

## 5. EDUCATION

### A. INTRODUCTION

**5.1. Inefficient education spending within an institutionally complex structure has resulted in unacceptably low education outcomes in BH.** Forty percent of students do not acquire basic skills and knowledge, while many students enrolled in costly vocational schools receive insufficient general education and are ill-equipped to meet the challenges of today's labor markets. Secondary and university enrollment remain low. Institutions of higher education, meanwhile, allow publicly-funded students to take a long time to graduate, resulting in a waste of resources and poorly-motivated graduates. Fragmentation in the institutional organization of the sector has enshrined significant regional differences in education spending and educational achievement, making it hard for the single economic space to take firmer hold.

**5.2. Meeting the challenges faced by the education sector will require that systemic inefficiencies be tackled before new resources are dedicated.** Critically, BH spends more on education than SEE countries on average, including SaM and Croatia. This chapter reviews the institutional arrangements and spending in education and proposes measures to help improve efficiency in the medium term while raising education outcomes.

**5.3. Savings from improving efficiency within the sector could more than finance a package of reforms urgently needed to begin meeting the identified challenges.** The measures proposed in this chapter are estimated to save up to KM740 million over the next five years, or 0.7 percent of GDP a year on average. The sector would need KM370 million to make an immediate start on tackling the challenges referred to in the opening paragraph, or 0.4 percent of GDP a year on average. Both sets of recommendations combined would reduce BH's spending on education modestly from current levels while improving educational outcomes. This would set the stage for future reforms with more profound impact on the quality of education. These longer-term reforms will need to be considered within the overall fiscal envelope available and balanced against other priorities, as discussed in the other chapters of the report.

### B. INSTITUTIONAL ARRANGEMENTS AND EDUCATION SPENDING

**5.4. The institutional structure of the education sector is complex, inefficient and inequitable.** There is no institution at the state level which provides funding for education. The inter-entity Agency for Standards and Assessment sets standards and conducts yearly standardized tests. In the FBH, the entity Ministry of Education and Science has no management responsibilities for schools or universities, with cantonal ministries of education in charge of primary, secondary and tertiary education. In the RS, the entity Ministry of Education and Culture provides funding for all levels of education (except for capital improvements for secondary schools that are provided exclusively by the municipalities). Eight pedagogical

institutes, sometimes constituent parts of the ministries of education and sometimes self-standing bodies, are responsible for teacher training.

**5.5. As measured relative to GDP adjusted for the size of the gray economy, BH spending on education is larger than any other country in SEE, Ireland and Chile.** Education outlays in BH amounted to 4.3 percent of adjusted GDP in 2005 compared with 3.8 percent in SEE (Table 5.1). Spending in the OECD countries amounts to 5.4 percent of GDP on average, but that number reflects almost entirely substantially larger spending on research and development at leading universities. From a historical perspective, Japan spent 3-4 percent of GDP on education in the 1970s, as did South Korea, the Philippines and Thailand in the 1990s, suggesting that BH's education outlays are not low.

**5.6. Wages consume a slightly higher than average share of overall education outlays in BH than in comparator countries, including those in OECD on average.** The education wage bill amounts to 80 percent of overall outlays on education (Table 5.2). As in other areas of government finance, the large wage bill crowds out investment in school infrastructure and teacher training, with adverse consequences for education performance. The issue is particularly acute among some of the poorer cantons in the FBH, where wages account for an even larger share of education spending. Class size norms play a central role in driving education costs. The level of teacher salaries is set by collective agreement, while the number of teachers is set according to norms linked to the number of classes. Norms are stipulated in terms of minimum and maximum allowable class sizes by level and type of class, together with an optimal (recommended) class size.

**5.7. There is substantial scope for improving the efficiency of teacher use, thereby increasing student-teacher ratios, as a way to reduce spending on wages.** While countries exhibit a wide range of student-teacher ratios, BH's ratio in tertiary education is low (Table 5.3). Moreover, the trend in BH is in the wrong direction. In the FBH, the number of both primary and secondary teachers fell by less than the number of primary students between 2002/03 and 2003/04 (Annex C, Table C1). In the RS, the number of secondary teachers actually increased, even as the number of students decreased.

