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PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 26.1 MILLION
(US\$40.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOLDOVA

FOR THE

MOLDOVA EDUCATION REFORM PROJECT

December 14, 2012

Human Development Sector Unit
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective November 30, 2012)

Currency Unit = Moldovan Leu (MDL)
MDL12.33 = US\$1
US\$ 1.53481 = SDR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
AFQERM	Additional Financing to the Quality Education in the Rural Areas of Moldova
AQA	Agency for Quality Assurance
CoA	Court of Accounts
CPS	Country Partnership Strategy
DA	Designated Account
DLI	Disbursement-Linked Indicator
ECA	Europe and Central Asia
EEP	Eligible Expenditure Program
EMIS	Education Management Information System
GDP	Gross Domestic Product
GoM	Government of Moldova
GSE	General Secondary Education
IDA	International Development Association
IFR	Interim Financial Report
IMF	International Monetary Fund
MDL	Moldovan Leu
MERP	Moldova Education Reform Project
M&E	Monitoring and Evaluation
MoE	Ministry of Education
MoF	Ministry of Finance
MTBF	Medium-Term Budgetary Framework
NBS	National Bureau of Statistics
NPV	Net Present Value
OECD	Organization for Economic Co-operation and Development
PAD	Project Appraisal Document
PDO	Project Development Objective
PER	Public Expenditure Review
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PIU	Project Implementation Unit
PISA	Program for International Student Assessment
PPL	Public Procurement Law

POM	Project Operations Manual
PR	Public Relations
QERM	Quality Education in the Rural Areas of Moldova
SIL	Specific Investment Loan
TA	Technical Assistance
TIMSS	Trends in International Mathematics and Science Study
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund

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MOLDOVA
EDUCATION REFORM PROJECT

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PAD DATA SHEET

Moldova

Moldova Education Reform Project (P127388)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

ECSH2

Basic Information			
Project ID	Lending Instrument	EA Category	Team Leader
P127388	Specific Investment Loan	C - Not Required	Scherezad Joya Monami Latif
Project Implementation Start Date		Project Implementation End Date	
01-Apr-2013		30-Apr-2018	
Expected Effectiveness Date		Expected Closing Date	
01-Apr-2013		31-Aug-2018	
Joint IFC			
No			
Sector Manager	Sector Director	Country Director	Regional Vice President
Alberto Rodriguez	Ana L. Revenga	Qimiao Fan	Philippe H. Le Houérou
Borrower: Republic of Moldova			
Responsible Agency: Ministry of Education			
Contact:	Inga Afanasieva	Title: Project Executive Director	
Telephone No.:	372-233221	Email: rural@edu.md	
Project Financing Data(US\$M)			
<input type="checkbox"/> Loan	<input type="checkbox"/> Grant	<input type="checkbox"/> Other	
<input checked="" type="checkbox"/> Credit	<input type="checkbox"/> Guarantee		
For Loans/Credits/Others			
Total Project Cost (US\$M):		40.00	
Total Bank Financing (US\$M):		40.00	
Financing Source		Amount (US\$M)	
BORROWER/RECIPIENT		0.00	
International Development Association (IDA)		40.00	
Total		40.00	

Expected Disbursements (in USD Million)									
Fiscal Year	2013	2014	2015	2016	2017	2018	2019	0000	0000
Annual	0.30	8.40	6.40	10.40	8.30	6.20	0.00	0.00	0.00
Cumulative	0.30	8.70	15.10	25.50	33.80	40.00	40.00	0.00	0.00
Project Development Objective(s)									
The Project Development Objective (PDO) is to strengthen the quality of education while supporting the efficiency reforms being implemented in the education sector.									
Components									
Component Name							Cost (USD Millions)		
Component 1: Strengthening the Quality of Education							30.50		
Component 2: Improving the Efficiency of the Education Sector							8.00		
Component 3: Improving the Ministry of Education's Capacity to Monitor the Reform							1.50		
Compliance									
Policy									
Does the project depart from the CAS in content or in other significant respects?							Yes []	No [X]	
Does the project require any waivers of Bank policies?							Yes []	No [X]	
Have these been approved by Bank management?							Yes []	No []	
Is approval for any policy waiver sought from the Board?							Yes []	No [X]	
Does the project meet the Regional criteria for readiness for implementation?							Yes [X]	No []	
Safeguard Policies Triggered by the Project							Yes	No	
Environmental Assessment OP/BP 4.01								X	
Natural Habitats OP/BP 4.04								X	
Forests OP/BP 4.36								X	
Pest Management OP 4.09								X	
Physical Cultural Resources OP/BP 4.11								X	
Indigenous Peoples OP/BP 4.10								X	
Involuntary Resettlement OP/BP 4.12								X	
Safety of Dams OP/BP 4.37								X	
Projects on International Waterways OP/BP 7.50								X	
Projects in Disputed Areas OP/BP 7.60								X	

Legal Covenants			
Name	Recurrent	Due Date	Frequency
Appoint and maintain a Project Coordinator	X		Monthly
Description of Covenant			
The Recipient, through the Pre-University Education Division within the MOE, subordinated to the Head of Pre-University Education Division, shall appoint and maintain a Project Coordinator to ensure the coordination of Project implementation, with Terms of Reference described in the POM and acceptable to the Association.			
Name	Recurrent	Due Date	Frequency
Financial Audits	X		Yearly
Description of Covenant			
The Recipient shall cause the Court of Accounts to carry out the annual financial audit of the Eligible Expenditure Program, in a manner satisfactory to the Association, and shall provide such audit financial reports to the Association, in accordance with Section II.B.3 of the Legal Agreement.			
Name	Recurrent	Due Date	Frequency
Adherence to the Project Operations Manual (POM)	X		Monthly
Description of Covenant			
The Recipient shall ensure that the MoE carries out the Project in accordance with the provisions of the POM and shall not amend, waive or abrogate any provisions of the POM without the Association's prior approval.			
Conditions			
Name			Type
Effectiveness Condition			
Description of Condition			
The Project Operations Manual (POM), satisfactory to the World Bank, has been finalized and adopted by the Ministry of Education and the Ministry of Finance.			
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Country	First Administrative Division	Location	Planned	Actual	Comments
Institutional Data					
Sector Board					
Education					
Sectors / Climate Change					
Sector (Maximum 5 and total percent must equal 100)					
Major Sector		Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Education		General education sector	100		
Total			100		
<input checked="" type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.					

Themes		
Theme (Maximum 5 and total percent must equal 100)		
Major theme	Theme	%
Human development	Education for all	100
Total		100

I. STRATEGIC CONTEXT

A. Country Context

1. Moldova is the poorest country in Europe. It is an International Development Association (IDA) member country with a lower middle income status and belongs to a group of ‘medium human development’ countries.¹ Over the last two decades, Moldova has suffered from rising poverty resulting from an economic downturn in the 1990s, severe demographic decline, significant outmigration, and was hit hard by the global financial crisis in 2009 (with Gross Domestic Product - GDP contracting at around 6 percent). In 2010, the country returned to economic growth but at present the economy is still slightly above half of what it was in 1990.² The favorable period of economic growth in 2000-2008 was driven mainly by remittances rather than capital inflows, exports or foreign direct investments.³ Migrants have become the crutch on which Moldova’s economy now rests and it will continue to be a significant feature of economic development. In order to ensure future prosperity, the country needs to develop a second engine of growth from exports of goods and services, and undertake a series of deep fiscal and structural reforms.

2. In the past three years, the political landscape in the country has been volatile but the election of a new President on March 16, 2012, has eliminated the risk of early elections providing the Government with a full political mandate to carry out an ambitious reform agenda. Despite a turbulent political environment from 2009 onwards, the new Government was able to restore macro-economic stability and lay the seeds for economic recovery. The main challenge for Moldova remains the ongoing implementation of important structural reforms, which include key regulatory reforms in the business environment, rationalization of fiscal expenditures, pro-growth policies and infrastructure investments to support sustainable growth and the country’s European integration agenda. Strong and robust economic growth and development will necessarily have to rely on the country’s human capital. Improving the quality, relevance and efficiency of the education system is thus a main priority for the country. Sound quality enhancing policies substantiated by the efficient financing in the education sector are vital to the advancement of the sector in accordance with national priorities.

B. Sectoral and Institutional Context

3. The Government of Moldova’s (GoM) higher objective in education is to provide schooling that is aligned with the needs of the labor market and the broader economy. However, the demographic and fiscal realities of the country have not made it easy for the Government to fulfill its mandate in education. Over the years, the education sector in Moldova has witnessed uneven education quality and lack of efficiency. While investments in modernized textbooks, curricula and teacher training practices have been made, much of it with IDA and other donor support, these have not matched the needs of a sector that aims to educate workers for an increasingly competitive global economy. As a result of demographic decline due to low fertility rates and massive outmigration, the student population has shrunk significantly (by 48 percent since 1991). In response, the GoM, through its education reform program, has re-emphasized the need for quality, efficiency, and evidence-based policymaking.

4. *Quality of education.* The GoM has recently turned its attention to the urgent need for improving the quality of education. One illustration of this was Moldova’s participation in the Organization for

¹ Moldova is ranked 111 out of 187 countries in the United Nations Development Programme (UNDP) Human Development Index, which captures levels of literacy, life expectancy, education and per capita income.

² GDP in 2010 (constant 2000 US\$) is 58 percent of that in 1990.

³ World Bank Moldova Country Economic Memorandum “Moldova after the global crisis: promoting competitiveness and shared growth”, April 2011.

Economic Co-operation and Development's (OECD) Programme for International Student Assessment (PISA) 2009 Plus round of international student assessments. The Ministry of Education has also started the monumental task of overhauling the country's school leaving exam system (Baccalaureates). Moldova's performance in PISA 2009 Plus is a substantive illustration of the symptoms of quality challenges the system currently faces. The results on PISA 2009 Plus show that the performance of the country's 15-year-olds in reading, math, and science is among the lowest in Europe. The performance gap with the Russian Federation is about 70 points, equivalent to a little more than two years of schooling. In short, around 60 percent of Moldova's 15-year-olds lack the basic levels of proficiency in reading and math literacy needed to participate effectively and productively in the society. These results show the need to continue, consolidate and extend reforms in curriculum, student assessments, teacher training and textbook design.

5. Teacher quality is considered to be one of the most important contributing factors to improving student achievement. The latest school-level data from the National Bureau of Statistics show 36,000 teachers employed in the country's general education institutions, two-thirds of whom hold some sort of pedagogical certification and 19 percent of whom are past retirement age. A recent study sponsored by the United Nations Children's Fund (UNICEF) found that during 2002-2007 alone, the share of teaching staff of retirement age more than doubled, indicating a rapid aging of the profession.⁴ The standard teaching load of 18 hours per week—equivalent to about 666 instructional hours per year—is light compared with that of teachers in OECD countries.⁵ In small rural schools, Moldovan teachers cannot fill even the basic 18 hour load, thus resorting (with the acceptance of the management) to “innovative” measures such as conducting tutoring sessions or extracurricular activities in order to get paid for the basic teaching load. The resources for teacher training are thus spread too thin across a large number of under-qualified teachers, leading to under-investment in the current and future workforce. Clearly, the system of recruitment, training, accreditation, quality assurance, and incentives for both teachers and school directors is a key area where alternative, modern systems need to be promoted.

6. *Efficiency of resource allocation.* The GoM is acutely aware of the efficiency challenges facing the sector. With the piloting of per student financing under the World Bank's Quality Education in the Rural Areas of Moldova (QERM) project, the GoM took critical steps to improve the efficiency of resource allocation in General Education. This commitment was further strengthened by the passing in Parliament of the much needed and groundbreaking package of amendments to the existing laws on education, labor and local public finance, on April 26, 2012. These legal changes create an enabling environment that allow for the implementation of efficiency reform measures, such as the introduction of per student financing nationwide and the change in the ownership of a school from a mayor to the rayon council. In order to achieve better results, against the backdrop of the improved legal framework, the utilization of budget resources needs to be streamlined.

7. At present, the education sector is characterized by an oversized network of increasingly small schools and a high number of poorly paid teachers and non-teaching staff. Of the 1,460 general education institutions in Moldova, three-quarters are located in the country's nearly 1,000 villages, yielding an average of 1.1 schools per village. An average school in Moldova operates at 54 percent of the capacity for which it was designed, leading to wasteful expenditures in the form of heating bills and public utilities. A recent Ministry of Education sponsored feasibility study concluded that up to half of Moldova's rural schools may need to be reorganized or shut down in the next three to five years in order to counteract the sharp population declines that have taken place over the last 20 years.⁶ It is important to

⁴ Liudmila Lefter (UNICEF, Moldova), Virginia Rusnac (Institute of Educational Sciences, Moldova), Olesia Cruc (Institute for Development and Social Initiatives Viitorul, Moldova), Andrea Ahlert and Katherine Batchelder (Columbia University, Teachers College, USA). *Teacher Quality and Teacher Work Conditions in the Republic of Moldova*. 2009.

⁵ In the Netherlands, for example, the load is 1,000 hours per year and in France it is 923 hours.

⁶ *Policy options to support the school network optimization process in the Republic of Moldova Feasibility Study*, IPP, 2010.

note here that the restructuring of the school network is not a goal in itself.⁷ The main purpose of the reforms will be to improve quality of education through consolidation of schools, better utilization of resources (human and physical), and a long-overdue response to the effects of the demographic transition.

8. The traditional system of education financing in Moldova has provided few incentives to improve sector efficiency by reducing resource utilization in response to a shrinking school-age population. The existing financing system ties resources to teachers not students, thus making teachers a “free resource” from the point of view of local authorities. This arrangement has resulted in some of the smallest classes and lowest student-teacher ratios in the world, which are found in Moldova’s rural areas. To reverse this trend, the Government began piloting per-student financing in two rayons (Causeni and Riscani) in 2010; these were later joined by eleven additional rayons and two municipalities in 2012 with plans to expand this reform program nationwide in 2013. Experience so far with the implementation of a new financing scheme suggests that it takes time for the efficiency benefits of the system to be felt. Still, some positive impact can already be seen. Consolidation of classes and reduction of non-teaching and teaching staff in both pilot rayons has been evident when compared to the national averages and in view of the demographic decline experience. Class-size has increased in Causeni and Riscani by 2 percent and 3 percent, respectively, compared to 1 percent for the country as a whole.

9. *Evidence-based policymaking.* The Ministry of Education has been collecting detailed data from schools for the past five years in order to populate its school mapping database. This data collection exercise is both thorough and wide-reaching, requesting data for more than 400 indicators from schools three times a year. While the existence of the school mapping database is a solid foundation on which to build a more effective system, policy decisions on issues of education quality and resource allocation continue to take place without adequate evidence. At present, Moldova does not have a consolidated Education Management Information System (EMIS) that links school-based with financial data and the country’s student assessment system. The Ministry of Education’s existing school mapping system has been running for five years and provides patchy and piecemeal data on school conditions. This system’s database is populated through self-reporting by schools, which is done in an inconsistent manner three times a year without data collection guidelines. This database does not store any data on students, teachers and non-teaching staff.

10. The weak analytic capacity within the Ministry of Education (MoE) makes it difficult for decision makers to set education policy on the basis of detailed information about sector conditions. In other countries, student-level EMIS data is increasingly becoming indispensable for tracking the performance of schools, teachers, and individual students. In Moldova, the MoE recognizes that failing to ensure the quality of student data results in poor sector knowledge at the school, rayon and central levels. The school mapping system needs to be transformed into a solid EMIS and should include education statistics and results from various student evaluations that allows for timely analyses to inform policy and decision making. At the same time, MoE staff needs to be trained in methods of education data analysis that can take advantage of improved data capabilities.

11. The development and utilization of a consolidated EMIS for the MoE is critical for three reasons. First, because policies and reform initiatives need to be designed, implemented and monitored using quality data. Second, within the backdrop of the prevailing overall budget constraints, the availability of quality data will enable the Government of Moldova to better prioritize and focus public resources on the main priorities of the education sector. And lastly, quality data will be essential in effectively monitoring continued access to education for students who may be relocated due to school closures.

⁷ The savings from the schools network consolidation are estimated to be around only 0.39 percent of GDP (World Bank PER Policy Note – Medium-Term Projections).

12. While access to primary education is not a concern at this time (with net enrollment rates remaining stable at around 87.7 percent over the last five years), issues of access and participation in compulsory lower secondary education need to be carefully monitored. The lower secondary net enrollment rates have been declining steadily in the past years from 86.2 percent in 2006 to 83.3 percent in 2010. This is why a reliable EMIS is critical for monitoring the effects of the school network reforms. An important lesson learned from a similar reform in Bulgaria shows that school consolidations may have exacerbated school dropout rates. Results of a rigorous impact evaluation study suggest that school closures and consequent consolidations contributed to a small but significant increase in school dropout rates in Bulgaria. The average dropout rate was 14.9 percent in schools that closed, compared to 6.2 percent among schools that were not closed.⁸

13. *Gender.* From a gender perspective, access to basic compulsory education does not show any significant disparities. Net enrollment rates are comparable for boys and girls, remaining largely flat in primary education in recent years (at around 87 percent for girls and 88 percent for boys) and declining slightly for both genders in lower secondary education (from 85.9 percent to 83.1 percent for girls and from 86.4 percent to 83.6 percent for boys between 2006 and 2010). Learning outcomes, as measured by PISA 2009 Plus, show no cause for concern with respect to gender disparities, though girls tend to perform better than boys in reading and science while scoring comparably to boys in math proficiency. Monitoring drop outs and education quality measures from a gender perspective would increase the efficiency of designing and implementing mitigation measures. As such, the consolidated EMIS will be used to monitor dropouts using data disaggregated by gender.

C. Higher Level Objectives to which the Project Contributes

14. In response to the issues discussed above, the GoM embarked on a set of ambitious reforms in the education sector. Catalyzed by the World Bank's just-in-time technical assistance which included a Public Expenditure Review (PER) of the education sector, the Government developed an *Action Plan for Education Structural Reform Implementation*. The *Action Plan's* three objectives include: (i) ensuring access of students to quality education; (ii) increasing flexibility in labor relations in education; and (iii) enabling the efficient use of financial allocations by applying per student funding nationwide.

15. The Moldova Education Reform Project (MERP) supports the Government's reform program by supporting activities that will strengthen the quality of education and lead to a more efficient education sector. The Project's objectives are consistent with the Country Partnership Strategy for Moldova 2009-2012 (CPS), directly contributing to the implementation of the CPS's second pillar of building human capital. Through this Project, the World Bank will support the GoM in implementing the much-needed reforms. The efficiency measures outlined in this reform action plan are:

- aligning class sizes with commonly accepted international standards;
- adjusting the size of the existing school network and reallocating students to "receiving" schools (i.e., schools that receive students from closed or reorganized schools); and
- implementing per student financing nationwide.

16. These efficiency measures will be complemented by the following education quality initiatives envisioned in this Project:

- development and implementation of a school improvement package for "receiving" schools based on agreed quality assurance standards;

⁸ See *A Review of the Bulgaria School Autonomy Reforms* (The World Bank, 2010).

- implementation of an updated modern system for training of school directors and teachers;
- use of a consolidated EMIS system for the entire education sector, which will improve policy making; and
- consecutive and continued participation in PISA.

II. PROJECT DEVELOPMENT OBJECTIVE

A. Project Development Objective

17. The Project Development Objective (PDO) is to strengthen the quality of education while supporting the efficiency reforms being implemented in the education sector.

B. Project Beneficiaries

18. The Project's direct beneficiaries include present and future students of Moldova who will benefit from a better quality of education provided by a more efficient education sector. The Project will also benefit teachers and school directors by professionalizing and bringing prestige to the teaching profession through a more modern system of staff training and, in the case of school directors, greater managerial autonomy. Finally, this Project will benefit the Moldovan economy as a whole by producing better educated workers with skills that are relevant to the labor market of tomorrow.

C. PDO Level Results Indicators

19. The expected results of the proposed Project are the following:

- Seventy percent of receiving schools⁹ meet the approved school quality assurance standards;
- Average scores for receiving schools in Romanian and Math on grade 4 national exams increased as measured by the results of the May 2018 examinations;
- Average scores for receiving schools in Romanian and Math on grade 9 national exams increased as measured by the results of the May 2018 examinations; and
- Student-teacher ratio for grades 1-12 increased from 10.5:1 to 11.5:1 by end of school year in June 2018.

III. PROJECT DESCRIPTION

A. Project Components

20. This is a Results-Based Specific Investment Loan (SIL), which disburses against actions, outputs, and outcomes. For the first two components, a set of Disbursement Linked Indicators (DLIs) against which disbursements will take place, have been established (See Table 1). It is important to mention that the DLIs are "floating" and not bound by the year of achievement. The years of achievement as stated in the DLI table are indicative only. The DLIs have been structured around two of the GoM's priority pillars: strengthening the quality of education and improving the efficiency of the sector. The first two Project components will mirror these strategic pillars in the education sector. The third component, which finances technical assistance, will follow traditional disbursement methods.

