained by the cost of other services delivered in the facility (such as health care). Specialized secondary and higher education were roughly 30-50%

¹² The share of non-state education establishments at the general secondary level was only 0.3%, accounting for 0.1% of the student population at that level. It is therefore mostly at the specialized secondary and higher education levels that the private sector plays any significant role (5% of total establishments by 2000). In higher education, approximately a quarter of establishments in 2000 were non-state.

more expensive than general secondary across the 1999-2001 period. In addition, over this period all levels of education exhibit a downward trend relative to general secondary, i.e. general secondary is becoming more expensive on a per-student basis compared to all other levels.

Table 13. Per-Student Expenditure by Education Level (1999-2001)

Level of education	Ratio relative to general secondary (=1.00)		
	1999	2000	2001
Preschool	2.10	2.02	1.69
General secondary	1.00	1.00	1.00
Vocational training	2.23	2.07	1.92
Specialized secondary	1.54	1.41	1.31
Higher education	1.49	1.46	1.28

Sources: Ministry of Finance and Statistical Yearbook, 2002.

Expenditure on wages, utilities and school meals are crowding out much needed teaching materials and school maintenance. Utilizing the detailed expenditure and budget data provided by the Ministry of Finance, we distinguished between source of funding—Republican or Local governments—and decomposed education spending into its major elements to assess allocative efficiency. In particular we look at the availability of different types of complementary inputs in a bid to better understand changes in the quality of education, at least indirectly.

- *Wages of teaching and non-teaching staff* constitute the largest share of all three budgets, yet at 58% of the consolidated education budget this share is on the low side when compared with the 1999 share of staff compensation in OECD countries in general (60-74%, depending on the level of education) or Poland in particular (70%). This is remarkable given the low student-teacher ratios and increasing numbers of teachers reported earlier. The wage bill thus could either be reduced to enable non-salary items to be expanded; or the size could be maintained for higher pay to a smaller number of teachers. Non-salary *essential* recurrent expenditures that are necessary for improved education quality, e.g. materials and training, represent a mere 1.5% of the consolidated education budget, raising concerns as to the ability of the state to maintain, not to mention enhance, the quality of public education.
- *Utilities* capture fully 13% of the consolidated budget. On the one hand, high utility bills are expected in a cold climate country such as Belarus. On the other hand, particularly in view of the low share of maintenance expenditures in the budget, it seems likely that energy is wasted in heating and lighting poorly maintained facilities. In addition, utility prices have recently increased sharply, and there is anecdotal evidence of utilities capturing as much as 20% of the education budget in some raion.
- *Foodstuffs* constitute the third largest consolidated budget line item (7.4%). In general, provision of school meals in Belarus has been socially-oriented. School meals are provided to children at the primary level (either free or subsidized, depending on household income), and continue to be provided at the lower secondary level for some groups of children (e.g. the disabled, children from low-income families, children in special programs for remote rural areas). However, since subsidized meals may be available to better off as well as poorer children, the subsidy may not be concentrated on the poor. A detailed assessment of public expenditures on education is needed to provide better policy guidance. Analysis of private expenditures on education (see below) also indicates that richer households often pay their share of school meal costs while providing their own better-quality food for their children. Thus, it seems likely that better targeting school meal provision to needy children alone

would not only decrease the fiscal burden but also improve the pro-poor distribution of public spending and the welfare of both poorer and richer households.

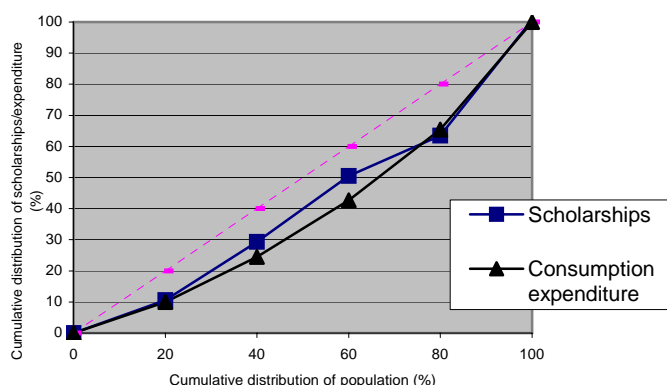
- o *Scholarships* constitute roughly 3% of the consolidated budget, with the lion’s share coming from the Republican budget. Individual, educational, and social scholarships were introduced in 1996 for students at specialized secondary or higher education institutions. Both individual and educational grants are merit-based. As of 2001, scholarships were also extended to students at vocational institutions. Focusing on the age group of 17-22-year-olds, individuals in the poorest quintile are half as likely as those in the richest quintile to receive a scholarship, and when they do receive one, the amount is approximately three-fifths that received by the richest (Table 14). Overall, there is a pattern of increased likelihood to