Table 5.1. Education Spending: Overall and on Wages In Selected Countries 1/

	Education Spending		Educ. Wages (In percent of education spending)
	In percent of govt spending	In percent of GDP	
Albania	10.4	3.0	...
SaM	7.9	3.5	...
Japan	10.6	3.6	...
FYR Macedonia	10.5	3.7	...
Greece	8.4	4.0	...
Croatia	9.5	4.3	...
BH 2/	10.9	4.3	77.7
Ireland	13.0	4.4	...
Germany	9.8	4.8	78.8
Slovenia	n.a.	5.1	...
OECD average	12.9	5.4	74.4
Hungary	10.3	5.5	71.5
Poland	n.a.	5.6	65.8
United States	15.2	5.6	71.4
BH 3/	10.9	5.6	77.7
France	11.0	5.8	72.4
Finland	12.7	6.4	59.5
New Zealand	20.8	6.7	...
Malaysia	28.1	7.6	49.4

Sources: OECD *Education at a Glance* 2005; LSMS; BH 2005

Labor Market Update.

1/ Data for BH - 2004, OECD - 2002, the latter excluding universities. Germany and Hungary - public institutions only.

2/ In percent of adjusted GDP.

3/ In percent of official GDP.

## C. EDUCATION OUTCOMES

**5.8. Given funding levels, education performance is unacceptably poor, characterized by low coverage and inadequate educational achievement.**

Moreover, education does not equip students to meet the demands of BH's changing economy. This section examines education performance according to several key dimensions.

### Education Coverage

**5.9. Secondary and higher education coverage is low.** The share of children attending primary schools is similar to other countries, although coverage is still not complete (Table 5.4). Secondary and higher education coverage tends to be lower despite some improvement of late. Since 2001, the absolute number of primary and secondary students fell more slowly than the estimated decline in the corresponding cohort sizes. Enrollment rates are much lower for children from poor households and with relatively uneducated parents, limiting scope for escaping from poverty (Table 5.5).<sup>1</sup>

**5.10. School dropouts experience higher poverty rates.** Among parents of children who do not continue to secondary education, most consider their children's education to be complete at the end of the 9-year basic education. This often reflects parents' experience and expectations, as well as the perception that having secondary education does not significantly raise subsequent earnings, and with good reason. As discussed below, there is a serious mismatch between the skills and knowledge provided in secondary education and those required in the labor market. This problem is particularly acute in secondary vocational and technical education programs, which disproportionately attract students from low-income households. Graduates of these programs also earn far less on average than graduates of general secondary schools, and little more than primary-school graduates.

Table 5.2. BH: General Government Education Spending  
(In millions of KM unless indicated otherwise)

	2003	2004	2005
<b>FBH</b>			
Expenditures	484	520	568
Wages	404	411	463
Goods and services	33	53	53
Capital	3	5	6
Others	44	51	46
<b>RS</b>			
Expenditures	172	198	208
Wages	134	147	164
Goods and services	8	20	19
Capital	2	10	10
Others	28	21	16
Brcko education expenditures	18	25	24
Wages	...	19.2	17.8
<b>BH</b>			
Expenditures	673	742	800
Wages	...	577	645
Goods and services	...	76	77
Capital	...	15	17
Others	...	75	61
Memorandum:			
Wages (In % of educ. outlays)	...	77.7	80.6

Sources: Ministries of Finance and World Bank estimates.

<sup>1</sup> The World Bank, 2003, *Bosnia and Herzegovina Poverty Assessment*, Report No. 25343-BH.

Table 5.3. Student/Teacher Ratios, BH and Selected Comparators, 2003

	Primary	Secondary	Higher
BH			
FBH	18.3	15.8	8.6
RS	16.6	18.0	n.a
OECD Average	16.5	13.6	14.9
Hungary	10.6	11.8	14.8
Poland	11.9	13.0	18.3
Spain	14.3	10.9	11.8
United States	15.5	15.5	15.2
Finland	16.6	12.9	12.3
Russia	17.0	8.5	11.8
Czech Republic	18.3	13.4	17.3
Germany	18.7	15.1	12.5
France	19.4	12.2	17.6
Slovak Republic	19.4	14.0	10.8
New Zealand	19.9	14.4	8.5
United Kingdom	20.0	14.8	18.2
Indonesia	23.4	18.0	18.7
Peru	25.1	18.9	14.8
South Korea	30.2	17.8	n.a.