⁹ The total number of existing receiving schools to be considered for the purposes of this indicator is 135 (data of October 15, 2012).

Component 1: Strengthening the Quality of Education (US\$30.5 million or 76.25 percent of total Credit amount - to be disbursed against the achievement of DLIs)

21. The objective of this component is to contribute to the strengthening of the quality of education in the General Education sub sector in Moldova. Support to the strengthening of quality will be provided in four main areas: (i) implementation of quality assurance standards¹⁰ for receiving schools; (ii) establishment of teacher and school directors' training and remuneration programs; (iii) improvement in student assessment systems (both national and international); and (iv) improvement in the quality of data and management systems. The MoE will undertake the following activities in the four component areas: (i) approve quality assurance standards for schools; (ii) implement school quality assurance standards in a total of 70 percent of receiving schools; (iii) receive official approval for and begin the implementation of an updated program for training of school directors and teachers; (iv) adopt of a new program of teacher and school director remuneration; (v) ensure Moldova's participation in PISA 2015; (vi) publicly disseminate the results of Moldova's participation in PISA 2015; (vii) revise national testing for 4th and 9th grade students; (viii) establish a consolidated EMIS; and (ix) send out school report cards to all schools with comparative performance outcomes and performance trends on regional and country level.

Component 2: Improving the Efficiency of the Education Sector (US\$8 million or 20 percent of total Credit amount - to be disbursed against the achievement of DLIs)

22. The objective of this component is to improve the efficiency of the sector by eliminating excess capacity and creating a leaner education system, which will be better equipped to provide education that meets the demands of a modern economy. Through this component the MoE will ensure that: (i) 80 percent of all primary and secondary schools have their budgets approved according to the new per-student formula methodology; (ii) 980 classes are reorganized in primary and secondary schools;¹¹ (iii) student-teacher ratio for grades 1-12 is increased from 10.5:1 to 11.5:1; and (iv) a system for monitoring and mitigating school dropouts (by gender) is established. This component will support the GoM's implementation of reforms in the area of school network reorganization and the nationwide rollout of per-student education financing down to the school level.

Component 3: Improving the Ministry of Education's Capacity to Monitor the Reform (US\$1.5 million or 3.75 percent of total Credit amount – to be disbursed under traditional SIL disbursement methods)

23. The objective of this component is to finance technical assistance (TA) for the MoE to support the implementation, monitoring and measurement of the education reform program.

24. This component will provide resources and expertise to MoE to finance key activities under its reform program, thus supporting the achievement of Project DLIs. The activities being supported in this component are a follow-up to the TA provided in the IDA financed Quality Education in the Rural Areas of Moldova Project (AFQERM – Credit 5080-MD). The AFQERM supports strategic TA to assist MoE in developing technical proposal and plans that will be needed in order for them to achieve the DLIs in the proposed Project. Specifically, this component will finance TA in the following areas: (i) development and implementation of school standards; (ii) development of human resources; (iii) support to Moldova's participation in international student assessments; (iv) support to improving Moldova's EMIS; (v) support to monitor school dropouts; (vi) support (including training) to the implementation of per student financing nationwide; (vii) social marketing campaigns in support of the reform program;

¹⁰ See more detailed discussions of standards in the Annex 2.

¹¹ A reorganized class is one that was eliminated, as a result of closure or merger with another class in a primary or secondary school – as a result of school restructuring.

(viii) support to the implementation of a school census; and lastly (ix) a small group of local consultants to assist the MoE in implementing the Project.

Table 1. List of DLIs and disbursement funds related to their achievement

Disbursement-Linked Indicator (DLI)		Expected Year of Achievement					Disbursement Amount Linked to the Indicator (in USD million)
		Year 1	Year 2	Year 3	Year 4	Year 5	
Component 1: Strengthening the Quality of Education							
Implement quality assurance standards for schools	Standards for receiving schools approved	x					2.5
	30 percent of receiving schools meet the approved school quality assurance standards			x			4.0
	50 percent of receiving schools meet the approved school quality assurance standards				x		4.0
	70 percent of receiving schools ¹² meet the approved school quality assurance standards					x	4.0
Establish teacher and school directors training and remuneration programs	Updated program for training of school directors and teachers officially approved and implementation initiated		x				2.0
	30 percent of school directors and 10 percent of teachers trained based on the updated program for training of school directors and teachers			x			2.0
	New remuneration program of school directors and teachers adopted				x		2.0
Improve student assessment system	Enrollment of Moldova in PISA 2015	x					2.0
	Results of Moldova participation in PISA 2015 analyzed and publicly disseminated					x	2.0
	Revised national testing of all 4 th and 9 th grades students completed and its results analyzed, publicly disseminated and used by the MoE			x			2.0

¹² The total number of existing receiving schools to be considered for the purposes of this DLI is 135.

Improve the quality of data and management information systems	Establish a consolidated Education Management Information System (EMIS)	x					2.0
	School Report Cards produced by the consolidated EMIS and sent to all schools with comparative performance outcomes and trends at regional and country level			x			2.0
Component 2: Improving the Efficiency of the Education Sector							
Improve efficiency of General Education	80 percent of primary and general secondary schools have their budgets approved according to the new per student formula methodology	x					2.0
	980 classes reorganized in primary and secondary schools from the baseline in 2011/2012 school year		x				2.0
	Student-teacher ratio for grades 1-12 is increased from 10.5:1 to 11.5:1				x		2.0
	System in place to closely monitor and mitigate drop outs (by gender) in General Education (using EMIS)		x				2.0
Total Disbursement Funds		8.5	6.0	10.0	8.0	6.0	38.5

B. Project Financing

1. Lending Instrument

25. The proposed Project is a Specific Investment Loan to be implemented over five years that follows a results-based approach with disbursements linked to measurable results, referred to as Disbursement-linked Indicators (DLIs). Disbursements will be made against eligible expenditures (Eligible Expenditure Program, EEP), which, for the purposes of this Project are teacher salaries. The first two components of the Project (total financing of US\$38.5 million) do not bring any “additionality” to the Moldovan budget, thus eliminating, for the large part, the fiscal pressures for additional budgeting. The only additionality brought about by the Project will be from the US\$1.5 million financing of Component 3, which supports technical assistance directly to the MoE. For the Ministry of Finance (MoF), this is an important feature of this performance-based design. On the other hand, for the MoE the main value added of this Project lies in the World Bank’s support to sharpen their results focus, prioritize their budget and the ongoing supportive role that the World Bank team brings through their regular implementation support and accompanying technical assistance. Moreover, the World Bank will provide analytic and technical support to the MoE during the annual budget discussions to monitor that the education sector’s priorities are reflected in the yearly education budget allocations. The proposed approach of continuous technical assistance and implementation support is critical to the needs of the MoE as they continue to implement a difficult reform.

2. Project Cost and Financing

26. A set of DLIs has been established for the first two components of the Project, which are related to specific disbursement amounts (see further details in Annex 2). The third project component will comprise TA to be managed by the MoE and will follow traditional disbursement methods. The project costs are listed in Table 2.

Table 2. Project Cost and Financing

Project Cost by Component	Estimated Cost (US\$)	IDA Financing (US\$)	% of IDA Financing
1. Strengthening the Quality of Education	30,500,000	30,500,000	76.25
2. Improving the Efficiency of the Education Sector	8,000,000	8,000,000	20.0
3. Improving the Ministry of Education's Capacity to Monitor the Reform	1,500,000	1,500,000	3.75
Total	40,000,000	40,000,000	100

C. Lessons Learned and Reflected in the Project Design

27. *Strong political commitment and ownership are critical for steering reforms successfully.* Reform programs require challenging long-held expectations and vested interests over time. It also involves a continuous campaign of feeding information to stakeholders and the public at large. The proposed Project and the larger government education program require long standing and continuous commitment and ownership from the MoE, education stakeholders and parents and communities. The use of quality data in a consolidated EMIS both in policy making and in informing the public can be a powerful tool in order to continue to harness public support and maintain political commitment.

28. *Complementary analytic work, technical assistance and sustained dialogue are essential.* The experience with results-based approaches in other regions of the World Bank suggests that simultaneous technical assistance and analytic work are critical to ensure the successful achievement of the outputs/outcomes supported by the Project. These parallel but complementary activities allow for sustained dialogue and the provision of global knowledge and international best practice that can facilitate the implementation of activities supported under the Project.

29. *Establishing and monitoring performance outcomes is critical.* Results-based approaches demand that protocols which determine the achievement of DLIs be clearly established, agreed and endorsed upfront to ensure transparency in their measurement and avoid diverging interpretations during their measurement.

30. *Availability of quality data on the education sector is critical.* Evidence from around the world shows that the development and high use of a reliable system of quality data available to the public is an essential aspect of a modern education system. The production and dissemination of quality education data is essential for effective planning and for monitoring progress toward national and global education targets such as the Millennium Development Goals. At the global level, countries are increasingly carrying out national learning tests as well as participating more in regional and international learning assessments. The use of EMISs for policy making and planning is increasingly commonplace in many countries worldwide. Moreover, lessons learned from countries such as Bulgaria have found that adverse side effects of efficiency reforms such as school reorganization can be an increase in the dropout rates of students. Quality education data can greatly assist countries to monitor and mitigate these side effects. Finally, reliable EMIS is a key tool for projects that link disbursements to results.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

31. The MoE will be the main implementing agency for MERP, following the same modality of the ongoing QERM. Project implementation will rely primarily on the existing structures of the Ministry and the activities proposed under the Project will be part of the everyday work of its staff. For this reason, the Project will not require the establishment of a parallel structure or a full scale Project Implementation Unit (PIU). Instead, a group of local consultants comprised of one Project Coordinator, one Project Administrative Assistant, one Procurement Officer, and one Financial Management Officer will be hired for the purposes of the Project. The last two consultants will be hired under part time contracts. A diagram reflecting the implementation arrangements can be found in Annex 3.

B. Results Monitoring and Evaluation

32. By moving toward a results-based system of management, monitoring and evaluation (M&E) is built into the design of the Project. Government systems, to be strengthened as needed with the World Bank's support during project implementation, will be used to monitor progress towards outputs and outcomes. Since disbursement will require unequivocal evidence of compliance with the DLIs to be presented by the MoE, the GoM is expected to provide the requisite information attesting to performance in a timely and comprehensive manner. The Project Coordinator will be in charge of overall M&E activities to be further detailed in the Project Operations Manual (POM). Detailed information on project indicators can be found in Annex 1—Results Framework and Monitoring. Annex 2 describes project components in detail and the corresponding protocols used to evaluate compliance of each DLI. The results chain presented in Annex 2 delineates the channels through which the areas to be supported by the proposed Project can contribute to the achievement of the PDO level results indicators.

33. The data related to the DLIs and the M&E system of the Project will be stored in the consolidated EMIS of the MoE. As part of the TA provided by the World Bank to the MoE during the preparation of MERP, an assessment of Moldova's Education Management Information Systems (there are three) was carried out. The assessment recommended that a consolidated EMIS be established at the MoE. This is essential not just for improved and better informed policy making but in the immediate term in order to accurately monitor the reform being supported by the Project. The consolidated EMIS will provide data on students by gender, age, grade and socio-economic characteristics.

34. As part of the Project, an impact evaluation has been designed in order to assist the MoE to monitor and design mitigation policies for students affected by class and school reorganization. The preparatory work for the impact evaluation study was conducted in 2011 with the data collection on students and school inputs in eight rayons in the south of the country. It is envisaged that the evaluation will provide key information that will assist MoE to mitigate possible negative 'side effects' of the reform such as school drop outs.

C. Sustainability

35. The sustainability of the Project is anchored in the Government's demonstrated commitment to the implementation of the ambitious *Action Plan for Education Structural Reform Implementation*. Notwithstanding the political and in some cases, social opposition, the Government began implementing this reform program in 2011. Furthermore, in April 2012, the GoM passed a key set of legal amendments to cement the foundations of the reform. To date, the MoE has met the target of rationalizing 200 classes in 118 schools and begun the implementation of per student financing in two municipalities and 11 rural rayons. All programs and activities supported by the Project are fully funded in the Government's regular

budget, ensuring fiscal sustainability. By supporting an updated system of training for teachers and school directors and the development of a new remunerations system for this same group, the Project is also ensuring that key stakeholders are among the “winners” in the reform program, hence, encouraging their commitment to the reform. In addition, by supporting Moldova’s participation in PISA and the public dissemination of the PISA results, the Project is ensuring that internationally comparable information on student outcomes over time is available and used by policy makers to shape future policies investments in the education sector.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk	Rating
Stakeholder Risk	S
Implementing Agency Risk	
- Capacity	M
- Governance	S
Project Risk	
- Design	M
- Social and Environmental	N/A
- Program and Donor	S
- Delivery Monitoring and Sustainability	M
Overall Implementation Risk	H

B. Overall Risk Rating Explanation

36. Given the new Project modality --that of linking disbursements to the achievement of specific development indicators attached to a contentious and often difficult to implement reform program, the Project’s overall implementation risk is considered *high*. Key project specific risks identified during preparation and corresponding mitigation measures are specified in the next paragraphs.

37. **Decreasing political will and commitment to reforms.** While the commitment of the GoM, particularly the MoE, has remained focused on the implementation of efficiency reform measures, this may not be sustained due to increasing pressure from various stakeholders, including rayons. The GoM had success in meeting the appraisal conditions for this Project through considerable dialogue with Parliament, as well as in the public. However, political support is not a onetime action and will have to be continually maintained through dialogue and a strong public relations (PR) campaigns throughout project implementation and indeed the entire structural reform program.

38. **Continued stakeholder resistance to school rationalization and the implementation of per student financing.** The implementation of the Moldovan education reform directly affects communities, mayors, students, parents, teachers and school directors. The reform interventions mean that mayors will have to close the one remaining school in a given community, students will have to be transported to neighboring villages, teachers and non-teaching staff will have to be made redundant and receiving schools will have to cater to larger groups of students in a classroom. In short, most levels of government

and the populace in Moldova are affected by this reform. Thus, the implementation of MERP requires a strong attention to establishing clear rules and procedures on all aspects of the reform at the community level and communicating them to the public, in addition to a well-designed public communications campaign that explains the overall premise and long-term goals of the reform.

39. **Inadequate incentives for MoE to implement the Project.** Since credit proceeds will be disbursed directly to the Treasury, it is important to ensure a steady flow of funds to the education sector in order for the MoE to achieve the agreed results in the proposed Project. Therefore, a yearly verification process will be conducted that will allow the MoE and the World Bank to determine that the costing of the reform and associated activities are reflected in the Medium-Term Budgetary Framework (MTBF) and the annual budgets. The MoF in consultations with the MoE has already developed a well-thought out allocation plan for the lifetime of the proposed Project. It was agreed that as part of implementation support, the World Bank will regularly support the MoE in the sectoral annual MTBF discussions to monitor that the funds needed to achieve sector priorities are reflected in each year's education budget. This specific implementation arrangement will be reflected in the Project Operations Manual (POM). Furthermore the Project's TA component will directly support and strengthen the MoE, particularly for the implementation of critical reform interventions in the areas of efficiency and quality education.

40. **Limited implementation capacity at several levels.** The Project may be negatively affected by inadequate implementation capacity at MoE, resulting in the failure to achieve the DLIs and hence hindering disbursement. The strategically placed TA in the AFQERM and its continuation through the TA portion of this Project will help build capacity at the MoE including the training of MoE staff. Moreover, the DLIs were carefully selected to ensure that they are realistic, achievable, and measurable. Additionally, they are closely aligned to GoM's priorities.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

41. The economic analysis, detailed in Annex 6, confirms that the Project's investments of US\$40 million planned for the period of 2013-2018 are well justified and the proposed interventions are likely to bring private and public benefits and savings far exceeding the Project's initial costs. The most substantial benefits of the Project are the gains in sector efficiency and in the long-run quality of the education services it delivers. Through the consolidation of the school network and the increase in average class and school sizes, existing capacities will be used more efficiently, freeing up resources for quality-enhancing inputs. As a result of the proposed interventions to enhance quality, the Project in the medium to long run is likely to positively influence the learning outcomes and subsequent labor market performance of Moldova's school graduates.

42. The economic analysis has taken the framework of a traditional cost-benefit analysis but given the high uncertainty associated with predicting labor market outcomes of individuals 20 years from now (and linking those outcomes to investments made today), it focuses on other potential benefits of the Project. The analysis computes two sets of benefits associated with the proposed interventions. First, it estimates the level of fiscal savings associated with the efficiency measures targeted under Component 2. Then, it calculates the decline in average cost for each student who attains a satisfactory level of basic competencies (as measured by PISA) associated with quality improvements proposed under Component 1.

43. The economic analysis reviews the impact of project interventions over a period of 20 years from the proposed project launch (2013-2032) and calculates a net present value (NPV) of the potential savings related to the Project based on a discount rate of 10 percent. The amount of the projected savings is sensitive to the assumptions used, but in all three scenarios analyzed the Project results in substantial savings. In the base case scenario, these savings will amount to about 8.4 percent of the total recurrent costs over the 20-year period, equivalent to US\$301 million. The savings estimated in the low and high case scenarios range from US\$217 million to US\$454 million, respectively.

B. Technical

44. The Project is designed to support key priorities in the education sector clearly outlined in the Government's *Education Structural Reform Program*. The technical review of the Project indicates that the design principles applied and choices are sound and will both facilitate and deepen the education reforms launched by the GoM.

45. The Project's design, focused on strengthening quality while supporting efficiency measures being implemented by the GoM, is based on interventions that are aligned with international best practice. The Project will have a significant contribution towards laying the building blocks for sustained improvements in the quality of education in Moldova. It supports the implementation of quality assurance standards for receiving schools using international technical assistance to contextualize standards for Moldova based on work done by United Nations Educational, Scientific and Cultural Organization (UNESCO) and UNICEF in Latin America and Africa. The Project supports the establishment of teacher and school directors' training and remuneration systems which, once fully implemented, will have a profound impact on teaching, learning and school management in Moldova. It will also bring the country one step closer to Western European education standards.

46. The Project promotes effective and sustainable mechanisms to measure student learning and to use this information to improve policy making and, ultimately, student outcomes. The support to the consolidation of the EMIS and its use as a policy making tool that improves information sharing (between schools and education stakeholders) through the "school report card" is a replication of effective tools used in Latin America. The nationwide programs of school reorganization and per student financing, to be facilitated under the Project, are tried and tested interventions that have been implemented in many countries in the Region, including Bulgaria, Poland and Romania. The lessons learned from these countries, as well as the findings of the evaluation of the implementation of per capita financing in two pilot rayons in Moldova have been incorporated into Project design. An illustration of this is the Project's support to the establishment of a system to monitor and mitigate school dropouts.

47. The Project also builds on the recent technical assistance provided to the GoM by the World Bank. As a deliverable of the groundbreaking 2011 PER, the World Bank produced a Policy Note detailing the steps necessary to achieving efficiency in the General Education subsector through the restructuring of the existing school network.¹³ The note set out a series of reform measures—along with a corresponding implementation plan—that the GoM later adopted as part of its *Action Plan for Education Structural Reform Implementation*. The analytic underpinnings of the reform program were further supported by a MoE-sponsored feasibility study (funded under the QERM project) that conducted a school-by-school examination of the existing rural education network in Moldova. The feasibility study

¹³ *Moldova's Path to Quality in General Education: The Plan for System Optimization*, World Bank PER Policy Note, April 2011.

produced detailed lists of existing schools that can be reorganized or closed without impairing access to education in the rural areas of Moldova.¹⁴

48. By ensuring coordination and synergies between interventions in quality and efficiency, the Project will contribute to laying the foundation for a leaner education system that provides better quality services to its citizens. Towards this effort, in addition to the international best practice described above, project design also benefitted from the lessons learned in the 15 years of World Bank lending and analytic work in Moldova.

C. Financial Management

49. The assessment of the Government's financial management architecture - the Government's budget classification and program structure, reporting and expenditure monitoring systems, and Treasury reports - has determined that these are all components that the proposed Project could utilize. The current financing scheme and flow of funds for the Eligible Expenditure Program – EEP (teacher salaries) is straightforward and fairly well managed, including reporting from rayons back to central agency offices. The World Bank assessment concluded that the financial management arrangements satisfy the World Bank's requirements and the current system can provide with reasonable assurance, accurate and timely information on the status of the proposed Project. The Moldovan Court of Accounts has agreed that it will conduct that annual financial audit and financial performance of the Project. The proposed Project will use government reports as the basis of disbursement (reimbursement of a percentage of executed expenditures under the EEP) upon achievement of results for components 1 and 2 (Disbursement-linked Indicators) and a Statement of Expenditures methodology (traditional disbursement mechanism) for component 3.

D. Procurement

50. There is limited and only small to medium value consulting services procurement involved in the implementation of the Project. Component 3, which comprises entirely of technical assistance and will be disbursed using traditional Specific Investment Loan (SIL) disbursement methods, makes up less than four percent of the total Project cost. World Bank Procurement Rules for selection of consultants will apply for this component, which will be entirely implemented by the MoE. An assessment of the capacity of the MoE to implement procurement actions, as well as a procurement risk assessment were carried out in October 2011. The assessment reviewed the organizational structure for implementing the proposed Project and the interaction between project staff responsible for procurement. The procurement risk assessment rated the overall MoE procurement as *low* taking into account the discussed and agreed mitigation measures.