Table 14: Scholarships to 17-22-year-olds, by Consumption Quintile (2001)

Adult equivalent quintile	Beneficiary rate (% of 17-22-year-olds)	Average grant amount (Q4 2001 BYR)
Poorest	10.1	31,309
II	17.4	31,822
III	18.7	36,394
IV	14.2	28,828
Richest	20.0	50,641
Total	16.1	37,299

Source: HIES 2001

Figure 12: Benefit Incidence of Scholarships, 2001



than overall consumption expenditure is distributed in Belarus. This is shown by Figure 12 which tracks the cumulative distribution of household consumption (or welfare) against the cumulative population ranked by per adult equivalent consumption. The figure shows that the “concentration curve” for education scholarships lies above the Lorenz curve for aggregate consumption expenditure, implying the progressive nature of the scholarships. The scholarships, however, do not succeed in targeting the poorer segments of the population (admittedly, this is not necessarily their aim): for targeting to have been effective, the concentration curve would have had to lie above the diagonal line.

Per capita local government education expenditures are inequitably distributed across Regions. Scholarships are the only item predominantly financed by the Republican, as opposed to local, budget. The importance of local budgets in financing public education in Belarus raises the question of possible inequality in expenditure across oblasts. We analyzed the per capita local

benefit and higher amounts received by households with higher incomes, except in the case of the fourth quintile. Given that the data presented here combine educational, individual, and social grants, it is likely that we are detecting a situation where the fourth quintile “falls through the cracks”: individuals in this group are neither needy enough to benefit from social grants, nor are they rich enough to buy the high quality education that can give them access to the merit-based scholarships.

- o Overall, the scholarship program is pro-poor (or progressive) in the sense that the grant amounts are distributed more equally

budget education expenditure across oblasts and separately for current and capital expenditures. We found that Gomel and Mogilev had, in 2001, the lowest per capita current and capital local education expenditures. These are also among the poorest regions. Overall, however, there is little variation in per capita local recurrent expenditures across oblasts, whereas inequalities across oblasts are greater across *capital expenditures*. The poorer the oblast, the lower the per capita capital expenditure and higher the number of schools which need repair. Minsk City is the clear outlier, with highest per capita spending and lowest rates of poverty and schools in need of repairs. The fact that expenditures are correlated with poverty rates in this manner implies a lack of correction by the government so that the distributional impact of government spending is not pro-poor but rather pro-rich.¹³

3.3 Private (Household) Education Expenditures

In present-day Belarus, private education expenditures on education take many forms and have a differential impact on poorer versus better-off households. At the pre-school level, parents have begun paying fees, amounting to 60% of the cost of meals, although exemptions for low-income families are in place. In basic education, as already mentioned, households may pay for school meals. Textbooks must be rented at 50% of their cost (an average of 5-9,000 BYR per student per year according to the Ministry), although again there are exemptions stipulated for those who cannot afford to pay. Anecdotal evidence suggests that frequently, parents find it necessary to purchase books that are not defined as textbooks by the school but that teachers indicate are necessary for learning the subject, in particular in the case of foreign languages. In addition, anecdotal evidence abounds of schools canvassing parents for contributions towards the running of the school, for example for urgently needed repairs. Further private expenditures for education at the upper secondary level are related to the provision of extra classes after school for students to prepare for university entrance examinations. These classes are deemed a necessity for entrance to both public and private universities, and they cost from 1–13,000 BYR per hour in 2003 and vary in duration from as low 9 to as high as 160 hours.

The burden of these expenditures is higher for poorer people. These expenditures, while necessary in many cases to help defray the cost of delivering education services, calls into question the affordability of good quality education for poorer households. Affordability of these expenditures is assessed by looking at the ratio of average schooling expenditure per student to household nonfood spending per adult equivalent, with the latter serving as a proxy for discretionary household income (Table 15). We see that that average monthly expenditure amounts per child in preschool are largest in Minsk City and for the richest quintile, and smallest in rural areas and for the poorest quintile. However, when affordability of these expenditures is considered, it is apparent that the burden on rural households is greater than that on residents of Minsk City. Moreover it is greatest for the poorest households and declines in size the richer the household. Thus, when considering welfare of the household, the fact that richer households spend more on average on pre-school than the poorer household does not translate into higher burdens for these richer households. This is also true for basic education, where the burden of private expenditures is almost twice as high for households in the poorest quintile compared to those in the richest.

¹³ Since 2003 the Government has revised the social standards regulating the norms of budget expenditures per student to correct these inequities, but the impact of such changes needs to be evaluated.