Source: OECD, 2005, *Education at a Glance*.

cohort sizes are expected to occur in 2008 for the primary-school-age cohort; in 2014 for the secondary-school-age cohort; and in 2015 for the university-age cohort (Annex C, Table C2). Over the next decade, the primary school-age cohort is projected to increase by 8 percent, while the secondary and higher education cohorts shrink by one-third.

**5.13. This pattern is fortunate for education spending because the cohort declines are projected to occur at levels of education having low coverage rates at present.**

**5.11. The private costs of schooling constrain school attendance for poor children.** The cost of education is the second most prevalent reason for non-continuation of schooling beyond the compulsory level. The private costs of schooling increase sharply after the primary level (Table 5.6). Indeed, the costs for many poor households are typically higher than the average because poor families are more likely to be rural, and to face larger costs than urban families for school-related transport and lodging. In addition to these direct costs, families also face indirect costs of lost potential income because children are at school rather than work. Any successful strategy for addressing low secondary enrollment should tackle the constraints of low educational aspirations, the low perceived and actual utility of secondary education, and the costs of attendance.

**5.12. There will be a sharp decline in the school-age cohorts over the next decade due to past fertility declines, followed by a partial recovery during the following ten years.** With the fertility rate estimated to have fallen from 1.6 per thousand in 1991 to 1.3 by 2001, minimum

Table 5.4. Education Coverage in Selected Countries

	2003 PPP Per-Capita GDP (US\$)	Net Enrollment Ratio (In percent) 1/		
		primary	secondary	higher
Georgia	2,519	89	61	38
Armenia	3,468	94	84	28
Albania	4,322	97	74	15
Belarus	5,729	94	85	62
FYR Macedonia	5,928	92	81	27
BH	6,279	93	73	24
Bulgaria	7,086	90	87	38
Romania	7,176	88	80	30
Croatia	11,025	89	87	39
Slovenia	18,474	93	93	66

Sources: World Development Indicators, 2005; BH 2003 Poverty Assessment.

1/The percentage of the population in the normal age group for each level of education actually enrolled at that level of schooling. Higher education enrollment for all countries but BH is gross.

Table 5.5. BH: Net Enrollment Rates 1/

	Pre-school 0-6	Primary 14-Jul	Secondary 15-18	Higher 19-23
Non-poor	5.6	93	76.4	27.3
Poor	1.1	92.2	57.2	9.3
Total	4.3	92.8	72.6	24.2
5 % conf. interval	3.0-5.7	91.1-94.5	68.3-76.9	20.2-28.3

Source: LSMS 2001.

Table 5.6. BH: Private Outlays on Education  
(Per student, in KM per year)

	Education Level		
	Primary	Secondary	Tertiary
Transportation	72	296	546
Tuition	4	55	189
Uniforms/Clothing	42	49	34
Textbooks/materials	72	86	166
Food/Lodging	70	103	197
Other Expenditure	60	124	374
Total	319	715	1506

Source: LSMS 2001.

These demographic changes would allow for an increase in coverage rates for secondary and higher education without expanding staff and facilities. If the current ratios in secondary and higher education enrollments are maintained for the next decade, the reduction in cohort size alone would result in an increase of net enrollment ratios from 73 percent at present to 95 percent by 2015 for secondary education, and from 24 percent to 32 percent for higher education. Alternatively, a more gradual improvement in enrollment ratios would allow for a significant reduction in secondary and higher education staff and facilities, with consequent savings. Harvesting these savings would require fundamental changes in the financing and management of education.