51. The Recipient developed a Procurement Plan for the first 18 months of project implementation, which provides the basis for the procurement methods. This plan has been agreed between the Recipient and the World Bank at negotiations and its final version will be available in the Project's database and on the Bank's external website. The Procurement Plan will be updated by the project team, at a minimum,

¹⁴ The feasibility study examined the network of 970 rural primary schools, gymnasiums and lyceums and identified up to 283 low-enrollment institutions (29 percent of the rural school network) that can be reorganized or closed in the short term without impairing access to education for students in rural areas. Up to 195 additional institutions (20 percent) currently have sufficient enrollment numbers but are located in communities that face unfavorable demographic prospects in the coming years. The study used the following criteria to identify schools that should be subject to reorganization: (i) average number of pupils per class; (ii) demographic situation of the community; (iii) availability of a similar educational institution within a reasonable distance; and (iv) level of socio-economic development of the community. The authors of the study went to great lengths to ensure that access to education will not be compromised under the proposed plan, identifying schools as candidates for closure only if a comparable education institution is available within 10km to accept the students from the school that is closed or reorganized.

annually or as required to reflect the actual project implementation needs and improvements in the implementing agency institutional capacity. Updated Procurement Plans will be submitted to the World Bank for its prior approval.

E. Social (including Safeguards)

52. There are no safeguard issues in this Project. However, because the reforms supported by the Project have to do with the movement of children and the closing of schools in villages, which will affect communities and people's livelihoods, a non-safeguard social assessment was undertaken at preparation and will be repeated at mid-term as part of project supervision.

53. The social assessment which was carried out looked into a range of potential social concerns related to school reorganization, which included the availability of information and understanding of the reform by parents, students and teachers, as well as vulnerability to dropout and perceptions on school quality as related to the reform. The assessment concluded that there is no overwhelmingly positive or negative attitude towards the reform. However, from focus group discussions and interviews, it is clear that social attitude seems to be very closely linked with: (i) the level of parents' participation in decision-making; (ii) the availability of clear rules and grievance mechanisms; and (iii) timely information on school closures as well as details of student transfer. The importance of parents' support and participation in making the reform successful also means that students living without parental supervision, from single-parent families for example require very close monitoring and support. The Project will incorporate the findings from the social assessment especially in the public communications campaign activities and consultations planned at the local level. The public communications campaign which receives continuous support from the Bank through implementation support and technical assistance as part of the on-going AFQERM, will be further honed to ensure that it is realistic and consistent, letting parents know of their rights and obligations and encouraging them to take active part in planning all details of the process of change in their communities. The social assessment is discussed in more detail in Annex 3.

F. Environment (including Safeguards)

54. The proposed Project is not expected to trigger environmental safeguard policies as no physical rehabilitation or land acquisition activities are envisioned.

G. Other Safeguards Policies Triggered (*if required*)

N/A

Annex 1: Results Framework and Monitoring

Moldova Education Reform Project (P127388)

Project Development Objectives

PDO Statement

The Project Development Objective (PDO) is to strengthen the quality of education while supporting the efficiency reforms being implemented in the education sector.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Seventy percent of receiving schools meet the approved school quality assurance standards	<input type="checkbox"/>	Percentage	0.00	0.00	15.00	30.00	50.00	70.00	Semi-annual monitoring reports	(i) Implementation plan for receiving schools standards; (ii) MoE's documents; (iii) filled out forms for verifying compliance with receiving schools standards; (iv) third party verification	Head of Pre-University Education Division
Average scores for receiving schools in Romanian and Math in grade 4 tests increased	<input type="checkbox"/>	Text	To be established at end of academic year 2014/2015	Baseline to be established at end of academic year 2014/2015	Baseline to be established at end of academic year 2014/2015	Baseline determined	Average score at baseline level	Average score increased (for both subjects)	Semi-annual monitoring reports	(i) Consolidated EMIS database; (ii) MoE's documents	Head of Agency for Quality Assurance (AQA)
Average scores for receiving schools in Romanian and Math on grade 9 national exams increased	<input type="checkbox"/>	Text	To be established at the end of the academic year 2015/16	baseline to be established at the end of academic year 2015/2016	baseline to be established at the end of academic year 2015/2016	baseline to be established at the end of academic year 2015/2016	baseline determined	Average scores increased (in both Romanian and Math)	Semi-annual monitoring reports.	(i) National Bureau of Statistics (NBS) data on students and teachers / consolidated EMIS database	Head of Pre-University Education Division

Student-teacher ratio for Grades 1-12 is increased from 10.5:1 to 11.5:1	<input type="checkbox"/>	Text	10.5:1	10.5:1	10.5:1	10.5:1	11.0:1	11.2:1	11.5:1	Semi-annual monitoring reports	(i) National Bureau of Statistics (NBS) data on students and teachers / consolidated EMIS database	Head of Pre-University Education Division
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Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	
				YR1	YR2	YR3	YR4	End Target				
Updated program for training of school directors and teachers officially approved and implementation initiated	<input type="checkbox"/>	Text	Existing program for training of school directors and teachers to be updated	Report on the status and quality of teaching and school management in Moldova prepared	Work plan to update the existing program for training of school directors and teachers is approved and its first activity is implemented	Work plan to update the existing program for training of school directors and teachers is approved and its first activity is implemented	Work plan to update the existing program for training of school directors and teachers is approved and its first activity is implemented	Work plan to update the existing program for training of school directors and teachers is approved and its first activity is implemented	Work plan to update the existing system for training of school directors and teachers is approved and its first activity is implemented	Semi-annual monitoring reports	(i) Report on the status and quality of teaching and school management in Moldova; (ii) MoE's documents	Head of Pre-University Education Division
Thirty per cent of school directors and ten per cent of teachers trained based on the revised program for training of school directors and teachers	<input type="checkbox"/>	Text	No school director or teacher trained based on the revised training program	Report on the status and quality of teaching and school management in Moldova prepared	Package of training activities for school directors and teachers is defined	30 percent of school directors and ten per cent of teachers trained based on the revised program for training of school directors and teachers	30 percent of school directors and ten per cent of teachers trained based on the revised program for training of school directors and teachers	30 percent of school directors and ten per cent of teachers trained based on the revised program for training of school directors and teachers	30 percent of school directors and ten per cent of teachers trained based on the revised program for training of school directors and teachers	Semi-annual monitoring reports	MoE's lists of school directors and teachers attending the revised training program.	Head of Pre-University Education Division
Number of additional qualified primary	<input checked="" type="checkbox"/>	Number	0.00	0.00	0.00	830.00	830.00	830.00	830.00	Semi-annual monitoring reports	MoE's lists of school directors and teachers attending	Head of Pre-University Education

teachers resulting from project interventions.	<input type="checkbox"/>	Text	Existing remuneration system of school directors and teachers to be updated	Existing remuneration program of school directors and teachers	Human resources and efficiency needs assessment carried out	Adjustments to relevant existing laws reflecting the necessary changes to attract, develop and retain principals and teachers in an efficient manner are prepared	Adjustments to relevant existing laws reflecting the new remuneration program of school directors and teachers are submitted to Parliament	Work plan to update the existing program for training of school directors and teachers is approved and its first activity is implemented	Semi-annual monitoring reports	training activities of the revised training program	Division
New remuneration program of school directors and teachers adopted by Government	<input type="checkbox"/>	Text	Existing remuneration system of school directors and teachers to be updated	Existing remuneration program of school directors and teachers	Human resources and efficiency needs assessment carried out	Adjustments to relevant existing laws reflecting the necessary changes to attract, develop and retain principals and teachers in an efficient manner are prepared	Adjustments to relevant existing laws reflecting the new remuneration program of school directors and teachers are submitted to Parliament	Work plan to update the existing program for training of school directors and teachers is approved and its first activity is implemented	Semi-annual monitoring reports	(i) Report on the analysis of the existing remuneration program of school directors and teachers; (ii) Government's decision	Head of Pre-University Education Division
Moldova enrolled in PISA 2015	<input type="checkbox"/>	Text	Request for allocation of participation fee and costs for conduction of PISA 2015 survey in the Budget Law of 2013	Moldova enrolled in PISA 2015	Moldova enrolled in PISA 2015	Moldova enrolled in PISA 2015	Moldova enrolled in PISA 2015	Moldova enrolled in PISA 2015	Semi-annual monitoring reports	(i) Methodological norms; (ii) payment order of 1st installment participation fee; (iii) PISA Governing Board's approval of Moldova participation	Head of Agency for Quality Assurance
Administration of revised national testing of all 4th grade students completed	<input type="checkbox"/>	Text	Existing national tests and scoring guidelines for all 4th grade	Existing national tests and scoring guidelines for all 4th grade students	Existing national tests and scoring guidelines for all 4th grade students under revision	All 4th grade students tested in Romanian language and Math based on revised national testing	All 4th grade students tested in Romanian language and Math based on revised national testing	All 4th grade students tested in Romanian language and Math based on revised national testing	Semi-annual monitoring reports	(i) Centralized database of the AQA with names of all 4th grade students and scores; (ii) Completed test of all 4th grade students in Romanian language and Math; (iii) AQA's documents	Head of Agency for Quality Assurance

Administration of revised national testing of all 9th grade students completed	<input type="checkbox"/>	Text	Existing national tests and scoring guidelines for all 9th grade students	Existing national tests and scoring guidelines for all 9th grade students	Existing national tests and scoring guidelines for all 9th grade students under revision	All 9th grade students tested in Romanian language and Math based on revised national testing	All 9th grade students tested in Romanian language and Math based on revised national testing	Semi-annual monitoring reports	(i) Centralized database of the AQA with names of all 9th grade students and scores; (ii) Completed test of all 9th grade students in Romanian language and Math; (iii) AQA's documents	Head of Agency for Quality Assurance
System in place to closely monitor and mitigate drop outs in General Education (using EMIS)	<input type="checkbox"/>	Text	No system in place to monitor and mitigate dropouts	EMIS consolidated to store data on students and teachers and able to determine dropout rates	Dropout rates are determined using data disaggregated at the level of schools and used in policy making	Dropout rates are determined using data disaggregated at the level of schools and used in policy making	Dropout rates are determined using data disaggregated at the level of schools and used in policy making	Semi-annual monitoring reports	(i) MoE's documents; (ii) data on student enrolments, drop outs and social-background of students; (iii) consolidated EMIS	Head of Preschool, Primary and General Secondary Education Directorate
System for learning assessment at the primary level	<input checked="" type="checkbox"/>	Yes/No	Yes	Yes	Yes	Yes	Yes	Semi-annual monitoring reports	(i) Centralized database of the AQA; (ii) AQA's documents	Head of Agency for Quality Assurance
Utility of the learning assessment system	<input checked="" type="checkbox"/>	Number	4.00	4.00	4.00	4.00	4.00			
School Report Cards produced by the consolidated EMIS and sent to all schools with comparative performance outcomes and performance	<input type="checkbox"/>	Text	No school receives School Report Cards with comparative performance outcomes and trends	No school receives School Report Cards with comparative performance outcomes and trends	All schools receive School Report Cards with comparative performance outcomes and trends	All schools receive School Report Cards with comparative performance outcomes and trends	All schools receive School Report Cards with comparative performance outcomes and trends	Semi-annual reporting	Consolidated EMIS database with the results of the national testing of all 4th and 9th grades students in Romanian language and Math	Head of e-Transformation and Informatization Department

trends at regional and country level																			
Eighty percent of primary and general secondary schools have their budgets approved according to the new per student formula	<input type="checkbox"/>	Percentage	38.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	Semi-annual monitoring reports	(i) Monitor Official; (ii) rayon's data reflecting the approved school budget; (iii) MoE's documents	Head of Main Division of Economics, Assets and Finance		
Nine hundred and eighty classes reorganized in primary and secondary schools from the baseline in 2011/2012 school year	<input type="checkbox"/>	Number	0.00	980.00	980.00	980.00	980.00	980.00	980.00	980.00	980.00	980.00	980.00	Semi-annual monitoring reports	(i) NBS database; (ii) Consolidated EMIS database; (iii) MoE's documents on school network optimization	Head of Pre-University Education Division			
Establish a consolidated Education Management Information System	<input type="checkbox"/>	Text	Existing school mapping system	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Consolidated EMIS's data used for monitoring the education reform and for policy making and planning	Semi-annual monitoring reports	(i) EMIS database with data on students, teachers, non-teaching staff and schools	Head of e-Transformation and Informatization Department			
Direct project beneficiaries	<input checked="" type="checkbox"/>	Number	0.00	5000.00	10000.00	47000.00	380000.00	25000.00	5000.00	5000.00	5000.00	5000.00	5000.00	Semi-annual monitoring reports	(i) National Bureau of Statistics (NBS) data on student and teachers/ consolidated EMIS database	Head of Pre-University Education Department			
Female beneficiaries	<input checked="" type="checkbox"/>	Percentage	0.00	0.00	0.00	0.00	0.00	25000.00	5000.00	5000.00	5000.00	5000.00	5000.00						

Results Framework

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)
Seventy percent of receiving schools meet the approved school quality assurance standards	“Receiving Schools” means schools receiving students from closed or reorganized schools, selected in accordance with the criteria set forth in the POM.
Average scores for receiving schools in Romanian and Math in grade 4 tests increased	No description provided.
Average scores for receiving schools in Romanian and Math on grade 9 national exams increased	No description provided.
Student-teacher ratio for Grades 1-12 is increased from 10.5:1 to 11.5:1	No description provided.

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)
Updated program for training of school directors and teachers officially approved and implementation initiated	No description provided.
Thirty per cent of school directors and ten per cent of teachers trained based on the revised program for training of school directors and teachers	No description provided.
Number of additional qualified primary teachers resulting from project interventions.	This indicator measures the number of additional qualified primary teachers through the World Bank-funded program. In most cases, it is expected that the baseline value for this indicator will be zero ('0'). The baseline might not be zero, for example, for an additional financing IL operation. This indicator will be used to calculate the "decline in shortfall of qualified teachers at the primary level". TTLS should report on the progress of this indicator only if it is relevant to the project, that is, if the project aims to reduce the shortfall of qualified teachers at the primary level. If the project includes a primary training component that is not targeted to reduce the number of unqualified teachers, they should not fill out this information. Please visit the EdStats database to view the shortfall of qualified primary teachers by country.
New remuneration program of school directors and teachers adopted by Government	No description provided.
Moldova enrolled in PISA 2015	No description provided.
Administration of revised national testing of all 4th grade students completed	No description provided.
Administration of revised national testing of all 9th grade students completed	No description provided.

Results Framework

System in place to closely monitor and mitigate drop outs in General Education (using EMIS)	No description provided.
System for learning assessment at the primary level	TTLs should provide information on this indicator even if their project is not funding assessment work. This indicator measures whether the basic elements of a learning assessment system exist at the primary level, and the degree to which that assessment is able to provide useful information for education policy and practice. To calculate the Core Indicator Value and the Supplemental Value for this indicator, please refer to the Guidance.
Utility of the learning assessment system	Please read the guidance note for this indicator to determine the utility of the assessment system.
School Report Cards produced by the consolidated EMIS and sent to all schools with comparative performance outcomes and performance trends at regional and country level	No description provided.
Eighty per cent of primary and general secondary schools have their budgets approved according to the new per student formula	No description provided.
Nine hundred and eighty classes reorganized in primary and secondary schools from the baseline in 2011/2012 school year	No description provided.
Establish a consolidated Education Management Information System	No description provided.
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.

Annex 2: Detailed Project Description

Moldova Education Reform Project

1. The Development Objective of the Moldova Education Reform Project is to strengthen the quality of education while supporting the efficiency reforms being implemented in the education sector. The proposed Project will comprise three components, as described in the paragraphs below. The results chain illustrated at the end of this annex delineates the channels through which the areas to be supported by the proposed Project can contribute to the achievement of the PDO level results indicators.

2. For the first two components, sixteen “floating” Disbursement-linked Indicators (DLIs) have been established. The DLIs are not bound by the year of achievement, which is indicative only, and have been structured around the GoM’s priority pillars of strengthening the quality of education and improving the efficiency of the sector. The first two project components mirror these strategic pillars in the education sector. The third component, which finances technical assistance (TA) activities, will follow traditional disbursement methods.

3. The DLIs, their measurement protocol, and their associated disbursements have been agreed with the GoM. The key activities supported under each project component are detailed in the next paragraphs. The TA activities described under component 3 will support project implementation activities of the first two components.

Component 1: Strengthening the Quality of Education (US\$30.5 million under a results-based approach)

4. The objective of this component is to contribute to the strengthening of the quality of education in the General Education subsector in Moldova by improving systems in the following areas: school standards, teacher and school director training, staff remuneration, student assessments, and data collection. Through this component the MoE will undertake the following activities: (i) approve quality assurance standards for schools; (ii) implement school quality assurance standards in a total of 70 percent of receiving schools¹⁵; (iii) receive approval for and begin the implementation of an updated program for training of school directors and teachers; (iv) adopt a new program of teacher and school director remuneration; (v) ensure Moldova’s participation in PISA 2015; (vi) publicly disseminate the results of Moldova’s participation in PISA 2015; (vii) revise national testing for 4th and 9th grade students; (viii) establish a consolidated EMIS; and (ix) send out school report cards to all schools with comparative performance outcomes and performance trends on regional and country level.

5. This component will lay the building blocks for sustained improvements in the quality of education. First, the school quality assurance standards (developed as part of the AFQERM) will be implemented; these will require receiving schools to adhere to standards encompassing areas of school organization, teaching and learning, IT equipment, school infrastructure and equipment, curriculum, evaluation, school governance, certification and values. Second, the program of teacher and school director training and remuneration (currently based on outdated norms) will be overhauled to include provisions for training based on standards for entering teachers and a program of in-service and classroom support to teachers throughout their careers. Third, a new remuneration program will introduce measures designed to attract, develop, and retain teachers and school directors in an efficient and effective manner, while enhancing teaching quality and staff performance.

¹⁵ The total number of existing receiving schools to be considered is 135 (data of October 15, 2012).

6. Through this component, MoE will also enhance its ability to collect important data about the quality of the country’s education system. The envisioned activities will ensure Moldova’s regular participation in international student assessments (such as PISA or TIMSS) and enhance the system of national assessments so that is more closely aligned with modern curriculum and testing norms, such as assessing students’ critical reasoning skills. This project is a unique opportunity to introduce a system of student assessments in Moldova that is census-based and comparable across cross-sections of the country and across time. The results of these assessments will be systematically collected and linked to other data about individual schools and students through the establishment of a consolidated EMIS. By collecting data on students’ social-economic background, MoE will gain a better understanding of the determinants of student performance—whether school-based or household-based—and will be better positioned to monitor the quality of education and make decisions about policy and strategic planning. The consolidated EMIS will also allow the MoE to compile and disseminate information about educational quality to schools and local stakeholders through a system of school report cards.

7. Improvements in the quality of education as seen through a *substantive* improvement in student learning outcomes take years to materialize. It will be unrealistic to expect very large improvements in measurable learning outcomes due to this component in this Project’s lifetime. These interventions are envisaged as the foundational bricks that, once completed, will contribute greatly toward improved teaching and learning and, in time, to better student performance.

8. The DLIs established for this component and the protocols defined to evaluate compliance with them can be found in the table below.