Table 15: Affordability of Basic Education, by Household Characteristics, 2002
(ratio of schooling cost to nonfood expenditure)

	Transport ^a	Clothing for school	Educational materials ^b	School meals	Contributions to school ^c	Total
Total	0.6	32.5	3.1	12.2	2.2	50.5
Gender						
Female	0.6	32.4	3.3	12.4	2.2	51.0
Male	0.6	32.5	2.8	12.1	2.2	50.1
Location						
Minsk city	0.7	34.1	3.9	15.9	3.7	58.3
Large city	0.9	26.4	2.9	12.7	2.5	45.4
Small city	0.5	29.5	3.5	12.8	1.6	47.8
Rural	0.5	39.9	2.3	9.1	1.5	53.3
Oblast						
Brest	0.4	27.0	2.9	16.8	1.7	48.8
Vitebsk	1.1	23.8	2.6	11.6	1.5	40.6
Gomel	0.1	31.3	1.8	5.5	2.3	41.0
Grodno	0.4	31.4	3.0	13.7	2.1	50.7
Minsk	0.9	50.7	4.7	16.1	2.1	74.2
Mogilev	0.9	25.4	2.3	5.6	1.4	35.5
Minsk city	0.7	34.1	3.9	15.9	3.7	58.3
Consumption quintile						
Poorest	0.9	43.9	3.5	15.3	2.6	66.0
II	0.5	33.6	3.2	12.3	2.3	51.8
III	0.4	29.1	2.8	11.2	2.1	45.6
IV	0.6	27.6	3.0	11.4	2.1	44.7
Richest	0.7	23.5	2.6	10.0	1.7	38.5
Poverty Status						
Non-poor	0.5	29.2	2.9	11.3	2.0	46.0
Poor	1.0	44.2	3.4	15.8	2.8	67.0
Extreme poor	1.1	47.4	3.1	18.5	3.3	72.9

Source: Bank staff calculations based on HIES 2002 (including additional modules).

Notes: ^a To and from school.; ^b excludes payments for the use of school-provided textbooks; ^c for example, for maintenance or general functioning of school.

In post-basic education, richer people are able to afford better quality education. For post-basic education, the same detail as to type of private expenditure is not available. In addition, it is at this level of education that the private sector has made some inroads, so that available data mix payments made to public and private education institutions. In the case of universities, public universities today admit a limited number of students tuition-free and have privately-run departments that do charge tuition. An informal qualitative survey conducted in the context of this poverty assessment highlights private expenditures on higher education as the primary concern with respect to education for the poorer segments of society who want to see their offspring attend higher education but are afraid of not being able to afford it (Box 13).

Box 13: The Dream of Higher Education

Our elder daughter will soon finish school. She is a good student but we will not be able to pay for her higher education. This is my other concern. I do not want her to have no education like myself. (Gomel)

I cannot afford to give my children the education they would like to get. This year my daughter (she finished school and was awarded with a gold medal) will try to enter the university. We had to choose the university where we will not need to pay if she succeeds to enter it. I had to be frank with her saying that there's a dividing line in her life i.e. the income of her father and at present this line limits her future. (Grodno)

Source: Interviews, June 2003.

Households in the richest quintile spend on the order of *twenty times as much per post-basic student than those in the poorest quintile*. However, for the first time, the higher expenditures by richer households translate into higher burdens on these households than on poorer ones. The explanation for this particular finding is probably that the better-off are purchasing higher quality schooling for their offspring. The greater burden on the non-poor's budget has to be weighed against their gains in terms of better-quality education.

3.4 The Benefits of Education

The fact that Belarusians are willing to pay for better education indicates that they expect to gain from it. We have already demonstrated in earlier chapters that a marked increase in annual wages is associated with increased level of education for wage earners. Differential returns for the *same* level of education do persist, however, both for wage earners in general and public education employees in particular.

- We also find that the returns to higher education levels is high: for example, wage earners with higher education earn 58-66% more than those with basic education only, all other factors being equal.
- Across all wage earners, women generally earn less than men with the same level of education; and those employed in public education earn below the average for all wage earners at every level of education.
- Following up on the last point, the average wage of public education employees is roughly 90% of the national average wage. Public education wages were declining throughout the late 1990s relative to wages in general, industry wages, and per capita GDP. This trend was reversed in 2001, so that school teachers' wages amounted to 95% of the average national wage that year. Despite this increase, school teachers' wages remain low in Belarus when compared to OECD countries, for example, where the ratio in 2000 of a primary teacher's salary to GDP per capita was 1.32 (and for a lower secondary teacher: 1.35; for an upper secondary teacher, it was 1.45). In order to earn higher salaries, many teachers are working on average 25-27 hours per week (as compared to the mandated norm of 18 hours), that is, they are engaged in 1.5 shifts. Focusing on annual wages, employment in public education is associated with an 18% decrease in wages compared to employment in other sectors *for individuals of similar characteristics*, with females in education earning fully 30% less, and males in education 22% less, than males in other sectors.