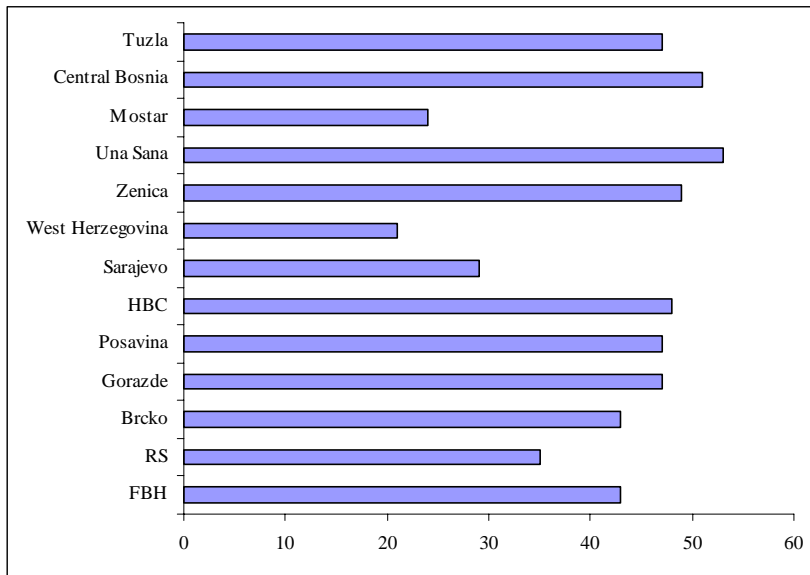
## Education Quality

**5.14. Exacerbating coverage issues, student performance in a number of areas is substandard, while geographical differences are substantial.** The end-of-primary national student assessment provides a valuable indicator of regional variation and change over time in student learning in core skill areas. In 2003/2004, eleven cantons and regions, at least 40 percent of eighth-grade students failed to obtain a satisfactory score on the mathematics assessment (Figure 5.1). The number rises to more than one-half of eighth-grade students in the Central Bosnia and Una Sana cantons. There is an even greater difference among the performance of individual schools.

**5.15. Levels of funding are positively associated with levels of student achievement.** Both public financing per student and student performance vary widely by region. Within the FBH, at least, cantons that spend more on education tend to have higher student achievement. These cantons also tend to have higher levels of income and of parental education, which are also positively associated with higher student learning achievement. Raising learning achievement in the poorer cantons would require spending more on interventions such as tutoring and subsidized provision of textbooks in order to offset the handicaps of lower parental education and lower household income.

**5.16. This being said, more resources would not necessarily lead to improved educational outcomes.** Under current input-based budget practices, the overwhelming bulk of spending for education – 80 percent of total education budgets – is for staff costs. With a substantial part of

Figure 5.1. Percent of Students Achieving Below Minimum Standard in Mathematics Assessment by Region, 2003-2004



Source: Standard and Assessment Agency in Education for the FBH and the RS, 2004, *External Assessment of Student Achievement: Final Grade in Primary School General Evaluation*, Sarajevo.

the rest consumed by costs for utilities and heating, little is left for provision of educational materials, teacher training and other measures that directly support improvements in the teaching and learning process.

**5.17. International research provides useful guidance on the educational inputs that affect student learning.** One of the most consistent findings in the research literature reveals that learning outcomes are positively correlated with students having

textbooks, teachers and students spending more classroom time on substantive learning tasks (when this is supplemented with more time spent by students on homework), and teachers and schools being held accountable for what students learn.

**5.18. The mechanisms of education financing also affect education outcomes.** Current financing practices provide limited opportunities and almost no incentives to use education resources where they would yield the greatest benefit in terms of improved student learning. Funding allocations for primary and secondary education finance inputs for all current schools and teachers, as long as the class size and minimum teaching hour standards established by the respective ministries of education are met. This model provides no incentive for rationalizing school networks and for using resources differently to improve learning achievement or increase enrollment.

**5.19. Student assessment is a crucial instrument for helping improve education quality.** It is encouraging that BH will participate in the next round of the Trends in International Mathematics and Science Survey (TIMSS) as a way to dispel myths about the quality of education in BH relative to other countries. For example, there is remarkably little difference in overall performance between smaller and larger schools. This is highly commendable, and contrary to the situation in most countries. However, this means that interventions to improve student and school performance must be targeted to those students and schools with low performance, rather to a type of school, such as small or rural schools, which is often the approach taken elsewhere. An important priority for improving education quality is to extend the program of national assessments to other levels of education, and to use it as a tool for interventions to raise student achievement.