Table 3. DLIs and Protocols of Component 1

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
1.	Standards for receiving schools approved	This DLI will be met when the institutional and technical aspects of the standards for receiving schools are defined, approved and ready to be used by the MoE. For the purposes of this DLI, the institutional aspects include issuing the Normative Act of the MoE establishing these standards, and the technical aspects involve the approval of these standards in the following dimensions: school organization, teaching and learning, IT equipment, school infrastructure and equipment, curriculum, evaluation, school governance, certification and values.	<p>Data Sources: (i) report on standards for receiving schools; (ii) MoE’s documents; (iii) implementation plan for nationwide school reorganization.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The consultants hired by the MoE to define the standards for receiving schools prepare their report on these standards. This report will be sent to the Pre-University Education Division of the MoE. 2. The MoE discusses this report both internally and with key stakeholders. The report is revised by the consultants based on feedback from the MoE and consultations that are held. 3. The MoE approves the standards for receiving schools, which involves issuing a Normative Act of the MoE establishing such standards. 4. The Pre-University Education Division of the MoE prepares a document with a clear definition of receiving schools standards. 5. The Pre-University Education Division of the MoE devises an

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>implementation plan for receiving schools standards, which includes: (i) targets (number of benefited schools/receiving schools) for the next three years; (ii) timetable; (iii) estimated costs; and (iv) responsibilities.</p> <p>6. The Project Coordinator sends the document on standards for receiving schools and the related implementation plan to the World Bank, upon completion of the DLI.</p>
2.	Thirty percent of receiving schools meet the approved school quality assurance standards	This DLI will be met when at least 30 percent of all receiving schools are operating within the standards for receiving schools implemented by the MoE. For the purposes of this DLI, a benefited school is one that fully meets all standards for receiving schools, and the total number of receiving schools is set at 135, as specified in the implementation plan for receiving schools standards.	<p>Data Sources: (i) document on standards for receiving schools; (ii) implementation plan for receiving schools standards; (iii) MoE's documents; (iv) filled out forms for verifying compliance with receiving schools standards; and (v) third party verification.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The Pre-University Education Division of the MoE prepares a form for verifying compliance with standards for receiving schools. 2. The MoE hires an organization to carry out an independent verification of compliance with standards for receiving schools, based on Terms of Reference prepared by the Pre-University Education Division and approved by the World Bank. 3. The MoE implements the standards for receiving schools according to the implementation plan devised previously. The forms for verifying compliance with receiving schools standards are filled out by the heads of responsible units of the MoE as specified in the related implementation plan. 4. The organization hired by the MoE to carry out an independent verification of compliance with standards for receiving schools performs its tasks in accordance with the Terms of Reference approved by the World Bank. This organization prepares a report on compliance with standards for receiving schools and sends it to the Pre-University Education Division of the MoE. 5. The Project Coordinator collects the filled out forms for verifying compliance with standards for receiving schools. These filled out forms are to be kept in

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>the Project's file, in case the World Bank decides to analyze such evidences. The report on compliance with standards for receiving schools prepared by the organization in charge of the independent verification is also to be kept in the Project's file.</p> <p>6. The Project Coordinator prepares a report on implementation of receiving schools standards. The percentage of schools that meet the standards for receiving schools is calculated by considering 135 as the total number of receiving schools.</p> <p>7. The Project Coordinator sends the report on implementation of receiving schools standards to the World Bank, upon completion of the DLI.</p>
3.	Fifty percent of receiving schools meet the approved school quality assurance standards	This DLI will be met when at least 50 percent of all receiving schools are operating within the standards for receiving schools implemented by the MoE. For the purposes of this DLI, a benefited school is one that fully meets all standards for receiving schools, and the total number of receiving schools is set at 135, as specified in the implementation plan for receiving schools standards.	<p>Data Sources: (i) implementation plan for receiving schools standards; (ii) MoE's documents; (iii) filled out forms for verifying compliance with receiving schools standards; and (iv) third party verification.</p> <p>Procedures:</p> <p>1. The MoE implements the standards for receiving schools according to the implementation plan devised previously. The forms for verifying compliance with receiving schools standards are filled out by the heads of responsible units of the MoE as specified in the related implementation plan.</p> <p>2. The organization hired by the MoE to carry out an independent verification of compliance with standards for receiving schools performs its tasks in accordance with the Terms of Reference approved by the World Bank. This organization prepares a report on compliance with standards for receiving schools and sends it to the Pre-University Education Division of the MoE.</p> <p>3. The Project Coordinator collects the filled out forms for verifying compliance with standards for receiving schools. These filled out forms are to be kept in the Project's file, in case the World Bank decides to analyze such evidences. The report on compliance with standards for receiving schools prepared by the organization in charge of the independent verification is also to be kept in the</p>

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>Project's file.</p> <p>4. The Project Coordinator prepares a report on implementation of receiving schools standards. The percentage of schools that meet the standards for receiving schools is calculated by considering 135 as the total number of receiving schools.</p> <p>5. The Project Coordinator sends the report on implementation of receiving schools standards to the World Bank, upon completion of the DLI.</p>
4.	Seventy percent of receiving schools meet the approved school quality assurance standards	This DLI will be met when at least 70 percent of all receiving schools are operating within the standards for receiving schools implemented by the MoE. For the purposes of this DLI, a benefited school is one that fully meets all standards for receiving schools, and the total number of receiving schools is set at 135, as specified in the implementation plan for receiving schools standards.	<p>Data Sources: (i) implementation plan for receiving schools standards; (ii) MoE's documents; (iii) filled out forms for verifying compliance with receiving schools standards; and (iv) third party verification.</p> <p>Procedures:</p> <p>1. The MoE implements the standards for receiving schools according to the implementation plan devised previously. The forms for verifying compliance with receiving schools standards are filled out by the heads of responsible units of the MoE as specified in the related implementation plan.</p> <p>2. The organization hired by the MoE to carry out an independent verification of compliance with standards for receiving schools performs its tasks in accordance with the Terms of Reference approved by the World Bank. This organization prepares a report on compliance with standards for receiving schools and sends it to the Pre-University Education Division of the MoE.</p> <p>3. The Project Coordinator collects the filled out forms for verifying compliance with standards for receiving schools. These filled out forms are to be kept in the Project's file, in case the World Bank decides to analyze such evidences. The report on compliance with standards for receiving schools prepared by the organization in charge of the independent verification is also to be kept in the Project's file.</p> <p>4. The Project Coordinator prepares a report on implementation of receiving schools standards. The percentage of schools that meet the standards for receiving schools is calculated by</p>

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>considering 135 as the total number of receiving schools.</p> <p>5. The Project Coordinator sends the report on implementation of receiving schools standards to the World Bank, upon completion of the DLI.</p>
5.	Updated program for training of school directors and teachers officially approved and implementation initiated	This DLI will be met when the MoE begins the implementation of the approved work plan that describes an updated program for training of school directors and teachers. For the purposes of this DLI “initiate implementation” means that the work plan with agreed timelines for training is approved at the MoE level and its first activity is implemented.	<p>Data Sources: (i) report on the status and quality of teaching and school management in Moldova; (ii) MoE’s documents.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The consultants hired by the MoE analyze the teachers and school directors’ situation in Moldova and prepare their report. This report will contain: (i) comprehensive information on the status and quality of teaching and school management in Moldova; and (ii) a proposal of an implementable plan for a program of training. This report will be sent to the Pre-University Education Division of the MoE. 2. The MoE discusses this report both internally and with key stakeholders. The report is revised by the consultants based on feedback from the MoE and consultations that are held. 3. The Pre-University Education Division of the MoE with support from consultants develops the work plan to update the existing program for training of school directors and teachers. The mentioned work plan will include: (i) core competencies that school directors and teachers should possess; (ii) clear guidelines on the content of the training; and (iii) timelines for implementation. 4. The MoE discusses internally and with key stakeholders the work plan to update the existing program for training of school directors and teachers. 5. The MoE approves the work plan to update the existing program for training of school directors and teachers and begins implementation by initiating the first activity on the work plan. 6. The Project Coordinator sends to the World Bank a document on internal approval and initial implementation of the work plan to update the existing program for training of school directors and teachers, upon completion of the DLI.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
6.	Thirty percent of school directors and 10 percent of teachers trained based on the revised program for training of school directors and teachers	<p>This DLI will be met when:</p> <ul style="list-style-type: none"> • Thirty percent of school directors successfully complete a package of training activities as designed and delineated in the work plan of the new program for school director training. • Ten percent of teachers successfully complete a package of training activities as designed and delineated in the work plan of the new program for teacher training. 	<p>Data Sources: MoE’s lists of school directors and teachers attending training activities of the revised training program.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The Pre-University Education Division of the MoE provides training on the subjects of the revised program for training of school directors and teachers across the country. 2. The Pre-University Education Division of the MoE produces a report listing the names of the school directors and teachers who successfully completed the revised training program. 3. The Project Coordinator sends this report to the World Bank upon completion of the DLI.
7.	New remuneration program of school directors and teachers adopted	<p>This DLI will be met when a new remuneration program of school directors and teachers is adopted by the Government. For the purposes of this DLI, all needed adjustments to relevant existing laws shall be submitted to Parliament.</p>	<p>Data Sources: (i) report on the status and quality of teaching and school management in Moldova; and (ii) MoE’s documents.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The consultants hired by the MoE analyze the teachers and school directors’ situation in Moldova and prepare their report. This report will contain: (i) comprehensive information on the status and quality of teaching and school management in Moldova; and (ii) make recommendations meant to support the creation of a new remuneration program of school directors and teachers. This report will be sent to the Pre-University Education Division of the MoE. 2. The MoE discusses this report both internally and with key stakeholders. The mentioned report is revised by the consultants based on feedback from the MoE and consultations that are held. 3. The MoE with support from the MoF and Ministry of Labor, Social Protection and Family adjusts all relevant existing law reflecting the necessary changes to attract, develop and retain principals and teachers in an efficient manner (the new remuneration system). 4. The Project Coordinator sends to the World Bank a document on the Government adoption of the new remuneration program of school directors and teachers, upon completion of the DLI.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
8.	Enrollment of Moldova in PISA 2015	This DLI will be met when the MoE pays the OECD for the PISA 2015 participation fee. For the purposes of this DLI, the payment of the first installment of the participation fee will be considered sufficient.	<p>Data Sources: (i) methodological norms; (ii) payment order of the MoE covering the first installment of participation fee; (iii) MoE's documents; and (iv) PISA Governing Board's approval of Moldova participation in the PISA 2015 survey.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The MoE officially requests to the Ministry of Finance to allocate in the Budget Law of 2013 the necessary budget for the participation fee and costs for conduction of PISA 2015 survey. 2. MoF allocates in the Budget Law of 2013 the amount necessary for payment of the participation fee and conduction costs for PISA 2015 survey. The allocation of this budget will be reflected in the methodological norms, which will be made available to the MoE. 3. The Agency for Quality Assurance (AQA) prepares the draft application letter for Moldova participation in PISA 2015 and submits it for consideration and approval to the Minister of Education. 4. The MoE sends the application letter to the OECD Secretariat, which is responsible for the day-to-day management of PISA and managing administrative matters for the PISA Governing Board to join the PISA 2015 survey. 5. The PISA Governing Board considers Moldova participation. 6. The Minister of Education appoints the PISA National Project Manager, who will work jointly with the OECD Secretariat, the PISA Governing Board and the international contractor to oversee the implementation of the PISA 2015 survey in Moldova. 7. The MoE sends an order to rayon Education Departments to launch preparations to the PISA 2015 survey. 8. The AQA informs OECD Secretariat of the appointed PISA National Project Manager. 9. The MoE pays the OECD for the PISA 2015 participation fee. As the participation fee is paid by installments, the payment of the first installment will be considered sufficient. 10. The Project Coordinator sends the

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			documents to the World Bank, upon completion of the DLI.
9.	Results of Moldova participation in PISA 2015 analyzed and publicly disseminated	This DLI will be met when the MoE analyzes and publicly disseminates the results of Moldova participation in PISA 2015, which shall include an analysis of information on student background. For the purposes of this DLI, the results shall be discussed with key stakeholders and made public on the internet.	<p>Data Sources: (i) PISA 2015 key findings and database concerning the participation of Moldova in PISA 2015; and (ii) MoE's documents.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The OECD Secretariat sends to the MoE the database and report on the results of Moldova participation in PISA 2015. 2. The AQA analyzes the results of Moldova participation in PISA 2015, which include an analysis of information on student background, and discusses the findings with key representatives of the MoE and stakeholders. 3. The MoE publicly disseminates the finds of the report on the results of Moldova participation in PISA 2015 on the internet. 4. The Project Coordinator sends to the World Bank a document about the dissemination of the results of Moldova participation in PISA 2015, upon completion of the DLI.
10.	Revised national testing of all 4 th and 9 th grades students completed and its results analyzed, publicly disseminated and used by the MoE	This DLI will be met when the MoE publicly disseminates the conclusions of the analytical report on the results of the national testing of all 4 th and 9 th grades students respectively, in Romanian language and Math. The report will have to include an analysis of social-economic background of these students.	<p>Data Sources: (i) completed tests of 4th grade students in Romanian language and Math; (ii) completed tests of 9th grade students in Romanian language and Math; (iii) filled in questionnaires on social-economic background of 4th and 9th grades students; (iv) centralized student-level database of the AQA with names and scores of 4th and 9th grades students in tests (Romanian language and Math), school name and identification, its location, and filled in items of the mentioned questionnaires; (v) AQA's documents; and (vi) MoE's documents.</p>

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>Procedures:</p> <p>1. The AQA prepares the revised tests and scoring guidelines for 4th and 9th grades in Romanian language and Math, as well as the questionnaire on social-economic background of these students. The questionnaire shall be pre-tested at a time deemed appropriate by the AQA.</p> <p>2. The MoE organizes the conduction of the revised national tests of all 4th and 9th grades students in Romanian language and Math, as well as the questionnaire on social-economic background of these students.</p>
			<p>3. The General Education Departments in the districts conduct the revised national tests of all 4th and 9th grades students in Romanian language and Math, as well as the questionnaire on social-economic background of these students.</p> <p>4. School staff members enter the scores of tests of 4th and 9th grades students and filled in items of questionnaires into the centralized database of the AQA.</p> <p>5. IT representatives of General Education Departments in the Districts obtain the data related to the questionnaires and tests of 4th and 9th grades students of schools under each district responsibility. Then, the IT representatives of each District consolidate and process the data (first level of data manipulation).</p> <p>6. The AQA obtains and processes the data on revised tests of 4th and 9th grades students in Romanian language and Math, and social-economic background of these students (second level of data manipulation).</p> <p>7. The AQA analyzes the data on revised tests of 4th and 9th grades students in Romanian language and Math, and social-economic background of these students. Later, it prepares an analytical report on the results of the national testing of 4th and 9th grades students in Romanian language and Math, which includes an analysis of social-economic background of these students.</p> <p>8. The MoE discusses internally the analytical report on the results of the revised national testing of 4th and 9th</p>

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>grades students in Romanian language and Math, which includes an analysis of social-economic background of these students.</p> <p>9. The AQA prepares the conclusions of the report on the results of the revised national testing of 4th and 9th grades students in Romanian language and Math, which includes an analysis of social-economic background of these students. These conclusions are submitted to the Minister of Education.</p> <p>10. The AQA publicly disseminates the conclusions of the report on the results of the revised national testing of 4th and 9th grades students in Romanian language and Math.</p> <p>11. The Project Coordinator sends to the World Bank the conclusions of the report on the results of the revised national testing of 4th and 9th grades students in Romanian language and Math, which includes an analysis of social-economic background of these students, upon completion of the DLI.</p>
11.	Establish a consolidated Education Management Information System (EMIS)	This DLI will be met when the consolidated EMIS is providing the MoE and key stakeholders with quality data for monitoring the education reform, as well as for policy making and planning. For the purposes of this DLI, the definition of “quality data” is to be determined by the MoE, and shall include the notions of timely, accurate, reliable and accessible data.	<p>Data Sources: (i) documents of the MoE; (ii) report on EMIS assessment provided by the World Bank; (iii) EMIS data model, process diagrams, screen layouts and related system documentation; (iv) attendance lists of users trained on the consolidated EMIS; (v) EMIS database; and (vi) report on testing and integration prepared by the consultant hired to verify compliance with agreed technical aspects of EMIS improvement.</p> <p>Procedures:</p> <p>1. The MoE devises a work plan for improving the existing school mapping and other information system in order to provide the policy makers and key stakeholders with quality data for planning and reform monitoring. One of the activities of this work plan should be the preparation of the ToRs for improving the systems, which should consider, <i>inter alia</i>, the recommendations provided to the MoE by the World Bank based on the assessment of the EMIS (2011). Another important activity should be the training of users at central, rayon and school</p>

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>levels on the improved EMIS.</p> <ol style="list-style-type: none"> 2. The MoE signs contracts for improving the existing school mapping according to the mentioned ToRs, which focus on rationalizing the data collection processes, designing new features and writing new programs (source codes). It is expected that at least three individual consultants will be hired to improve the school mapping. 3. The MoE approves the technical aspects of school mapping improvement prepared by the specialist on software design (functional requirements document), based on detailed discussions of the planned features and operations. 4. The MoE with the assistance of the hired specialists approves the school mapping (new version) testing and integration with other existing software and database. 5. The MoE approves the installation of the consolidated EMIS, which includes the initial training of central, rayon and school level users on new features of this system. 6. The MoE analyzes the first set of reports prepared based on quality data obtained through the consolidated EMIS. The MoE shares with the World Bank the findings of this analysis. 7. The Project Coordinator sends to the World Bank a document about the establishment of the consolidated EMIS for policy making, planning and reform monitoring, upon completion of the DLI.
12.	School Report Cards produced by the consolidated EMIS and sent to all schools with comparative performance outcomes and trends at regional and country level	This DLI will be met when the MoE sends School Report Cards produced by the consolidated EMIS to all schools. The School Report Card identifies the students' performance outcomes in the 4 th and 9 th grades tests, as well as the performance trends at regional and country level.	<p>Data source: Consolidated EMIS database with the results of the national testing of all 4th and 9th grades students in Romanian language and Math.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The e-Transformation and Informatization Department of the MoE produces the School Report Cards with aggregated data at the school, regional and country level. 2. The Pre-University Education Division of the MoE sends the School Report Cards to all schools. 3. Each school that receives the School Report Card sends a receiving form to the Pre-University Education Division of the MoE.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
			<p>4. The e-Transformation and Informatization Department of the MoE prepares a report listing the schools that received School Report Cards based on the mentioned receiving forms and sends it to the Project Coordinator. These receiving forms are to be kept in the Project's file, in case the World Bank decides to analyze these evidences.</p> <p>5. The Project Coordinator sends the mentioned report to the World Bank upon completion of the DLI.</p>

Component 2: Improving the Efficiency of the Education Sector (US\$8 million under a results-based approach)

9. The objective of this component is to improve the efficiency of the sector by eliminating excess capacity and creating a leaner education system better equipped to provide education that meets the demands of a modern economy. Through this component the MoE will ensure that: (i) 80 percent of all primary and secondary schools have their budgets approved according to the new per-student formula methodology; (ii) 980 classes are reorganized in primary and secondary schools;¹⁶ and (iii) student-teacher ratio for grades 1-12 is increased from 10.5:1 to 11.5:1; and (iv) a system for monitoring and mitigating school drop outs is established. This component will support the GoM's implementation of reforms in the area of school network reorganization that are necessary for a General Education subsector that has failed to properly adjust to two decades of demographic decline. The key driver of more efficient resource allocation will be the nationwide rollout of per-student education financing down to the school level. Per student financing is a common practice in most OECD countries that ties resources to the student. It creates a direct link between the purpose of the activity –teaching students– and the financial resources devoted to that activity.

10. The logic behind per-student formula financing is simple: by expanding the autonomy of school directors and allowing them to manage their own budgets, the scheme will empower local actors to make better informed decisions related to their schools. Giving a predictable budget defined by a transparent formula to a school director and allowing him or her to allocate resources in a manner they judge best for their school will produce a more efficient outcome and hold local actors more accountable for the quality of service provision. A recent assessment of school directors' job satisfaction and sense of empowerment showed noticeable differences in between the pilot and non-pilot rayons.¹⁷ The assessment drew the following findings in each area of interest:

- (a) *Transparency of budget allocations:* a larger share of school directors from pilot rayons know their school budget in detail (95 percent compared to 83 percent in non-pilot rayons) and think that resources in their rayons are allocated transparently (62 percent versus 38 percent);

¹⁶ A reorganized class is one that was eliminated, as a result of closure or merger with another class in a public primary or secondary school – as a result of school network restructuring.

¹⁷ The assessment covered 241 participating school principals (72 from pilot rayons of Riscani and Causeni and 169 from non-pilot rayons of Donduseni, Anenii Noi, Drochia, Cimislia). *Social Impact Assessment of School Optimization Reforms in Moldova*, Magenta Consulting, March 2011.

- (b) *School autonomy*: the majority of school directors in pilot rayons will like to have full autonomy, while in non-pilots administrators want subordination to rayon or municipal authorities;
- (c) *Sense of empowerment*: the majority of school directors in pilot rayons think that they (or their school boards) have a considerable responsibility for deciding on budget allocations within the school and allocation of funds for teachers’ professional development, while in non-pilots this responsibility is viewed primarily in the mayor’s office;
- (d) *Incentives for efficiency*: a larger share of directors in pilot rayons compared to non-pilots think that their current system of funding provides incentives to create bigger classes and to reduce the number of non-teaching staff;
- (e) *Job satisfaction*: looking ahead, school directors in pilot rayons are slightly less optimistic about serving in their job than their non-pilot counterparts¹⁸; and
- (f) *Education quality*: the vast majority of school directors in pilot and non-pilot rayons consider that school autonomy can have a positive impact on education quality.

11. Given the proper incentives and training for more efficient resource allocation, school directors will play a pivotal role in streamlining the functioning of the General Education subsector under the Government’s reform program. Under per-student financing, they will make decisions that enable the rationalization of classes and student-teacher ratios that have been allowed to drop to among the lowest in the world. In time, the reform will reorganize 980 classes and raise the student-teacher ratio from 10.5:1 to 11.5:1. The outcome of this component, increased class sizes closer to OECD averages,¹⁹ will be a more efficient education sector with improved data keeping which unlike improvements in education quality, can be measured in the life time of the Project.