A reduction in the size of the teaching force combined with increases in the working hours and moderate pay increases seems advisable, given the expected positive effects on teacher morale and the quality of education received by students.

3.5 Policy Recommendations

Belarus needs to continue to improve its education service delivery system to address both equity and efficiency issues. As we have stated earlier, improvement of overall service delivery performance will be necessary to address the needs of poorer children. Thus not only from the performance point of view but also from the poverty reduction perspective, the bold set of reforms launched by Belarus needs to be assessed for their efficacy and taken to the next stage.

- *Remote rural areas.* The ongoing policy of school closures in remote rural areas is motivated by the need to improve efficiency of school and class size given declining student populations. While recognizing the need for such a measure, we suggest that the policy should be monitored and evaluated because there is already evidence of lower enrollment in rural areas. An evaluation of the implementation effects could provide Belarus with early warning as to whether or not school closures are compounding the problematic trend by further reducing enrollment and attendance rates in these areas. Alternative options for remote areas could also be weighed, including multigrade teaching (started in some schools) and distance learning. Also in terms of the introduction of new types of schools (lyceums and gymnasia) in basic education, it is important for the government to ensure that the current trend of the rural and poorer segments of society being left out is reversed. The Government undertakes certain measures to expand these new type of schools to achieve national coverage and, thus, is expected that these equally benefit the poor and rural children.
- *Re-sizing the teaching force.* In particular for the general secondary level, given shrinking student body size, low student-teacher ratios, and low teacher pay, there is a need for a resizing of the teaching force combined with improvements in compensation. This resizing could be accomplished partially through the use of multigrade teaching in the smaller schools, cross-training teachers in related subjects, and increasing teaching loads in exchange for better pay. Better pay for teachers has the potential of not only benefiting the teachers themselves but also of impacting positively the quality of education received in the classroom, thus diminishing the need for after-school tutoring in preparation for university entrance exams, a feature which the poorer households can ill-afford.
- *Needs-based targeting of school meals and scholarships.* First, since school meals capture a relatively large share in the overall public education budget, and at the same time constitute a heavier financial burden on the poor than the non-poor, there is a need for moving away from subsidies of meals at the basic education level to means-tested provision only for the needy. Second, given the individual nature of the benefits accruing from higher and specialized education, and the existence of a scholarship program for these levels that does not benefit poor youth as much as it benefits wealthier youth, an option would be to eliminate merit-based scholarships and focus instead on more pro-poor targeting through need-based scholarships. In this regard education officials could collaborate with social protection officials in Belarus who have already successfully piloted the use of means-testing as a way to refine the targeting of resources to those in greatest need.
- *Preschools.* The ongoing decline in the share of preschool education in total public education expenditures is warranted, especially given the high unit costs at this level of education. At the same time, in order to not exacerbate existing disparities, it is advisable to adjust private payment amounts away from a set rate of 60% of cost of meals to a scale that reflects household capacity for payment. In addition, the approach already initiated by the government of encouraging private sector participation in the provision of preschooling is commendable. It is important, however, to further explore low-cost alternatives: for example,

the government could facilitate mobilization of local communities to create quality, inexpensive early childhood development programs through a system of matching grants.

- *Utilities.* In order to address the large and increasing share of utilities in the overall public education budget, options include better insulation of schools and use of more energy-efficient equipment. A reduced school week – from six to five days – is a policy that the government is already in the process of implementing. Some of the necessary measures will require high start-up costs, especially in the poorer oblasts which have a higher number of schools in need of general repair and maintenance. This implies the need to consider a redistributive intervention by the Republican government to needy local governments to counter the existing pro-rich variation in *capital* expenditures across oblasts. It also reinforces the need to reduce inefficiency in the allocation of recurrent expenditures, to free resources for more regular operation and maintenance of schools.
- *Pedagogical inputs.* There is a need for the Government of Belarus to pay more attention to the question of quality of its education system. No doubt utilities and foodstuffs crowd out other important current expenditures that provide necessary pedagogical inputs. In addition, there is evidence of private payments towards improved education quality that benefit the rich more than the poor. There is therefore a need for reassessment of budget priorities and a refocus on provision of important pedagogical inputs. Also in this regard, the government is strongly encouraged to participate in international assessments of learning achievements in order to benchmark the accomplishments of its education system and receive guidance on where any weaknesses may exist.