## D. RECOMMENDATIONS FOR IMPROVING EFFICIENCY AND OUTCOMES

**5.20. The education system needs substantial improvement.** However, tackling inefficiency, while increasing the share of funds allocated to teacher training, capital improvements and maintenance, will require substantial political will. The smaller school-age cohorts going forward provide opportunities for savings by shedding teachers in schools where they are not needed, but these savings will not occur unless difficult political choices are made and financing procedures for education are changed to create stronger incentives for improving efficiency. The large regional differences in educational performance reflect in part differences in income and government outlays on education. Raising the performance of lagging regions will require resource transfers, with particular emphasis on the poorer cantons of the FBH.

**5.21. The paragraphs below propose a set of measures designed to create substantial room to redirect spending towards priority areas. Overall, the measures to improve efficiency proposed in this section are estimated to save KM740 million over the next five years (Table 5.7).** These potential savings are more than twice as large as the estimated cost of a minimum package of steps to improve education performance.

Table 5.7. Projected Budget Savings and Estimated Outlays for Education, 2005–2010  
(In millions of KM)

	2007	2008	2009	2010	2011	Total
Total savings	42	74	170	206	246	739
Capitation financing			37	43	47	126
Class size			35	35	35	105
Salary restraint	6	19	38	63	95	220
Unified higher education management		15	15	15	15	60
Streamlined secondary	8	11	13	16	17	66
Higher education fees, repeat students	25	27	29	31	34	145
Higher education fees, foreign students	3	3	3	4	4	17
Total incremental expenditures	135	75	68	51	43	371
Improved classroom learning materials						
Primary	10					10
secondary general	22					22
secondary vocational/technical	50					50
In-service teacher training						
Primary	11	22	16	5		54
Secondary	8	17	13	4		42
Conditional cash transfers for poorest students						
Primary	8	8	8	8	8	40
Secondary	18	18	18	18	18	88
Improved relevance of secondary education	8	11	13	16	17	66
Net budget impact (annual)	93	0	-103	-156	-203	
Net budget impact (cumulative)	93	94	-9	-165	-368	

Source: World Bank staff projections.

**5.22. There are several important caveats to bear in mind in considering these options.** First, the options presented are the first steps to tackling some of the major weaknesses of the BH education system. Further reform will be needed beyond the initial set considered here.

However, given the breadth of the change needed, and the structural weaknesses that exist, priorities for immediate action are identified. Once these initial changes have been made, the authorities could consider further investments warranted. Second, each of these would involve political risks and educational benefits that would ultimately determine the feasibility and the educational desirability of each option. The chapter does not make a judgment about the latter, but tries to inform the choice among the options by describing the possible educational benefits and risks, as well as the prospective budget savings associated with each option. Third, while the policy recommendations apply to all jurisdictions, the potential for savings will vary; no attempt has been made in this chapter to produce sub-national estimates. However, the responsibility for action lies with these sub-national governments.

## **Improving the Efficiency of Resource Use**

### *Measures Regarding Teacher Employment*

**5.23. As a matter of first priority, governments should adopt policies to ensure that teacher numbers decline in relation to any future decline in enrollments so that resources can be released for reform priorities.** International evidence suggests that average class sizes in BH could increase without putting the quality of education at risk. Cross-sectional comparisons do not display a significant correlation between class size and learning achievement. For example, in the 2003 OECD PISA international student assessment, South Korea (with an average primary-school class size of 37) achieved a far higher mathematics and science score than Germany (class size of 22) and Greece (class size of 17). BH did not participate.

**5.24. Moving to the recommended average class size for primary education in both entities could lead to budget savings on teacher costs of about KM35 million per year without degrading education quality.** Moreover, the current limits on maximum class sizes appear to be too restrictive; relaxing these limits could lead to further budget savings in some schools. Slight increases in the student/teacher ratio would also yield substantial savings.

**5.25. Achieving these potential savings would require major changes in the school management and financing framework.** The current input-based line-item financing formula does not make schools accountable for their performance and provides neither the means nor the incentive for more efficient school management and teacher deployment. The rigidity and lack of efficiency incentives resulting from the current financing formula for primary and secondary education help explain the perverse changes in student/teacher ratios described above. The need for financing procedures which provide a stronger incentive for more efficient use of teachers will become greater as continued shrinkage of the school-age cohorts reduces the need for teachers. However, such fundamental change in the arrangements for school financing and management would take time, and would require strong government commitment and leadership.