12. Under the activities supported by this component, it will be critical to utilize the EMIS envisioned under component 1 to establish a system for monitoring and mitigating school drop outs nationwide as well as in areas affected by school reorganization. An increase in drop outs has been found to be an adverse side effect of school reorganization in other countries in the region (in Bulgaria, school consolidations contributed to a small but significant increase in drop outs—the average dropout rate was 14.9 percent in schools that closed compared to 6.2 percent among schools that were not closed).²⁰ Important lessons learned from similar reforms have been incorporated into the design of this Project.

13. The DLIs established for this component and the protocols defined to evaluate compliance with them can be found in the table below.

Table 4: DLIs and Protocols of Component 2

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
13.	Eighty percent of primary and general secondary schools have their budgets approved according to the new per student formula	This DLI will be met when 80 percent of primary and general secondary schools have their budgets approved according to the new per student financing formula methodology. For the purposes of	Data Sources: (i) <i>Monitorul Oficial</i> ; (ii) rayons’ data disaggregated at school level (reflecting the approved schools budgets); (iii) Treasury’s data; (iv) MoE’s lists of actors attending training activities for implementing the

¹⁸ This finding may be the result of the transition period and the need for more information materials and training for school directors joining the new financing scheme—therefore, the proposed Project supports an updated modern system for training of school directors.

¹⁹ The OECD class size average is 21.4 students in primary and 23.5 students in secondary education compared to 18.5 and 19.3 students respectively, in Moldova.

²⁰ *A Review of the Bulgaria School Autonomy Reforms*, The World Bank, 2010.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
	methodology	this DLI, boarding, special schools and primary schools combined with kindergarten are not considered targeted schools.	<p>new per student financing formula.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The GoM publishes the amendment to the Government Decision on school financing stating that all primary and general secondary schools shall have their budgets allocated according to a per student formula. The boarding, special schools and primary schools combined with kindergarten are not the targeted schools. 2. The Pre-university Education Division of the MoE provides training on general principles and guidelines of the new per student financing formula across the country. All school directors, accountants, as well as representatives of Districts Education and Finance Departments shall be informed about the new financing model. 3. The school directors of all primary and general secondary schools are trained on financial management. 4. The Pre-university Education Division of the MoE obtains and analyzes all necessary data to verify if 80 percent of schools have their budgets approved based on the new per student financing formula methodology. The data provided by the rayons shall be cross-checked against data of the Treasury. 5. The Project Coordinator prepares a report on approval of schools' budgets according to the new per student financing formula methodology. The rayons' documents and Treasury data considered to prepare the mentioned report are to be kept in the Project's file, in case the World Bank decides to analyze these evidences. 6. The Project Coordinator sends the report on approval of schools' budgets according to the new per student financing formula methodology to the World Bank, upon completion of the DLI.
14.	Nine hundred eighty classes reorganized in primary and secondary schools from the baseline in 2011/2012 school year	This DLI will be met when 980 classes of primary and secondary schools are reorganized. For the purposes of this DLI, the definition of a reorganized class is one that was	Data Sources: (i) National Bureau of Statistics of the Republic of Moldova (NBS) database; (ii) improved EMIS database; (iii) MoE's documents on school network restructuring.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
		<p>eliminated, as a result of closure or merger with another class in a public primary or secondary school – as a result of the school reorganization process. It is agreed that the number of classes reorganized shall be measured each year, accumulatively, and the total number of classes shall be compared with the number of existing classes in primary and secondary schools, in baseline year (2011/2012 school year).</p>	<p>Procedures:</p> <ol style="list-style-type: none"> 1. The NBS collects data regarding classes in primary and secondary public schools, grades 1 to 12 (primary, gymnasium and lyceum). These data are collected at school level, in September and October, and are made available to the MoE in December of each year. 2. The Pre-University Education Division of the MoE obtains and analyzes data on classes in primary and secondary schools, provided by the NBS. The number of existing classes in 2011/2012 will be considered to be the baseline for calculating the decrease in the total number of classes, which is the expected increase in the number of classes reorganized (DLI target). 3. The Pre-university Education Division of the MoE works out how many classes were reorganized each year, considering only those that were closed or merged with other classes, as a result of the process of school network restructuring. The total number of classes shall be compared with the number of existing classes in primary and secondary schools, in 2011/2012. A decrease of 980 classes is expected, meaning an increase of 980 classes reorganized. The documents and data used to calculate the number of classes reorganized is to be kept in the Project’s file, in case the World Bank decides to analyze these evidences. 4. The Pre-university Education Division of the MoE prepares a report on classes reorganized. 5. The Pre-university Education Division of the MoE discusses internally the report on classes reorganized. 6. The Project Coordinator sends the report on classes reorganized to the World Bank, upon completion of the DLI.
15.	Student-teacher ratio for grades 1-12 is increased from 10.5:1 to 11.5:1	This DLI will be met when the student-teacher ratio for grades 1 to 12 is increased from 10.5:1 to 11.5:1. For the purposes of this DLI, all	Data Source: data on students and teachers, collected annually by the NBS and MoE.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
		<p>students enrolled in primary and secondary public schools, grades 1 to 12 (primary, gymnasium and lyceum), shall be considered. Additionally, only teachers who are really teaching classes in grades 1 to 12, in public schools shall be considered as valid teachers and the student-teacher ratio shall be calculated annually by dividing the total number of enrolled students by the total number of valid teachers. It is agreed that the increase in the student-teacher ratio shall be calculated by comparing the ratio of each year with the ratio of baseline year, which is estimated to be 10.5:1 in 2012.</p>	<p>Procedures:</p> <ol style="list-style-type: none"> 1. The NBS collects data regarding students enrolled and teachers teaching in primary and secondary public schools, grades 1 to 12 (primary, gymnasium and lyceum). These data are collected at school level, in September and October, and are made available to the MoE in December of each year. 2. The Pre-university Education Division of the MoE obtains and analyzes the data provided annually by the NBS, regarding students enrolled and teachers teaching in primary and secondary public schools, grades 1 to 12. 3. The Pre-university Education Division of the MoE calculates the student-teacher ratio of each year, by dividing the total number of enrolled students by the total number of valid teachers. The student-teacher ratio of 2012 (estimated to be 10.5:1) will be considered to be the baseline for calculating the expected increase in this ratio. The documents and data used to calculate each student-teacher ratio are to be kept in the Project's file, in case the World Bank decides to analyze these evidences. 4. The Pre-university Education Division of the MoE compares the student-teacher ratio of each year with the ratio of baseline year. 5. The Project Coordinator sends to the World Bank a document about increase in the student-teacher ratio for grades 1-12, upon completion of the DLI.

No.	DLI	Definition of the DLI	Protocol to evaluate compliance of the DLI
16.	System in place to closely monitor and mitigate drop outs (by gender) in General Education (using EMIS)	This DLI will be met when the MoE starts monitoring and mitigating drop outs in General Education under a systematic approach which includes data disaggregated by gender and mitigation measures that take into account gender relevant measures. For the purposes of this DLI, the dropout rates shall be determined using the consolidated EMIS, which shall also be able to track students individually.	<p>Data Sources: (i) MoE’s documents; (ii) data on student enrollments, dropouts and social-background of students; and (iii) consolidated EMIS.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The MoE approves the installation of the consolidated EMIS, which stores data on students and allow of monitoring the dropout rates under a systematic approach. Additionally, the consolidated EMIS is able to track students individually. 2. The MoE collects data on student enrollments, dropouts and social-background of students. These data are stored in the consolidated EMIS database. 3. The e-Transformation and Informatization Department of the MoE obtains the first dropout rates of students using the new features of the consolidated EMIS. The dropout rates are determined using data disaggregated at the level of schools. 4. The e-Transformation and Informatization Department of the MoE continues obtaining the dropout rates of students using the new features of the consolidated EMIS on a yearly basis. 5. The Pre-university Education Division of the MoE analyzes the dropout rates of students and prepares an analytical report explaining unexpected rates across the years, which should also include mitigation measures. 6. The Project Coordinator sends the analytical report on dropout rates and mitigation measures to the World Bank, upon completion of the DLI.

Component 3: Improving the Ministry of Education’s Capacity to Monitor the Reform (US\$1.5 million under regular SIL disbursement methods)

14. The objective of this component is to finance TA for the MoE to support the monitoring of the education reform defined in the *Action Plan for Education Structural Reform Implementation*.

15. This component will provide resources and expertise to MoE to finance key activities and reach Project DLIs. The component is a follow-up to the TA provided in the AFQERM. The concept of having the MoE as the main project implementing agency (see more information in Annex 3) entails an incremental cost in terms of implementation and absorption capacity and makes strategically placed TA

critical to making sure that the program reforms are implemented. This component will finance TA in the following areas: (i) development and implementation of receiving school standards; (ii) development of human resources; (iii) support to Moldova's participation in international assessments; (iv) support to improving Moldova's EMIS; (v) support to monitor school dropouts and prepare mitigation measures; (vi) support (including training) to the implementation of per student financing nationwide; (vii) social marketing campaigns in support of the reform programs; (viii) support to the implementation of a school census; and (ix) a small group of local consultants to assist the MoE in implementing the Project.

16. The importance of the social marketing aspect to this Project needs emphasis. The implementation of the Moldovan education reform directly affects communities, mayors, students, parents, teachers and school directors. The reform interventions mean that some rayon councils will have to close the one remaining school in a given community, students will have to be transported to neighboring villages, teachers and non-teaching staff will have to be made redundant and receiving schools will have to cater to larger groups of students in a classroom. In short, most levels of government and the populace in Moldova are affected by this reform. Hence, it is important that the Project supports the Moldovan authorities to properly inform the population about the needs and benefits of the reform by continuing to finance a strong social marketing campaign critical to the reform's implementation progress and sustainability.

17. A results chain illustrating the links between areas of support (by the proposed Project), expected results and outcomes can be found in figures 1 and 2 below.

Figure 1. Results chain (part 1)

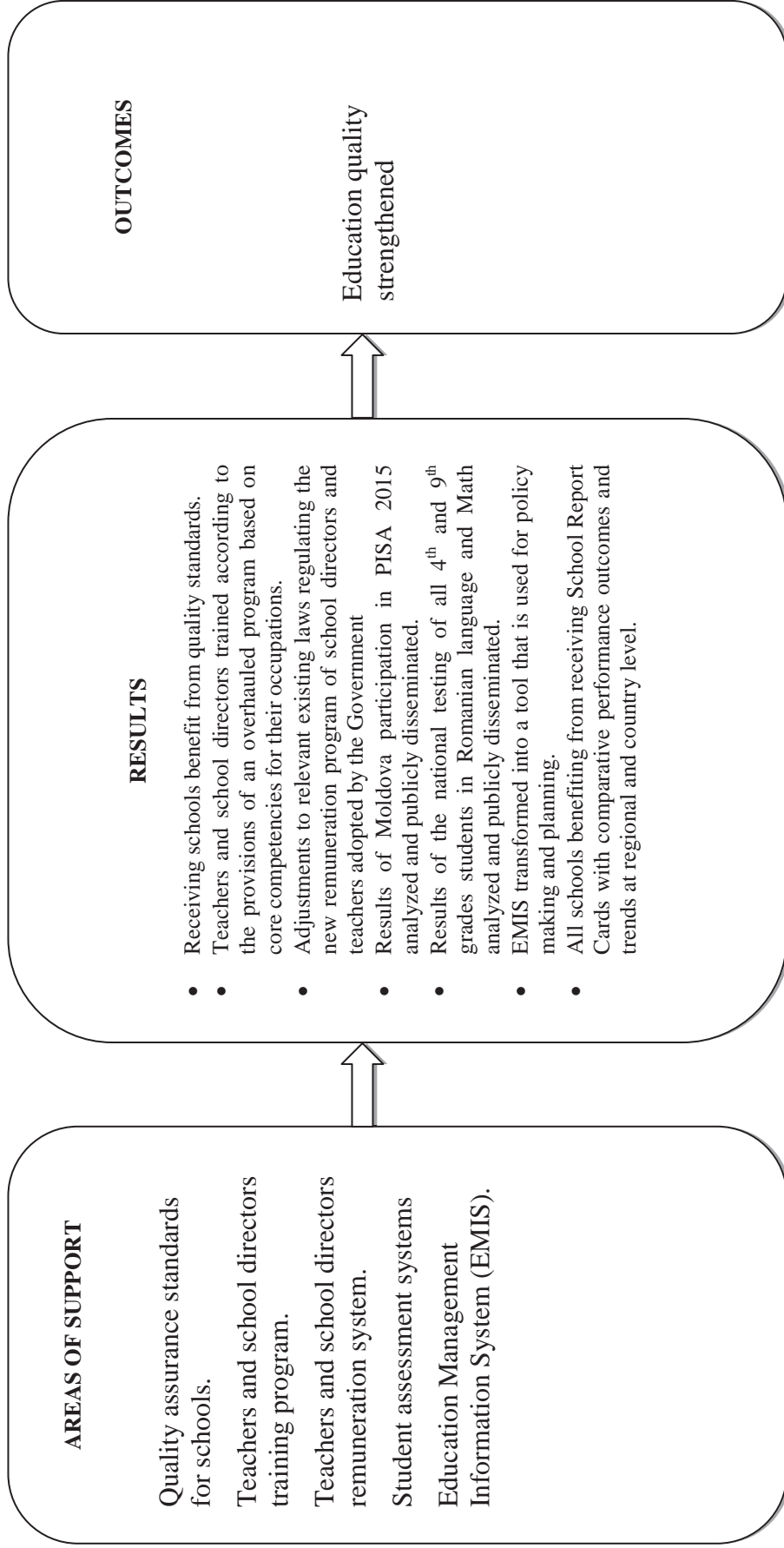
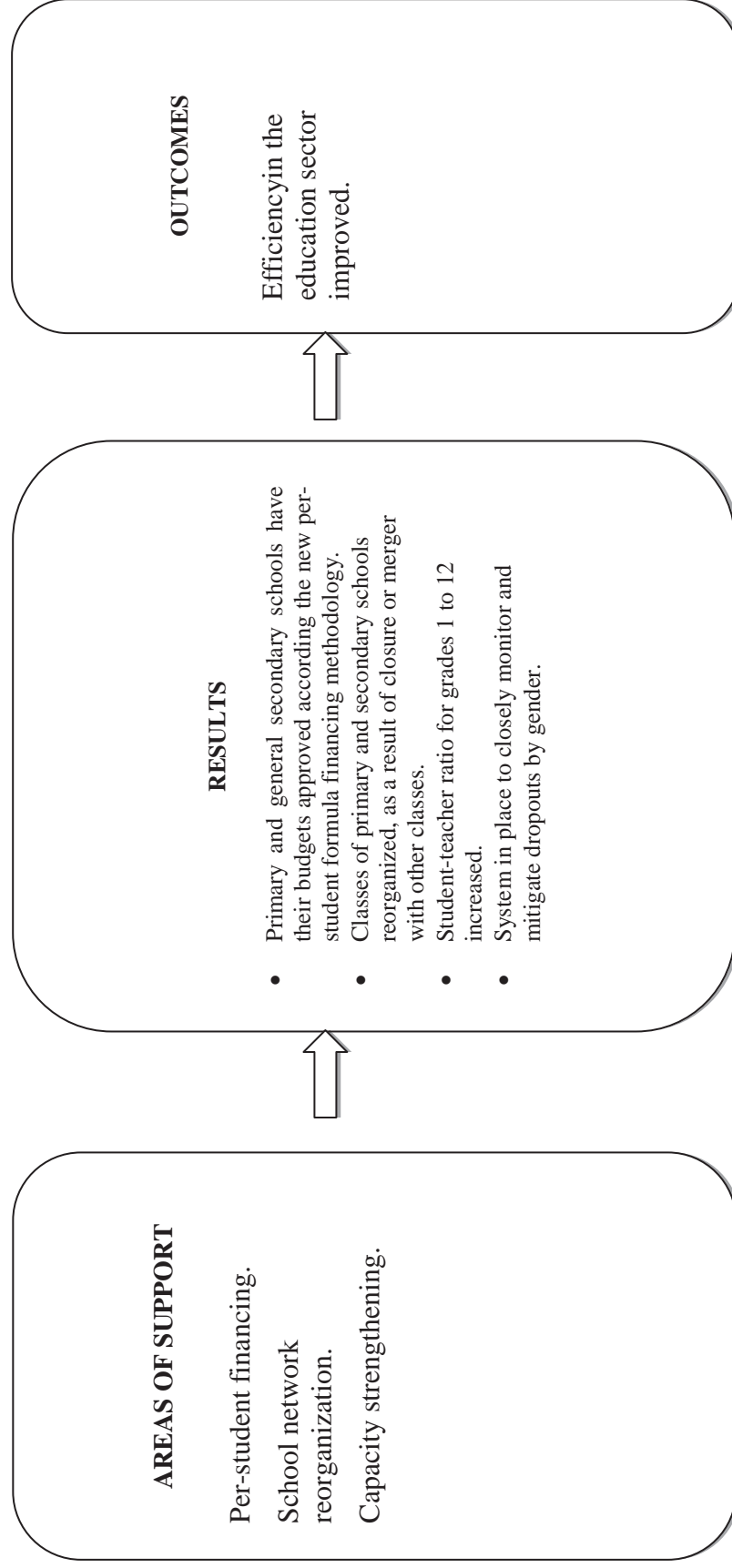


Figure 2. Results chain (part 2)



Annex 3: Implementation Arrangements

Moldova Education Reform Project

Project Institutional and Implementation Arrangements

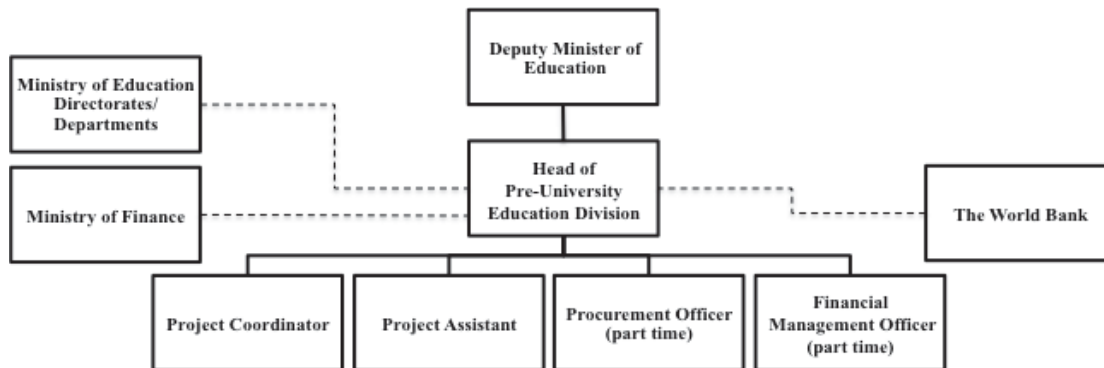
1. The MoE is in charge of carrying out the education reform program and the Project which is to be implemented over a period of five years, between 2013 and 2018. The Project components 1 and 2 will support these reforms in the education sector under a results-based approach. For Component 3, which is all TA to support MoE implement the first two components, traditional disbursement procedures will be used to execute expenditures supporting the implementation of technical assistance activities.

Project administration mechanisms

2. The MoE will be the main implementing agency for the Project. Project implementation will rely primarily on the existing structures of the MoE and the activities proposed under the Project will be part of the everyday work of its staff. For this reason, the Project will not require the establishment of a parallel structure or a full scale PIU. Instead, a group of local consultants comprised of one Project Coordinator, one Project Assistant, one Procurement Officer, and one Financial Management Officer will be hired for the purposes of the Project only. The last two consultants will be hired under part time contracts.

3. The Project Coordinator will report to the Head of the Pre-university Education Division of the MoE, who reports to the Deputy Minister of Education. The Project Administrative Assistant, the Procurement Officer and the Financial Management Officer will report to the Head of the Pre-university Education Division of the MoE. The diagram below reflects the MERP implementation arrangements.

Figure 3. MERP Implementation Arrangements



4. The performance-based nature of the Project and its strong reliance on timely and accurate information exchange will imply regular interaction among the key MoE units, the MoF and the World Bank. To ensure the smooth coordination of project implementation and communication among the major actors, the Project Coordinator will be the main liaison with the World Bank and will be responsible for:

- monitoring the achievement of the DLIs;
- compiling and delivering the evidences of compliance to the World Bank; and
- coordinating with the MoF for the corresponding disbursement request.

5. The MoE has been in charge of implementing the ongoing QERM Project without the assistance of an independent Project Implementation Unit with some external TA. Therefore it is entirely realistic that the MoE will implement the proposed Project, with some capacity strengthening. The Project will finance strategic TA to build MoE capacity, including supporting the monitoring and achievement of DLIs.

6. The MoE will prepare a POM with technical support from the World Bank, before Project effectiveness. An advance draft of the POM was ready at negotiations. This POM details the responsibilities of the MoE and MoF, as well as the DLI protocols. Procurement and Financial Management assessments conducted during project preparation have identified the specific functions that government units will need to play for each of the fiduciary requirements, and pinpoint areas where the World Bank's assistance could help enhance the systems' capacity to implement proper fiduciary procedures. The POM will include remedial actions to address any deficiencies of the current systems.