### *Capitation Financing*

**5.26. Per student or capitation financing is the preferred approach.** This would help provide an incentive for more efficient deployment of teachers and use of schools, and could also help improve quality, as schools compete with each other to attract more students. At the school level, the feasibility of combining classes and using teachers better depends upon the number of students and the existing configuration of classes. At the regional level, the feasibility of improving teacher efficiency by combining schools depends on population dispersion, access and proximity to other schools. Particular care is needed to ensure that capitation financing

recognizes the different opportunities for such economies in order not to compromise enrollments or education quality. Establishing whether or not consolidation is possible will require a careful examination of the situation of each school. For example, in the RS, only 185 of the 762 primary schools are mother schools; the rest are small, satellite schools. Clearly, some of the smaller schools could not be combined without making access for some students too onerous. At the same time, others could be consolidated without compromising quality or access.

**5.27. Capitation financing would yield substantial savings.** Even if secondary enrollment coverage were to increase by 1 percent a year, cumulative savings from capitation financing would yield savings estimated at over KM125 million in the first three years of implementation.<sup>2</sup> Capitation could be combined with setting aside centrally financed initiatives to raise teaching effectiveness in the lowest-performing schools. These funds could either come from budget savings or from setting per-student allocations in the formula at a level below current average unit costs and using the remainder to finance targeted interventions for the lowest-performing schools.

**5.28. Capitation financing also entails risks that need to be managed.** The ground has been prepared for capitation financing, as an education management information system is now in place across the country. Some jurisdictions have gone further and analyzed these data to see how efficiency might be improved. Under the World Bank-supported Education Restructuring Project, support will be provided to the governments to help the transition to a capitation system. Under capitation financing, school principals become accountable for school performance, and have the means and the incentive to improve quality. However, school quality in poorly managed schools could decline. External assessment of school performance and professional support will be key to improving quality.

### *Teacher Salaries*

**5.29. Reducing or moderating the growth of teacher salaries could provide the most important budget savings over the medium term.** Average teacher salaries in BIH are two times as high as per capita income, a higher level than among all OECD countries except South Korea. High staffing ratios amplify the fiscal cost of these high salaries (See Chapter 4). With school cohorts projected to decline in size, teacher salaries could be gradually lowered in real terms and the number of teachers could be reduced without compromising the needed supply of teachers.

### *Secondary Education*

**5.30. Restructuring secondary education would help reduce costs and improve the relevance of education.** The key ingredient would be to convert some secondary vocational and technical education programs to general education. Hungary and other transition countries are revamping a large number of occupation-specific programs by strengthening training in mathematics, science and languages. Cumulative savings from this measure could amount to KM65 million over the next five years.<sup>3</sup>

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<sup>2</sup> Capitation financing is more effective when schools have discretion over how to spend the allocated resources. For example, schools could opt to reduce spending on non-teaching staff and increase outlays on materials or teacher training.

<sup>3</sup> Based on the unit cost differentials observed in other countries between general secondary and vocational/technical secondary education, potential savings are estimated initially at 5 percent of secondary education expenditures, rising to 15 percent in five years. Projected cumulative savings amount to about KM65 million over the next five years.

## *Higher Education*

**5.31. Unified higher education management has provided major savings in Tuzla University, and could do so for other parts of the country as well.** Apart from Tuzla University and more recently Zenica University, all universities in BH are agglomerations of separately managed faculties and institutes, limiting course choices and resulting in inflated salaries for university professors. Moreover, administrative costs are higher because each faculty has separate accounting, budget and support staff. Since it unified management five years ago, Tuzla University has managed to reduce public expenditures substantially, while doubling staff, tripling enrollment, improving laboratory and library facilities, and diversifying financing. In the process, it also offered more student choice and flexibility across programs and better access to professors by eliminating over-programming of teaching staff. Based on the experience of Tuzla University, budget savings from moving to unified management for other universities throughout the country are estimated at KM60 million over the first four years of implementation. It is encouraging to see that consensus is being built for changing the legal structure of universities across BH.

**5.32. Increasing fees for repeating students in higher education would lead to improved efficiency and additional revenues.** Students currently take 7.2 years on average to complete a four-year degree program in the FBH.<sup>4</sup> Students with budget support who repeat an individual year more than twice have to pay fees and fee-paying students have to pay slightly increased tuition; this creates an incentive for institutions to fail students and opens up avenues for corruption. But these students still pay far less than the full cost of their programs. Raising fees for repeating students to the full budget cost of their programs would generate some KM145 million over the next five years.

**5.33. Raising fees for foreign students to the full budget cost would result in budget savings of about KM17 million over the next five years.** A significant potential reduction in the number of foreign students would reduce the educational experience and global outlook of BH students and teachers, so measures to attract foreign students, especially raising educational quality, would be needed.

## **Improving Education Performance**

**5.34. Provided that they materialize, part of the savings from the above efficiency measures should be used to improve education outcomes.** The following paragraphs propose a number of such measures estimated to cost KM370 million over the next five years. Allocating these resources should be done only after a credible plan to tackle the system's inefficiencies is put in place. Committing additional resources to the education system without addressing the inefficiencies described in the previous sections is likely to be counterproductive and unlikely to result in improved education performance.

**5.35. At a minimum, any credible effort to improve attendance and quality of education would require three elements.<sup>5</sup>** Firstly, improve the classroom environment for effective teaching and learning, including by improving the availability of textbooks and other teaching and learning materials. Secondly, improve teachers' effectiveness through in-service training,

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<sup>4</sup> Comparable figures for the RS are not available but are unlikely to be significantly different.

<sup>5</sup> No consideration here is given to improving the facilities infrastructure or buying major equipment; these investments are needed, but there are more immediate needs to improve system performance.

and thirdly, provide additional incentives and penalties to encourage school attendance by children from the poorest households.

**5.36. A limited program to address these immediate needs in primary education alone would cost some KM104 million over five years.** These costs would include: (i) KM10 million for improved availability of classroom teaching and learning materials, including textbooks in all 2,039 primary schools in BH at a cost of KM5,000 per school; (ii) KM54 million for teacher training, including the costs of developing training programs and materials; and (iii) KM40 million conditional cash transfers to offset the cost of school attendance for children in very poor households. Conditional cash transfer programs for school attendance in poor communities have a well-documented record of success in many countries around the world.

**5.37. Similar considerations apply to secondary schools, where a five-year program of reform might cost KM150 million.** The cost of providing a similar program of training over a three-year period for all 11,000 secondary teachers would be about KM42 million over five years. Improving teaching and learning materials for general education in all 278 secondary schools in BH would cost about KM22 million KM for basic teaching and learning materials.<sup>6</sup> In addition, materials and updated equipment for secondary vocational and technical courses would cost about KM50 million.<sup>7</sup> Grants of KM700 to defray the larger private costs of secondary education for students from poor families (estimated at 10 percent of the cohort or 25,000 students) would amount to KM88 million over 5 years.

**5.38. Higher education reforms are also urgently needed, but should not require additional budget resources.** Further, there are significant and currently unutilized opportunities for universities to raise their own revenues. Therefore, this chapter does not recommend that significant public resources be used in the short to medium term to fund improvements in higher education. This would have the consequence of shifting public resources from higher education to lower levels, which is justified by the efficiency and equity arguments presented here.

**5.39. The agenda proposed in this chapter is undoubtedly ambitious.** It is, however, central to the future welfare to the country. Further, the priorities identified are deliberately few in number and almost all of them are included in existing policy documents adopted by governments. Whether the agenda could be implemented in such a fragmented institutional framework, as the one the country currently operates, is a question that political leaders would be well advised to ponder.

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<sup>6</sup> KM30,000 per school on average. On average, enrollments in secondary schools are three times larger than in primary schools.

<sup>7</sup> Vocational and technical enrollments account for 75 percent of total secondary enrollments in the Federation and 81 percent in the RS. These courses are offered either in free-standing vocational and technical schools, or, more typically, in comprehensive secondary schools which offer both general and vocational/technical programs.