Financial Management, Disbursements and Procurement

Country Issues

7. The Bank has extensive knowledge of Moldova's Public Financial Management (PFM) system. The *2008 and 2011 Public Expenditure and Financial Accountability* (PEFA) assessments noted that Moldova has made substantive progress in improving the quality of the country's PFM systems, processes and institutions. This analysis measured the performance of Moldova's public financial management system, as well as provided the basis for discussion regarding further improvements in public financial management. The PEFA assessment concluded that Moldova has an effectively functioning fiscal and budget management system, which has enabled the Government to finance and execute a budget delivering public services to the general population. Furthermore, the Government has launched a number of reforms aimed at increasing transparency of public finance and Moldova scores relatively well on budget credibility, comprehensiveness and classification, treasury operations (including budget, payroll and expenditure controls), in-year reporting and public access to government budget and financial information.

8. While progress has been made in a number of areas, the Government continues to address remaining weaknesses and to advance on its reform agenda, which includes: (i) budget preparation and execution (including harmonization with European Union standards); (ii) accounting and reporting; (iii) development of FMIS and cash management; and (iv) internal auditing. PFM related training and technical assistance for the Court of Accounts is under implementation and the dialogue on procurement reform agenda is ongoing. A number of existing instruments have already been mobilized through a concerted multi-donor effort and continue to support the Government's critical PFM agenda.

Risk Assessment and Mitigation Measures

9. The overall financial management risk for the project is rated as *substantial* (see the table below). While capacity constraints continue to be a problem in Moldova, the country's PFM systems and institutions are particularly well advanced, are based on and utilize modern legal and operational frameworks (including reporting, audit and oversight), and are performing well. The result is that the country's own fiduciary framework (including regulations and reporting requirements, internal audit and internal control, performance of the Court of Accounts) provides sufficient inherent mitigation measures to support the financial management arrangements for this operation and to reduce the residual risk to a moderate level.

Risk	H	S	M	L	Comments, Risks & Mitigation Measures (as needed)
Inherent Risks:					
Country level (FM-PFM)		X			Well-functioning PFM systems, with strong donor support for on-going reform program(s)
Entity level (MoE)		X			Weak technical FM capacity in Ministry – relevant FM functions for this operation are mostly performed by the MoF
OVERALL INHERENT RISK		X			
Control Risks: (Project level)					
Budgeting		X			
Accounting			X		
Financial Reporting			X		
Flow of Funds			X		
Internal Controls/Audit		X			
External Audit			X		
OVERALL CONTROL RISK			X		

Implementing Entity

10. The technical dimensions of this operation will be managed by the MoE. As this operation relies heavily on the country's PFM systems, the financial management dimensions will be the responsibility of the MoF. The MoF will execute the budget transfers to rayons and facilitate that local government transfer budget resources to the schools within their jurisdiction. While schools and local governments regularly report on the receipt of transfer and utilization of budget funds, the MoF will also be responsible in monitoring that the budget reporting is regular, timely and in compliance with statutory reporting requirements.

Budgeting and Planning

11. The MoF staff has been preparing and monitoring annual budgets for the block transfer budgets program for several years. The annual program budgets are prepared in accordance with the architecture of Moldova's budget classification system. The delegated budgets are transferred on a monthly basis to municipalities, which in turn transfer the resources to the schools within their jurisdiction.

12. Given the composition of this block transfer budget,²¹ rayons have a very limited degree to interfere with the budget transfers for the schools as the allocations are determined (through the budget formulation process) on a transparent formula (which is based on norms included in the annual official Budget Act).

13. The existing transfer system will be the basis for reimbursements under this operation – for components 1 and 2. The budgets will continue to follow the existing procedures for approval, reporting (on budget execution) and monitoring. The approved annual budgets are entered into the accounting system and used for periodic comparison with actual results as part of the interim reporting. The process of compiling budget data and approval will continue in the same manner, with municipal budget data available by month and quarter.

²¹ The general allocation of the block transfer budget is approximately 70 percent for education.

Accounting Staffing

14. The accounting staff within MoF and at the rayon and schools levels complies with the statutory requirements on qualifications and experience. Typically, large urban schools have an accountant on staff. Other schools (semi-urban and rural) engage in cost-sharing and utilize a practical process whereby an accountant provides financial services to a few schools in close geographical proximity. The Bank team observed a high-level of compliance by public officials (including school directors and accountants) with national budget management and reporting requirements (though simplified).

15. While the MoF staff is familiar with Bank disbursement requirements, additional training will be needed and will be provided (as part of overall implementation support provided by the Bank team) for the staff in the MoE.

Accounting Policies and Procedures

16. The operation will utilize the existing Moldovan budgetary accounting policies, procedures and systems. The Project's accounting and budgetary transactions/records will continue to be maintained on a modified cash basis and denominated in Moldovan Leu (MDL). The operation will rely upon the existing accounting procedures and internal control framework to ensure that all procedures and controls are adequately documented, contract monitoring and invoice payment procedures are consistently adhered to and documented.

17. The controls over payroll and employment records are robust (teacher payroll records, including timesheets and employee rosters, are managed by rayon governments and are closely monitored by MoF/MoE, as well as by the Financial Inspection and the Court of Accounts). The main accounting and transaction controls relate to the existing standard checklists that are used and which have to be filed up for each budget engagement and payment and approved by the relevant financial controller.

Funds Flow and Disbursements

18. Under component 1 and 2, the Government expenditure program (teacher's salaries) will continue to be executed in its current form, with the full program funding provided by the state budget through the Treasury. Disbursements from the Bank credit will reimburse a portion of the program's eligible expenditures (teacher salaries).

19. Disbursements under components 1 and 2 for this operation will be report-based and as such, will utilize the budget reports generated by the treasury system. These reports show both the planned transfers for the year (disaggregated by month) and the actual transfers executed to-date. Disbursements can be requested whenever the [predefined] disbursement linked indicators have been met, as certified by the task team. Withdrawal applications will be sent by the MoF, for the amounts defined for each disbursement linked indicator, accompanied by the relevant quarterly budget and treasury reports and documentation for the achievement of DLIs.²²

20. Under Component 3, traditional disbursement procedures (statements of expenditure) will be used to execute expenditures supporting the implementation of technical assistance activities. A project Designated Account (DA) will be opened by the MoF and registered in the Treasury, and will form part of the Single Treasury Account (as is the case for all investment loans in Moldova). The funds will flow from the Bank to the DA and the funds will be used to support contract and other project expenditures under this component.

²² The protocols for measurement and validation for each DLI can be found in Annex 2.

Reporting and Monitoring

21. Quarterly Interim Financial Reports (IFRs) will be used for both disbursements (under components 1 and 2), as well as for monitoring and supervising this operation (all components). The quarterly IFR reports will include the expenditures for the entire program and will consist of two basic parts.

22. One part of the IFRs will be the Treasury budget report generated by the MoF (see section above on disbursement). Additionally the IFRs will include a summary of budget reports produced by rayons and which are sent to the MoF each quarter. These reports aggregate rayon-based expenditure data (each school is required to submit a detailed expenditure report to the rayon every month and for the quarter) but show details by type of expenditure (i.e., salaries, operating costs, etc.) in compliance with the national economic budget classification.

23. In the second part, the IFRs will also have a separate section to report on the technical assistance component of the operation and this section will follow the more traditional formats (reporting by category and activity-level detail, sources and uses, and a reconciliation of the designated account for technical assistance).

24. Rayons retain all detailed expenditure information for the schools in their jurisdiction. For the purposes of monitoring this program, it is not necessary or required to have detailed school-level expenditure information included in the quarterly reports submitted to the Bank, though the Bank may review such level of detail during the course of supervision of the operation.

External Audit

25. The Court of Accounts (CoA – Moldova’s Supreme Audit Institution) audits of the MoF reviews the transfers executed during the year (including the transfers for the block transfer budget), but does not include an audit of the expenditures. The work of the CoA is a combination of compliance and financial auditing, and the CoA covers approximately 50 percent of the rayons each year and over a two-year period, the all rayons will have been audited. The Bank team is continuing to work with the CoA to develop a more robust methodology and scope so that it will have the tools and means to conduct a financial audit of education expenditures, based on sound sampling and risk-based techniques, in order to issue an opinion on the program financial statements each year.

26. The following table identifies the audit reports that will be required to be submitted together with the due date for submission.

Audit Report	Due Date
Program financial statements	Within six months after the closure of the fiscal year which is at the end of December each year; and also upon the closure of the project

Procurement

27. There is limited and only small to medium value consulting services procurement involved in the implementation of the project component 3, which comprises entirely of TA and will be disbursed using traditional SIL disbursement methods.

28. An assessment of the capacity of the MoE to implement procurement actions was carried out in October 2011. The assessment reviewed the organizational structure for implementing the proposed

Project and the interaction between project staff responsible for procurement. A procurement risk assessment for the proposed Project was also conducted in October, 2011, and the overall MoE procurement risk is rated *low* taking into account the discussed and agreed mitigation measures.

29. Procurement for the activities to be financed under component 3 will be entirely implemented by the MoE. Applicable Guidelines will be: (i) Guidelines for Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, edition of January 2011; and (ii) Guidelines for Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers (January 2011). For Consultant selection under the proposed Project, the Bank's Standard Request for Proposals (RFP) would be used, where appropriate. Component 3 will include consultant services, logistic services for organizing training, and study tours. The training plan will be developed by MoE on an annual basis and agreed with the Bank. The study tours will be agreed with the Bank on a case by case basis upon submission of the description and objective of the study tour, list of participants and estimated cost. The Terms of Reference would be developed by the relevant departments within the MoE. All Terms of References shall be subject to Prior Review.

30. The Recipient developed a Procurement Plan for the first 18 months of project implementation, which provides the basis for the procurement methods. This plan was agreed between the Recipient and the World Bank at negotiations and its final version will be available in the project's database and on the Bank's external website. The Procurement Plan will be updated by the project team, at a minimum, annually or as required to reflect the actual project implementation needs and improvements in the implementing agency institutional capacity. Updated Procurement Plans will be submitted to the World Bank for its approval. The detailed Procurement Plan, once agreed with the Borrower, should be published in the Bank website in accordance with the Guidelines.

31. It is recommended that the procurement thresholds for procurement of services and consultancy contracts are set in accordance with the latest ECA regional thresholds. In addition to prior reviews, to be carried out by the World Bank, the Bank will undertake one supervision mission per year to carry out post review of procurement activities. The percentage of contracts which will be reviewed is 10 percent of the total number of contracts signed which were not subject to prior review. The first post review will be done six months after hiring of the Project Procurement Officer. All procurement functions will be delegated to the Procurement Officer who will work part time for the Project and has experience in using Bank's procurement procedures.

Environmental and Social (including safeguards)

32. The Project is not expected to trigger social safeguard policies. However, due to the nature of the reforms being supported by the Project, which have to do with the movement of children from small schools to larger ones outside of their villages, a non-safeguard social assessment was undertaken at preparation and will be repeated at mid-term as part of Project supervision. The social assessment included focus group discussions with parents and students, and in-depth interviews with teachers, principals and mayors from closed or reorganized schools and was conducted in four rayons between December 2011 and January 2012. The four rayons represent different stages of the reform: (i) Riscani (North), where per student financing formula has been implemented already; (ii) Calarasi (Center), where per student financing began as of January 2012; and (iii) Cahul and Cimislia (South), where per student financing has not yet been applied but school reorganizations have already taken place.

33. The assessment looked into a range of potential social concerns with school reorganization. These include the following: (i) availability of information and understanding of the reform by parents, students and teachers; (ii) administration and logistics of the transfer of students to a new school; (iii) transport and safety; (iv) vulnerability to drop-outs; (v) perceptions of school quality in the context of the

reform; (vi) employment continuity for teachers and non-teaching staff; and (vii) fairness and overall impact on the community. The assessment concluded that there is no overwhelmingly positive or negative attitude toward the reform. However, social attitudes seem to be closely linked with: (i) the level of parents' participation in decision-making; and (ii) the availability of clear rules, grievance mechanisms, and timely information on school closures. The importance of parents' support and participation in making the reform successful points to the possibility that children living without parental supervision, from single-parent families or living with sick or alcoholic parents may be more vulnerable to dropping out of school as a result of the reform. Attending school in a different locality requires a greater effort and more consistent supervision on the part of parents. Such students will require additional attention and support to ensure continuous attendance.

34. *Information and Participation.* A significant amount of frustration and opposition to the reform reportedly stems from the lack of timely decisions (made by authorities) and information on classroom closures. In all of the studied communities, where closures have occurred without adequate consultations, the final decision to close was taken and communicated to parents a few days before or even after the beginning of the school year. This lack of certainty does not allow parents sufficient time to prepare for school transfer and organize things such as transport, supervision of children, food and interaction with the new teachers. Resentment was found greatest in cases where parents have invested in school renovations over the summer only to find out in September that there is no other option but to close the school. Often the reason for this lack of communication is the reluctance of principals, mayors, and rayon education authorities to make a final decision on school closure and communicate it clearly when faced with parental opposition.

35. Parents receive information about the reform partly through public meetings with education authorities, and partly through the media. It was found that the most important influence on their understanding of the reform comes from daily interactions with local authorities/mayor, principals and teachers. It is interesting to note that in place where formal meetings have been held, people understood (from the meetings) that the reform is necessary due to cuts in the education budget. Per student financing was also seen by parents as a mechanism introduced because of insufficient budget rather than as a way to modernize the school system, decentralize decision making and provide higher quality education in the long run. This illustrates that the key messages are not getting through to the communities. It is important to send a consistent message to local authorities. Schools in a neighboring community where children are made to transfer do not always have better facilities from the outset, hence the more persuasive argument for moving to a better building does not always hold.

36. *Perceptions of School Quality* is strongly influenced by the level of support and participation of parents. In almost all the case studies, parents and students agree that the reform will result in better quality due to a more competitive environment and better school facilities (not necessarily better teachers). This has a few caveats that were noted repeatedly: (i) commuting students currently cannot participate in any extracurricular activities (dance, art, sport, foreign language) as they need to take the bus home at a specific time; (ii) negative attitudes from teachers and students (to the changes) in the receiving schools seems to have caused perceived lower performance; and (iii) bigger class size and less attention from teachers as 'newcomers' in the new school are also perceived as detrimental to quality. As noted above, parents who have transferred their children on their own initiative report a much higher satisfaction with the quality of the new school relative to those where transfers have occurred involuntarily.

37. *Transport and Safety* issues are generally quoted as primary obstacles to implementing school reorganization. Yet, in the social assessment study, most of the frequently reported problems with regard to transport are believed to be resolvable with some planning adjustments and stronger attention to accountability/redress measures for parents. These issues include: (i) lack of proper bus stop with children having to wait in the open in rain and snow; (ii) unreliable or inflexible drivers with parents

feeling that they have no control over drivers' schedule or behavior; (iii) lack of reliable list of students who should be transported and a supervisor or responsible person to check this list daily; and (iv) no flexibility on the bus schedule to accommodate extracurricular activities or differing class schedule of younger and older students. Another issue is insufficient bus capacity with upper classmen (7, 8, 9th grade) sometimes having to walk even though transport should be guaranteed until the 9th grade. Stronger involvement of parents in setting bus schedules and communicating with drivers – including an accountability/redress mechanism accessible to parents – could help resolve some of the common frustrations with transportation.

38. Vulnerable students, mostly cited as those from single-parent households, living without parental control or with alcoholic or ill parents, are naturally at higher risk for low attendance and dropout. This will be the case regardless of school reorganizations. These students are mostly known in their communities. But they are not known in the community of their new school; hence, the involvement of a supervisor/teacher and cooperation with social assistance workers where relevant is especially important to encourage these students to continue education. Strengthening the Ministry's capacity to monitor student drop-outs as is being done in the Project will help control this issue with mitigation measures encompassing information being shared regularly and action being taken at the local level.

39. Finally, *employment continuity for school staff* and *overall effects on the community* from school closure were discussed through the social assessment. In most cases, especially for those before retirement age, teachers have found some opportunity for alternative employment, but less attractive employment (kindergarten nurse instead of teacher, teacher with fewer hours, or a different position in a local industry). Offering staff positions in the receiving school is believed to be positive not only for the concerned employees but also to help students' integration in the new environment and serve as supervisors to students from their home community. The school reorganization will cause teachers to lose their jobs. However, following the approval of the package of legal amendments in April 2012, it is envisaged that the large majority of teachers who will be retrenched are retired teachers who will no longer eligible for 'open-ended' contracts. Indeed over the last decade, the share of such teachers in Moldova has continuously increased from around 6.6 to as much as 19.6 percent. Therefore, only where needed and relevant, retired teachers will be given term contracts on a need-to basis.

40. None of the respondents, with the exception of mayors, see a significant overall negative impact on the community due to the reorganization of the school system. At the same time, concerns with fairness of the reform were raised, namely, whether communities will be in a disadvantaged position if they decide to reorganize schools sooner than they are 'made to' and subsequently receive less funding and help by the state (e.g. new bus). These concerns were especially raised in the South where per-student financing is not yet introduced and buses or options for bus rentals have not been provided as yet.

41. In summary, the social assessment undertaken in three locations shows that there is no unanimity among parents, students or teachers regarding support for the reform. At the same time, there is an overall sense of confusion and misunderstanding of the grounds for reform, which is reinforced by lack of established procedures and grievance mechanisms that parents can invoke when in disagreement with regional education authorities. A minimum notice period before schools are closed, as well as the active involvement of parents in all decisions regarding students' transfer and commute (beyond informational meetings and consultations), are some of the actions that could easily be taken for a more successful implementation of the reform.

42. The assessment suggests that a public communications campaign should be realistic and consistent, letting parents know of their rights and obligations and encouraging them to take active part in planning all details of the process in their communities. A purely 'marketing' campaign that promises greater quality of education without involving parents in the process could only solidify current oppositions.

Monitoring and Evaluation

43. M&E is built into the design of the Project. Government systems will be strengthened under the Project and used to monitor progress toward outputs and outcomes. Since disbursement will require unequivocal evidence of compliance with the DLIs to be presented by the MoE, the GoM is expected to provide the requisite. The Project information attesting to performance in a timely and comprehensive manner. Annex 2 describes the protocols to evaluate compliance of each DLI.

44. The Project Coordinator will be in charge of overall M&E activities and this will be clearly detailed in the POM. The results matrix for the Project, which includes baseline and target values along with data collection and reporting procedures, can be found in Annex 1.

45. Most of the data related to the DLIs and the M&E system of the Project will be stored in the consolidated EMIS of the MoE, which will be financed under component 1 of the Project. As part of the TA provided by the World Bank to the MoE during Project preparation, an assessment of Moldova's EMIS was carried out. This assessment concluded that the best option for Moldova will be to improve the existing school mapping system²³ to transform this system into a full-fledged EMIS, a reliable tool for planning and policy dialogue. The assessment report's key recommendations for Moldova's EMIS are the following:

- rationalize existing data collection processes, by eliminating repetitive requests for educational data and avoiding duplication of information and lengthy process in compiling data;
- define procedures to minimize processing errors such as coding, editing, and uploading errors;
- redesign the data collection instruments;
- prepare accompanying guidelines to improve data collection processes by explaining how to fill out the related forms;
- develop new features and operations to improve the school mapping database and test them at all levels – MoE, rayons and schools;
- define minimum staffing standards for operating the school mapping database at all levels – MoE, rayons and schools; and
- provide adequate training on data provision, verification, and statistical analysis to staff members of the Informational Technologies and Didactic Provision Department of the MoE, the IT representatives of rayon education departments, as well as school directors and other school-level stakeholders.

46. In addition to the reliance on the EMIS, some of the data required for the DLIs, as well as the Project's M&E are available in systems outside the MoE (such as the systems maintained by the MoF and the National Bureau of Statistics). For example, the MoF's Treasury system contains data on school budgets, which will be cross-checked against data provided by the rayons to verify the percentage of schools whose budgets are approved on the basis of the new per student financing formula. However, the majority of data required for all project M&E activities will be collected by MoE staff in charge of the implementation of reform programs.

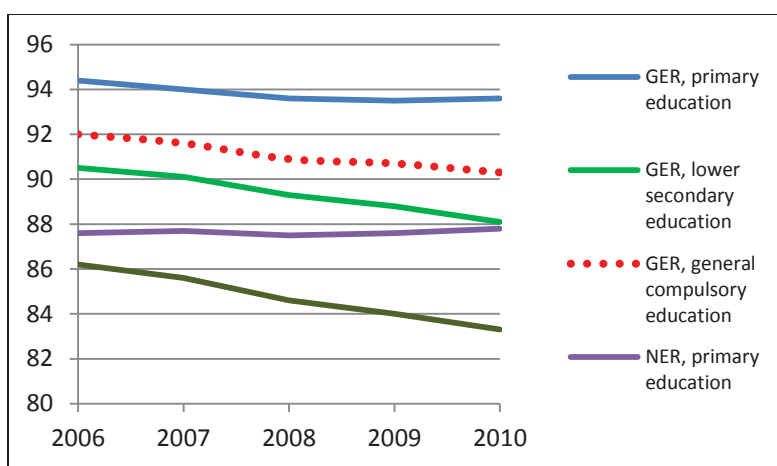
47. Monitoring of the structural reform of education is an important aspect of the GoM's reform program and of the Project. Based on experience observed in other countries in the Region, downsizing of the school network—while beneficial for improving educational quality and efficiency—could lead to

²³ The school mapping has been running for about five years and providing aggregate data at the school level, based on repetitive (3 times a year) requests for data without any accompanying guidelines for data collection. It is a web-based information system running on an acceptable hardware platform.

side effects such as student drop out or lower performance in school by students who are moved.²⁴ Therefore, it is important to study how reorganization of schools may impact students' access to education and their learning outcomes.

48. As discussed earlier, Moldova is not currently experiencing problems with access to primary education for both boys and girls—net enrollment rates have been stable at around 87.7 percent over the last five years. However, there may be an issue with coverage of compulsory lower secondary education. As shown in Figure 4, recent downward trends in lower secondary enrollment—net enrollment rates are down from 86.2 percent in 2006 to 83.3 percent in 2010, with comparable decreases for boys and girls—may be an early warning sign of an impending problem with access that will have to be closely monitored.

Figure 4. Gross/Net Enrollment Rates in Primary and Lower 1 Secondary Education in Moldova, 2006-2010



Source: NBS Moldova.

49. In order to monitor the risks of higher dropout rates, UNICEF and the World Bank have partnered with the MoE in establishing student registers in eight southern rayons of Moldova. Data from these registers, once linked with the consolidated EMIS, will be used in an impact evaluation of the effects of school reorganization and per student financing on enrollment and dropout rates. The baseline data²⁵ was collected in the summer of 2011 from 260 schools (representing 17 percent of the country's school network); furthermore, detailed characteristics on students' socio-economic status were collected from 77 of these schools that are candidates for closure or reorganization.²⁶ The work is now underway to identify and follow up with students who dropped out, which will be done through interviews and qualitative data collection from the affected households. Information generated through such an exercise will provide valuable insight on the underlying determinants of school dropout and will be used to design appropriate interventions to mitigate potential negative effects of the structural reform on student enrollment.

²⁴ *A Review of the Bulgaria School Autonomy Reforms*, World Bank, 2010.

²⁵ Around 17 percent of schoolchildren changed schools during a summer break in the South of the country, of which 78 percent graduated from school, 12 percent transferred to a different school, and 8 percent went abroad; for the remaining 2 percent reasons for not being in schools included: stay at home (sickness or poverty), work with parents or independently, etc.

²⁶ These are schools defined as "clear cut cases to close down" in the feasibility study *Policy options to support the school network optimization process in the Republic of Moldova Feasibility Study*, IPP, 2010.

Annex 4. Operational Risk Assessment Framework (ORAF)

Moldova Education Reform Project (P127388)

Project Stakeholder Risks													
<p>Stakeholder Risk</p> <p>Description:</p> <p>The Government of Moldova is committed to education reform. This commitment is illustrated by the passing in Parliament of a polemic package of legal amendments critical to the nationwide implementation of key reform interventions. The implementation of the reform however, directly affects communities, mayors, students, parents, teachers and school directors and there may be continued resistance from these groups.</p>	<p>Rating Substantial</p> <p>Risk Management:</p> <p>The MoE will continue on-going dialog through the consultations in Parliament and with communities--parents, teachers and students-- and make the ongoing social communications campaign stronger to ensure that parents are given enough notice of changes in schooling, provision of transportation for their children etc.</p> <table border="1"> <tr> <td>Resp: Client</td> <td>Status: Not Yet Due</td> <td>Stage: Both</td> <td>Recurrent: <input checked="" type="checkbox"/></td> <td>Due Date:</td> <td>Frequency: Yearly</td> </tr> </table> <p>Risk Management:</p> <p>The findings of a social assessment conducted as part of Project preparation would be incorporated into Project design.</p> <table border="1"> <tr> <td>Resp: Both</td> <td>Status: Not Yet Due</td> <td>Stage: Both</td> <td>Recurrent: <input type="checkbox"/></td> <td>Due Date: 31-Aug-2018</td> <td>Frequency:</td> </tr> </table>	Resp: Client	Status: Not Yet Due	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Yearly	Resp: Both	Status: Not Yet Due	Stage: Both	Recurrent: <input type="checkbox"/>	Due Date: 31-Aug-2018	Frequency:
Resp: Client	Status: Not Yet Due	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Yearly								
Resp: Both	Status: Not Yet Due	Stage: Both	Recurrent: <input type="checkbox"/>	Due Date: 31-Aug-2018	Frequency:								
Implementing Agency (IA) Risks (including Fiduciary Risks)													
<p>Capacity</p> <p>Description:</p> <p>The MoE would not have the support of a full Project Implementation Unit and may lack capacity to meet a few of the more technical DLIs which would put the entire Project in jeopardy. There may not be just in time support to schools and rayons to implement the actual reform measures.</p>	<p>Rating Moderate</p> <p>Risk Management:</p> <p>A new MoE organogram which provides for both additional staff and a Deputy Minister in charge of the reform program has been approved. In addition, an Additional Financing (AF) to the ongoing IDA-financed Quality Education in the Rural Areas was approved in March 2012. The AF which is to be implemented until November 2013, provides strategically placed TA to the MoE to both continue on going interventions having to do with the reform program but also to prepare the technical aspects of the DLIs.</p> <table border="1"> <tr> <td>Resp: Client</td> <td>Status: Not Yet Due</td> <td>Stage: Both</td> <td>Recurrent: <input type="checkbox"/></td> <td>Due Date: 31-Aug-2018</td> <td>Frequency:</td> </tr> </table>	Resp: Client	Status: Not Yet Due	Stage: Both	Recurrent: <input type="checkbox"/>	Due Date: 31-Aug-2018	Frequency:						
Resp: Client	Status: Not Yet Due	Stage: Both	Recurrent: <input type="checkbox"/>	Due Date: 31-Aug-2018	Frequency:								

Governance	Rating	Substantial				
Description: Moldova's corruption index, as measured by Transparency International, was 2.9 in 2010, ranking at place 105. There are significant governance challenges including insufficient checks and balances between legislature and executive power, and regulatory barriers to competition.	Risk Management:	Governance as a cross-cutting theme would be strengthened to ensure enhanced accountability and transparency. The World Bank through its analytic work and lending in private sector and financial management sectors as well as a DPL series, is helping to strengthen central public administration, public financial management and procurement systems, which will remain essential as core areas of GAC importance, given the GoM's goal of European Union integration.				
	Resp: Bank	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
	Risk Management:	The World Bank's fiduciary team carried out a capacity assessment during preparation and World Bank staff would provide technical assistance to the MoE during implementation to ensure that country systems are functioning effectively.				
	Resp: Bank	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
Project Risks	Rating	Moderate				
Description: There is limited understanding of the performance based modality within MoE. In addition, since credit proceeds would be disbursed directly to the Treasury, the MoE would not receive any additional budgetary incentives to implement the Project.	Risk Management:	The preparation task team has discussed this modality throughout preparation and continues to do so. Additionally, project preparation has focused on: (i) ensuring that the DLIs are realistic, measurable, well specified and verified by all; and (ii) ensuring that the Treasury systems and reporting are adequate. The Project would ensure that there is a flow of funds to the Treasury which in turn would also guarantee a steady flow of funds to the education sector. Furthermore, Component 3 has limited TA and capacity building geared towards MoE and would be disbursed directly to their Special Account.				
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input type="checkbox"/>	Due Date: 31-Aug-2018	Frequency:

<p>Social and Environmental</p> <p>Description: No environmental, resettlement or indigenous safeguards are triggered by the proposed project. There is some (low) social risk posed by the reorganization of schools and general downsizing of the education sector.</p>	<p>Rating Low</p> <p>Risk Management: A social assessment has been undertaken during preparation to develop mitigation measures for any possible social risks. The findings of the social assessment are inconclusive but do point towards the need for a strong, realistic and regular social communications campaign especially at the village level. Other findings of the social assessment would be incorporated into Project design.</p> <p>Resp: Status: Stage: Recurrent: Due Date: Frequency: Bank In Progress Preparation <input type="checkbox"/> 15-Jun-2012</p>
<p>Program and Donor</p> <p>Description: The GoM has agreed with the IMF on a MTBF for education which forces MoE to cut its budget and reduce the percentage of education spending of GDP over the next three years.</p>	<p>Rating Substantial</p> <p>Risk Management: The MTBF for education as already been agreed to by the two parties—MoF and the IMF. The proposed Project would assist the MoE in identifying the priorities for the sector. The World Bank’s team with the MoE and MoF would continue to provide implementation support and evidence based analytical work that illustrates the benefits of school optimization and per student financing towards improving the quality of education.</p> <p>Resp: Status: Stage: Recurrent: Due Date: Frequency: Both In Progress Both <input checked="" type="checkbox"/> Yearly</p>
<p>Delivery Monitoring and Sustainability</p> <p>Description: Given the experience around the region with efficiency reforms that are proposed in the Project, there is a moderate risk that measures taken would overturn.</p>	<p>Rating Moderate</p> <p>Risk Management: The MoE with support from the World Bank would set up a consolidated Education Management Information System that assists reliable and valid data keeping which in turn will help the MoE monitor reform progress. Furthermore in terms of sustainability, once the schools and communities benefit from improved school and better quality education (immediately visible with the provisions of schools buses and teaching learning materials), they are more likely to support the reform thereby making long-term sustainability more likely.</p> <p>Resp: Status: Stage: Recurrent: Due Date: Frequency: Client Not Yet Due Implementation <input type="checkbox"/> 31-Aug-2018</p>

Other (Optional)	Rating	
Risk Management:		
Description:	Resp:	Status:
		Stage:
	Recurrent:	Due Date:
	<input type="checkbox"/>	Frequency:
Other (Optional)	Rating	
Risk Management:		
Description:	Resp:	Status:
		Stage:
	Recurrent:	Due Date:
	<input type="checkbox"/>	Frequency:
Overall Risk		
Implementation Risk Rating: High		
Comments:		
The reform measures remain controversial and tough to implement fully. Possible risks during implementation are: reform measures being overturned or ineffectively implemented; lack of capacity to implement aspects of the Project; and, low disbursements. The MoE would require substantial implementation support through the technical assistance provided in Component 3 of the Project and the World Bank's task team.		

Annex 5: Implementation Support Plan

Moldova Education Reform Project

Strategy and Approach for Implementation Support

1. The strategy for the Implementation Support Plan of the Project will include regular dialogue with the GoM, joint review of project implementation and regular oversight of project fiduciary activities, which includes detailed analysis of protocols to verify compliance with DLIs. Regular dialogue and implementation support will facilitate early identification of problems and obstacles and will enable timely provision of technical advice and support to remove such obstacles. Joint reviews will take place twice a year, aimed at reviewing the progress and achievement of agreed results. Given the innovative nature of linking disbursements to the achievement of specific development indicators, a new Project implementation modality for the MoE, dialogue and strong implementation support will be critical to the success of the Project.
2. With regard to the supervision of fiduciary aspects of the operation, the World Bank will conduct risk-based financial management supervisions, at appropriate intervals. As a member of the task team, an accredited Financial Management Specialist will participate in regular project supervision. Additionally, the World Bank's team will continue to work with the Government (particularly MoE) to further improve its financial and budget management capacity and performance, including its ability to monitor and oversee all education expenditures which are delegated to lower tiers of Government and schools. During project implementation, the World Bank will supervise the Project's financial management arrangements in the following ways: (i) review the program's quarterly interim financial reports as well as the annual audited financial statements and auditor's report and remedial actions recommended in the auditor's management letters; and (ii) during the World Bank's on-site supervision missions, review the following key areas: project accounting and internal control systems; budgeting and financial planning arrangements; disbursement management and financial flows, as applicable.
3. The table below presents the implementation support plan for the Project.

Implementation Support Plan

4. Implementation timeline and support

Time	Focus	Skills needed	Resource estimate	Partner role
First 12 months	Technical support: Concept of the standards for receiving schools	Education Specialist		Not applicable
	EMIS improvement to transform the existing system into a tool for policy making and planning, and for reform monitoring	Education Specialist/EMIS Specialist/Consultant		
	Monitoring of drop outs	Education Specialist/Economist		
	Implementation of the new per student financing	Education Specialist/Economist		

Time	Focus	Skills needed	Resource estimate	Partner role
	<p>Implementation of social marketing campaigns in support to the reform</p> <p>Fiduciary oversight: Protocols to verify compliance with DLIs</p> <p>Financial Management, including support for MoE capacity development</p> <p>Procurement</p>	<p>Education Specialist/PR Consultant</p> <p>Education Specialist</p> <p>Financial Management Specialist</p> <p>Procurement Specialist</p>		
12-60 months	<p>Technical support: Implementation of standards for receiving schools</p> <p>Work plan to update the existing program for training of school directors and teachers</p> <p>Study on new remuneration program of school directors and teachers</p> <p>EMIS improvement to transform the existing system into a tool for policy making and planning, and for reform monitoring</p> <p>Monitoring of drop outs</p> <p>Implementation of the new per student financing</p> <p>School network restructuring</p> <p>Implementation of social marketing campaigns in support to the reform</p> <p>Fiduciary oversight: Protocols to verify compliance with DLIs</p>	<p>Education Specialist</p> <p>Education Specialist</p> <p>Education Specialist/Economist</p> <p>Education Specialist/EMIS Specialist/Consultant</p> <p>Education Specialist/Economist</p> <p>Education Specialist/Economist</p> <p>Education Specialist/Economist</p> <p>Education Specialist/PR Consultant</p> <p>Education Specialist/Institutional Consultant</p>		Not applicable

Time	Focus	Skills needed	Resource estimate	Partner role
	Financial Management, including support for MoE capacity development	Financial Management Specialist		
	Procurement	Procurement Specialist		

5. Skills mix required

Skills needed	Number of staff weeks	Number of trips	Comments
Task Team Leader	20	8	
Economist	12	0	Local World Bank staff
Education Specialist	8	4	
Assessment Specialist	4	2	
EMIS Specialist/Consultant	10	6	
Program Assistant	5	0	Local World Bank staff
PR Consultant	4	4	
Procurement Specialist	10	4	Trips to be combined with other project support
Financial Management Specialist	10	4	Trips to be combined with other project support

Annex 6: Economic and Financial Analysis

Moldova Education Reform Project

1. This annex presents the economic and financial analysis of the Project in two parts. The first is a discussion of the macroeconomic and fiscal trends in education with a particular focus on the General Secondary subsector. The second summarizes the economic analysis carried out to identify the expected economic gains resulting from the implementation of the MERP project to support the structural reform in education.

Macroeconomic Context

2. Improving the quality, relevance, and efficiency of the education system is one of the main priorities of the Government of Moldova. After social protection, education makes up the second largest share of public sector expenditures. In 2009, spending on education in Moldova reached a record 9.4 percent of GDP, far higher than the European average of 5.5 percent. While partially attributable to the decrease in GDP as a result of the economic downturn, the expansion of education spending in absolute terms has also played a role. Between 2007 and 2010, education expenditures grew as a share of total government spending from 19.0 percent to 22.4 percent, reaching more than MDL 6.8 billion (US\$565 million) in 2011. At present, a high proportion of the education budget goes toward the financing of personnel expenditures and maintenance costs of school buildings (including expenditures on heating and utilities), crowding out much needed quality enhancing investment in capital and educational materials.

3. The GoM is committed to structural reform in the education sector in order to bring education spending on a fiscally sustainable footing, while improving the quality of the education being provided. The GoM's medium-term expenditure framework (MTBF) projects real GDP growth of 5 percent each year with inflation around 7 percent (slowing to 5 percent in 2013). Each year up until 2014, total education expenditures are projected to grow by an average of 5 percent per year in nominal terms (below the rate of inflation) compared to an average of 10 percent for all government spending. As a result, education spending will decrease as a percent of GDP from 9.4 percent in 2009 to 7.2 percent in 2014 while increasing in nominal terms from MDL 6.7 billion to around MDL 8.0 billion over the same period (see Table 5 below).

Table 5. Actual and projected government expenditure on education, 2007-2014

	2007	2008	2009	2010	2011	2012 E	2013 F	2014 F
Expenditure, MDL million	4,249	5,178	5,666	6,575	6,897	7,229	7,580	7,964
Percent of budget expenditure	19.0	19.8	20.7	22.4	21.2	20.2	19.3	18.5
Percent of nominal GDP	8.0	8.2	9.4	9.2	8.4	7.9	7.5	7.2

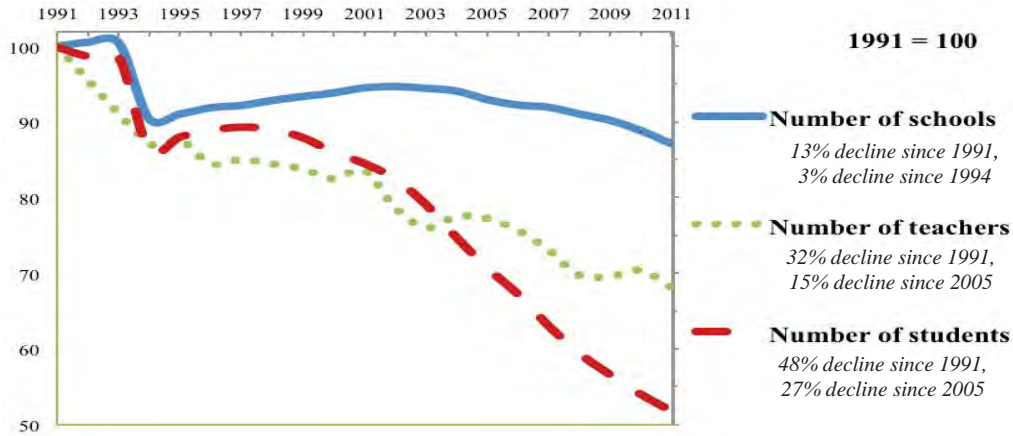
Note: E = Estimated; F = Forecast.

Source: Ministry of Finance.

4. The General Secondary Education (GSE) is the largest subsector, accounting for 52 percent of all education spending. It comprises 1,460 primary and secondary schools that provide education to around 380,000 of Moldova's students²⁷. Despite the fact that the demand for education at the GSE level has diminished dramatically in the last two decades as a result of declining birthrates and outmigration, the size of the country's school network did not adjust accordingly. Today, the system serves about half as many students as it did in 1991, while maintaining only 10 percent fewer schools (see Figure 5 below).

²⁷ In 2011/2012 school year according to the National Bureau of Statistics of Moldova data. Information on the current school year will only become available in March-April 2013.

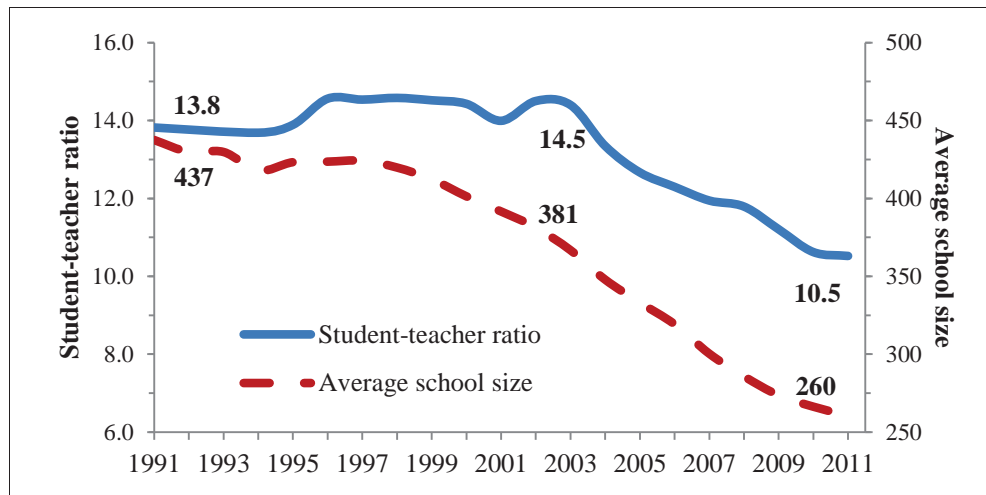
Figure 5. Trends in number of students, teachers and schools, 1991-2011



Source: CISSTAT, "Statistics of the Countries of the CIS", NBS Moldova.

5. As a result, common efficiency indicators—such as average school size and student-teacher ratio—show a steady decline. The average class size, for example, is lower by nearly three students than it was two decades ago, having declined from 13.8 in 1991 to 10.5 in 2011 (see Figure 6 below). As a result, Moldova currently maintains a large network of increasingly small schools—260 students on average compared to 437 in 1991—with the median school operating at 54 percent of the capacity for which it was designed (this number is lower in rural areas).

Figure 6. Student-teacher ratio and average school size in Moldova, 1991-2011



Source: CISSTAT, "Statistics of the Countries of the CIS", NBS Moldova.

6. Maintaining an oversized school network is wasteful and takes away much needed resources that could be better used in interventions aimed at raising the quality of education. The single biggest component of GSE spending is personnel costs, which accounted for 65 percent of overall expenditures in 2010, followed by payments for goods and services (23 percent of total expenditures), while capital spending and other recurrent expenditures amounted to 8 percent and 4 percent of the total, respectively (BOOST 2010). Within goods and services, spending on energy and fuel was a major driver of costs, followed closely by payments for food. The two categories comprised roughly two-thirds of goods and

services spending in education, with the remainder made up of expenditures on current repairs, office supplies, water and sanitation, transportation, communications and IT, books and teaching materials, etc.

7. Over the period of 2005-2010, per student cost in GSE subsector increased 3.3 times. However, larger budget allocations to education have not resulted in improvements in the quality of education. In international assessments of student learning, Moldova scores both below TIMSS, PIRLS and PISA averages and below its regional comparators like Russian Federation, Latvia, Lithuania, Armenia or Kazakhstan. According to the results of PISA 2009 Plus, around 60 percent of Moldova's students nearing the end of compulsory education lack the basic level of knowledge and skills essential in everyday life.

Economic analysis

8. As a results-based SIL, MERP has a number of benefits and economic gains which could be measured immediately in the course of the project implementation, as well as around the time of Project completion in 2018 (outlined in the DLI table and the results framework found in Annex 1). The most substantial benefit of the intervention is the gains in efficiency in the education sector. Through consolidation of the school network and increases in class size and school size, existing capacities will be used more efficiently, freeing up resources for quality-enhancing inputs.

9. The 2011 World Bank PER Policy Note estimates that at the end of a three-year phased process of consolidating the network total (annual) savings will amount to 7-8 percent of the general education budget (0.3-0.4 percent of GDP). These estimates include increases in expenditure for transporting children to hub schools; rehabilitating receiving schools; paying staff severance packages; and so forth (see Table 6 below). In addition to generating savings, there will be 30 percent fewer schools to upgrade to Western European standards, and 10-15 percent fewer staff.

Table 6. Estimates of costs and savings from school network restructuring program

	(MDL million)	2013	After 2013
COSTS associated with recommended measures		a. 178	b. 132
	c. Legislative changes	d. --	e. --
	f. Public information	g. 1	h. --
	i. Transportation	j. 132	k. 132
	l. Severance	m. 15	n. --
	o. School	p. 25	q. --
	r. Grants for teaching	s. 5	t. --
u. SAVINGS associated with		v. 392	w. 392
	x. Increase class size	y. 135	z. 135
	aa. Rural school	bb. 257	cc. 257
dd. NET SAVINGS		ee. 214	ff. 260
	gg. percent of General	hh. 6.6%	ii. 8.1%
	jj. percent of GDP	kk. 0.32%	ll. 0.39%

Source: World Bank 2011 PER Policy Note (medium savings projections).

10. The nationwide application of per student financing of education planned for 2013 will facilitate the restructuring of the school network with two main impacts: efficiency and equity. Per student financing is a key organizing principle in a set of reforms in general education designed to improve quality and efficiency. The previous input-based budgeting arrangement provided no incentives for schools to seek efficiency gains, as those gains were unlikely to benefit the school itself. However, under

a more flexible per student financing arrangement, school principals will be able to reallocate funds as they see fit within the budget envelope determined by the financing formula. According to the formula employed in Moldova, the same amount per weighted student is allocated to every school with additional fixed allocations given to all schools, regardless of the size. An analysis of school budgets in the two pilot rayons showed that the uniform fixed allocation funded small schools too generously compared to larger schools. Consequently, the revised formula regulations issued in 2011 now require that the ‘fixed’ allocation decrease steadily as the number of weighted students falls below the threshold level of 41 (primary schools) or 91 (other school types).

11. As part of this economic analysis, a simulation was conducted of the eventual impact of per student funding on school budgets. The results of the simulation show that about 40 percent of schools will experience *budget losses* (formula budget less than expenditure) of more than 2.5 percent, and of these 9 percent will have cuts in excess of 25 percent. Around 48 percent of schools will experience budget gains of more than 2.5 percent (of these, 10 percent will have a budget increase of over 25 percent); 11 percent of schools will have little or no change; only 1 percent of schools will suffer a budget loss of more than 50 percent (in absolute terms).

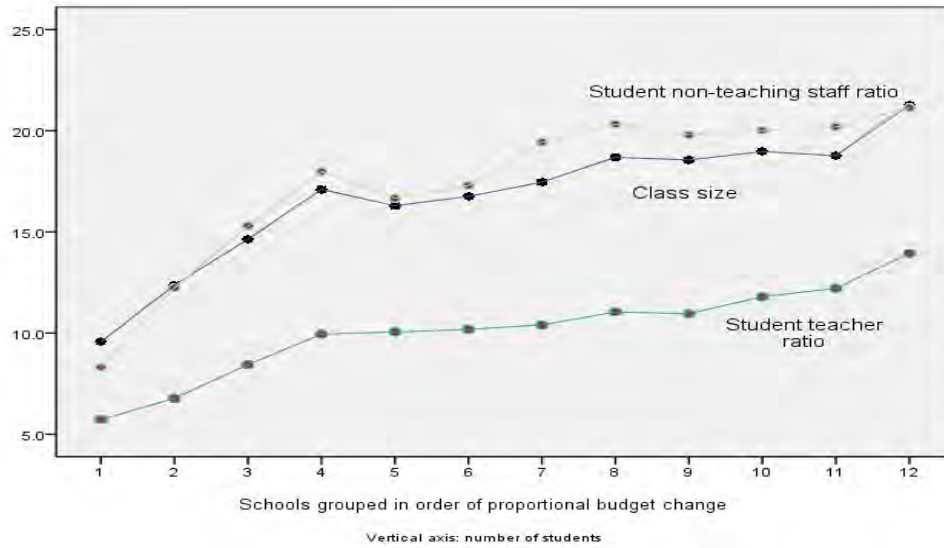
12. The size of the budget gain is found to be positively correlated with a number of school characteristics. These include: average class size, student-teacher ratio, the ratio of students to non-teaching staff, building capacity utilization, average number of students per grade, and total number of students. The proportional budget gain is negatively correlated with the present level of per student spending (see Table 7 below). This indicates that the new formula is more favorable to lower cost schools than was the old input-based financing system. The relationship between proportional budget change and the factors that are the prime drivers of per student costs—class size and the ratios of students to teachers and students to non-teaching staff—is consistent with this conclusion. All three variables generally rise in line with proportional budget change (see Figure 7 below). The index of community deprivation—which measures the relative level of well-being of the communities in which the schools are located—has a very small and statistically significant inverse correlation with proportional budget change, indicating that schools in more deprived areas tend to experience a positive budget change.

Table 7. Correlations between proportional budget change and variables related to cost per student or equity

Variable	Correlation coefficient
Average class size	0.34
Student teacher ratio	0.50
Student to non-teaching staff ratio	0.20
Building capacity utilization	0.08
Total expenditure per student	-0.52
Total number of students	0.13
Number of students per grade	0.14
Total expenditure	-0.12
Community deprivation index	-0.10

Note: All the correlation coefficients above are significant at the $p < 0.01$ level.

Figure 7. Proportional budget change in relation to class size, student-teacher ratio and student non-teaching staff ratio



13. The new formula is shown to promote efficiency, benefitting larger schools over smaller schools, and should therefore incentivize rayons and cities to reorganize small, costly, and inefficient schools. It also favors rural schools over urban ones, which in the case of Moldova suggests that the formula will promote efficiency by enabling urban schools to reduce costs by decreasing the number of small classes without impairing access. Overall, the uniform per student amount gives favorable efficiency incentives in the context of Moldova by encouraging rayons and cities to reorganize their school networks in order to ensure that schools can finance their costs within their respective budget allocations.

Cost-benefit analysis

14. The economic analysis reviews the impact of project interventions over a period of 20 years from the proposed project launch (2013-2032). The Net Present Value (NPV) of the potential savings related to the MERP project is calculated based on a discount rate of 10 percent.

15. The analysis has taken the framework of a traditional cost-benefit analysis but given the high uncertainty associated with predicting labor market outcomes of individuals 20 years from now (and linking those outcomes to investments made today), the analysis focuses on another potential benefit of the Project. Without the Project, there is a higher probability that the flow of resources envisioned for the education sector over the next 20 years will not result in much improvement in quality. With the Project, the proposed interventions (described fully in Annex 2) are likely to positively influence the learning outcomes and subsequent labor market performance of Moldova’s school graduates. For this reason, the methodology of the economic analysis is based on the underlying assumption that *as a result of MERP interventions, savings resulting from restructuring of the Moldova school network will be directed to quality-enhancing inputs, resulting in enhanced skills and competencies for Moldova’s students*. This scenario is compared to a situation where the government expenditures are kept at the same level but the lack of rationalization of spending brings less and slower improvement in graduating students’ achievements.

16. According to the PISA 2009 Plus reading assessment, only 15.2 percent of Moldova’s 15 year olds scored at *Level 3* or higher—much lower than the OECD average of 57.2 percent—the level of proficiency frequently required in the labor market. For the purposes of the economic analysis, the desired

level of skills and competencies of the students graduating schools in Moldova is pegged at level 3 and higher on the PISA scale for reading literacy. The economic effects associated with the implementation of the MERP components are then calculated in relation to the potential costs associated with the individual project components, as described below.

Component 1: Strengthening the Quality of Education

17. *Costs:* This component is aimed at improving standards for receiving schools, supporting the revision of the existing system for training and remuneration of schools directors and teachers, supporting the participation of Moldova in PISA 2015, and strengthening the national assessment system. These activities are likely to produce a noticeable increase in the general secondary education recurrent costs. However, the extra costs of these new initiatives will be offset by the savings generated from reorganizing the school network that are estimated in the range of 0.3 to 0.5 percent of GDP (IMF, World Bank 2011).

18. *Benefits:* Potential benefits are high. This component is expected to improve the quality of general secondary education through the development of better qualified teachers and school directors, who will contribute to achieving better quality outcomes and more efficient school administration. Introduction and achievement of new standards for receiving schools together with strengthened quality assessment system will also contribute to better education services for children, including those moved from poorly resourced schools to receiving hubs with better teachers and better facilities.

Component 2: Improving the Efficiency of the Education Sector

19. *Costs:* This component is aimed at eliminating excess capacity and creating a leaner education system that will be better equipped to provide the education that meets demands of the modern economy. The reform will encompass class, school and employment consolidation under careful monitoring of the dropout rates to ensure proper mitigation policies when required. The project will support the design of the mitigation policies to maintain access, and thus the additional recurrent expenditures are to be incurred for this component. However, reorganization strategies will be cost effective. Additional investments associated with school network reorganization including public information campaigns, transportation, severance payments, school rehabilitation and upgrade of teaching and learning materials are estimated to be lower than potential savings.

20. *Benefits:* Reorganizing the school network will yield savings in at least three areas: (i) reduction in teaching positions resulting from larger classes; (ii) reduction in non-didactic staff positions resulting from a decrease in the number of classes and number of educational institutions; and (iii) savings on operation and maintenance due to reduced utility expenses. School network restructuring will lead to improved education quality in the long-term through more efficient spending of resources allocated to the sector. The reform is estimated to save about 7 percent of the general education budget on a net permanent basis at the end of a three-year phased process of consolidating the school network.

Component 3: Improving the Ministry of Education's Capacity to Monitor the Reform

21. *Costs:* This component covers the technical assistance provided to the Ministry in order to enable it to properly monitor the proposed reforms. This intervention will require additional costs in the amount of US\$1.5 million under traditional disbursement methods over the five-year period (or around 0.5 percent of the annual recurrent expenditure on GSE education) aimed at building local capacity with necessary expertise and strengthening the existing EMIS to make it a reliable tool for planning, policymaking and monitoring of reform outcomes.

22. *Benefits:* Benefits of improving the monitoring capacity of the Ministry of Education are likely to be considerable. In the absence of the adequate flow of monitoring information, it is difficult to keep track of the developments in the sector, as well as to define and put in place sound education policies. Thus, the successful implementation of this component will contribute to improved quality, relevance and efficiency of the education system.

Baseline assumptions

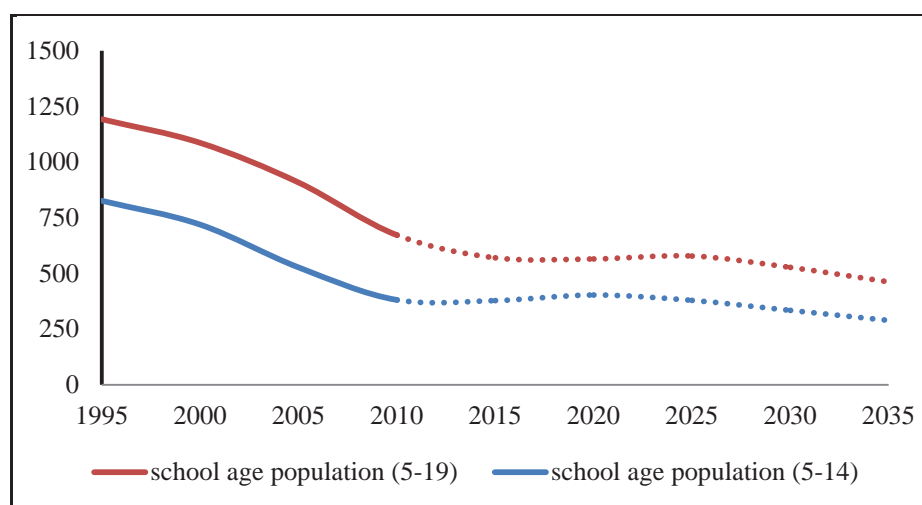
23. To quantify the likely benefits accruing as a result of the Project, a number of assumptions have to be made. Below is a list of the baseline assumptions used. The extent to which the results depend on the assumptions is discussed in the “Sensitivity analysis” section below.

24. It is assumed that total education expenditures will be in accordance with the currently available MTBF projections until 2014. In the subsequent period (2015-2032), it is conservatively assumed that the real annual growth of education spending is kept at a modest level of 3.5 percent (the base case scenario).

25. It is assumed that generated savings are reinvested into the sector for quality improvements. Estimated total annual savings at the end of a three-year phased process of consolidating the school network will amount to 7 percent of the general education budget, after accounting for costs for transportation of children and rehabilitation of receiving schools, paying staff severance packages, and so forth.

26. The United Nations (midpoint) population forecasts for the school age population ages 5 to 19 are used for the period 2010-2032 to assess the impact of the demographic transition facing Moldova. The projection suggests a further downward trend in school age population by about 22 percent in the next 20 years (from 672,000 in 2010 to 527,000 in 2030). However, a slight positive trend is observed for the school age population ages 5 to 14 in the medium term with 5.8 percent growth by 2020 (see Figure 8 below).

Figure 8. Forecast of school age population, thousands



Source: UN Population Division, 2010 Revision.

27. Two different assumptions on future net enrollment rates are considered. In the first case, the student enrollment is calculated assuming that the enrollment rates are maintained at 2010/2011 levels. In the second case, enrollment rates are assumed to rise gradually from 2016 to 2020 and remain at that level every subsequent year to reach 90 percent average net enrollment rate for grades 1-9.

28. It is assumed that in 2013 only 15.2 percent of the graduates from secondary schools in Moldova have acquired the “desired” quality of skills. This share is equivalent to the share of students whose scores on 2009 PISA reading test were Level 3 and higher.

29. It is assumed that the Project will result in an increase in the share of graduates obtaining the desired level of skills. The underlying assumption is that the share increases only gradually by 0.05 percentage point per year in both scenarios (with and without the Project) after 2017. However, under the Project, this increase is assumed to be more rapid by 1 percentage point per year after 2022 (i.e. five years after the project interventions). Without the Project, the share of graduates obtaining the desired level of skills is assumed to continue to gradually increase by the same 0.05 percentage points per year from 15.2 percent.

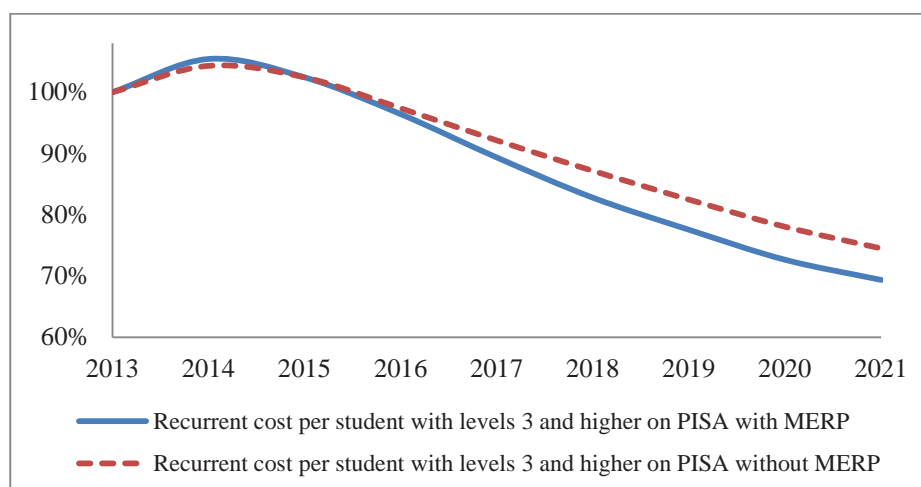
30. The student-teacher ratio is assumed to increase by 10 percent under the Project and to be maintained at this level of 11.5 students per teacher after the end of the Project (2018-2032). Without the Project the student-teacher ratio is expected to continue declining at pace of 0.25 percent per year.

31. A discount rate of 10 percent per year is used.

Results from the economic analysis

32. The analysis confirms that from economic perspective the Project’s investments of US\$40 million planned for the period 2013-2018, are well justified and that the project interventions are likely to bring economic savings vastly exceeding the project’s initial costs. The savings originate from: (i) rationalization of current spending that makes room for boosting capital outlays necessary for system upgrades; and (ii) the difference between the number of graduates obtaining the desired skills registered in the cases “with” and “without” the Project (see Figure 9 below).

Figure 9. MERP-related savings per qualified graduate



33. To obtain an estimate of the amount of savings under the Project, the gap in the costs is multiplied by the number of graduates obtaining the desired level in the two scenarios. In present-value terms, *these savings could reach US\$301 million or around 8.4 percent* of total recurrent spending over this period. Without the Project intervention, the recurrent costs per student will continue to be high as the proportion of the total GSE budget but funding for education will not translate into more graduates obtaining the desired skills. By contrast, these costs will be significantly offset as a result of the right-sizing of the school network envisioned under MERP.

34. Using the baseline assumptions discussed above, the potential savings are substantial. Even under the most conservative assumptions in the low case of the sensitivity, the project generates savings in the amount of US\$217 million for the whole period under review, equivalent to 6.8 percent of the total recurrent costs). Under the high case assumptions, the savings could reach US\$454 million or 9.5 percent of total recurrent costs (see Table 9 below).

Sensitivity analysis

35. The amount of the projected savings is sensitive to the assumptions used but in all of the three scenarios analyzed, the MERP project results in substantial savings. To examine the robustness of the results presented above, a wide range of different assumptions was examined. To summarize these tests, a “low case” is discussed below and compared to the base case and a comparative table of the low, base and high cases is shown.

36. In the low case scenario, it is assumed that the impacts of the MERP investments are muted. The investments are assumed to be slower in translating into higher learning outcomes of school graduates (starting in 2022). The investments have a smaller impact (i.e. they result in only a 1 percentage point increase in the share of secondary school leavers that obtained the desired skills set). It is assumed that the Government will be able to ensure 1.5 percent real annual growth in education spending under the low case scenario, 3.5 percent in the base scenario and 7 percent in the high case. If all other assumptions are kept unchanged, the three scenarios return the following parameters of savings in NPV terms:

Table 8. Summary of sensitivity test results

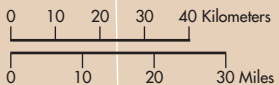
	Low case	Base case	High case
Total MERP savings (NPV) 2013-2032, million USD	217	301	454
Savings as percent of total recurrent expenditures (NPV), %	6.8	8.4	9.5

37. The array of possible sensitivity tests and scenarios that could be performed is significant and such simulations could be made upon request.



ROMANIA

UKRAINE



MOLDOVA

- SELECTED CITIES AND TOWNS
- ⊙ AUTONOMOUS TERRITORIAL UNIT CAPITALS
- ⦿ RAIONS OR MUNICIPALITIES CAPITALS*
- ★ NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- AUTONOMOUS TERRITORIAL UNIT BOUNDARIES
- RAIONS OR MUNICIPALITIES BOUNDARIES
- - - INTERNATIONAL BOUNDARIES

*Names of the raions or municipalities are identical to their capitals.

UKRAINE

Black Sea