ROMANIA

EDUCATION POLICY NOTE

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Summary: *Romania's education system is at a cross-road. Important sector reforms initiated after the fall of communism – including curriculum changes, student assessment, teacher training, finance and governance - need to continue to improve education outcomes. However, Romania's integration into the European Union (EU) will place new demands on the country's human capital, creating new challenges for the sector. Demand for skilled manpower will increase with the rising share of high-value-added production and services in the economy. These changes will raise the need for a more competitive labor force with new competencies and skills. To meet these demands the Government should (i) increase education efficiency and equity in the context of decentralization by introducing per capita formula financing, optimizing the school network and training education managers; (ii) increase education quality primarily through better management of human resources; (iii) create more opportunities for skills renewal and life long learning; and (iv) increase effectiveness by developing a coherent, strategic plan for reform, planning, administration, and governance of the sector. This note summarizes the findings and conclusions of the World Bank's most recent analytical work on education.*

I. Education Outcomes in Romania and International Benchmarks

1. **Despite a long series of reforms in education, student performance is still low by EU and by the Organization for Economic Cooperation and Development (OECD) standards.** Outcome indicators of educational achievement are close to international averages, but lower than in the EU, OECD, and even neighboring countries in East and Central Europe. Romania placed 34th out of 42 countries in the Program for International Student Assessment (PISA). And although Romanian students' performance in the Trends in International Mathematics and Science Study (TIMSS) continues to be close to the international average, this too is still below the OECD average. Furthermore, Romania performs worse than the average for all European and Central Asian countries and significantly below the EU countries. The trend in these performance indicators for Romania has been stagnant, while that of other countries in the region, such as Lithuania and Latvia, show improvement. A high proportion of students do well, but there is substantial polarization in performance: at the high end of test takers scores are very high, but at the low end scores are very low, and there is very little middle ground.

[1] This note was authored by Ana Maria Sandi and Mariana Moarcas, with inputs from Alec Gershberg, Raluca Banioti and Truman Packard.

Table 1. PISA Student Assessment Results for Literacy for 15-Year-Olds for OECD and Five Accession Countries, 2000

	Mean score
OECD average	500
Czech Republic	492
Hungary	480
Poland	479
Latvia	458
Bulgaria	430
Romania	428

Source: OECD and UNESCO Institute of Statistics 2003

Table 2. TIMSS Eighth Grade Student Assessment Results for Science and Math in the EU Eight Countries, 1995, 1999 and 2003

	Mathematics mean score			Science mean score		
	1995	**1999**	**2003**	**1995**	**1999**	**2003**
Czech Republic	546	520	n.a.	555	539	n.a.
Slovak Republic	534	534	508	532	535	517
Hungary	527	532	529	537	552	543
Bulgaria	527	511	476	545	518	479
International Avg	519	521	466	518	521	473
Slovenia	494	n.a.	493	514	n.a.	520
Latvia	488	505	505	476	503	513
Romania	**474**	**472**	**475**	**471**	**472**	**470**
Lithuania	472	482	502	464	488	519

Source: International Association for the Evaluation of Educational Achievement 2000a, 2000b; National Center for Education Statistics 2004.
Note: Not available (n.a.): Czech Republic did not participate in 2003 and changes in schooling ages make the 1999 scores for Slovenia not comparable to the 2003 scores. The significantly lower international average for 2003 reflects the addition of many low-scoring developing countries during that year.

2. **Romania's poor performance relative to its neighbors and new partners in the EU is even more worrying when set against low levels of enrollments in secondary and tertiary education.** Enrollment in upper secondary education is too low to foster a competitive workforce. Including rural students attending schools in urban areas, only 25 percent of students from rural areas are enrolled in upper secondary (as rural students attend urban high schools). This is better than the 8.6 percent gross enrollment ratio in upper secondary education in rural high schools, but still very low by EU and OECD standards.

Table 3. Gross Enrollment Ratios by Level of Education and Urban/Rural Location (2003/2004)

School Level	Total	Urban	Rural
Preschool	71.8	76.9	67.9
Primary	108.2	108.5	107.9
Lower Secondary	92.2	96.0	88.0
Total Basic Education	99.2	101.1	97.3
Upper Secondary	54.6	89.8	8.6
Tertiary	29.9	-	-

Note: Includes both public and private education
Source: National Institute of Statistics

3. **The observed differences between urban and rural areas reveal significant differences in education outcomes and hide exclusion of vulnerable groups.** Gaps persist between students in rural and urban schools, as well as between majority students and those belonging to disadvantaged minority groups. The scores of rural students are lower than the scores of urban students.[2] Furthermore, enrollment of Roma children is significantly lower than the national average, both at the preschool level (20 percent compared to 66 percent nationally) and the primary level (64 percent compared to 98.9 percent nationally).

Table 4. Urban-Rural Differences in Fourth Grade Assessment in Romania

Subject	Location	Share at each level of performance (%)			
		Low	Medium	Good	Very good
Mother tongue	Urban	3.5	6.9	18.8	70.8
	Rural	17.0	17.1	29.9	36.1
Mathematics	Urban	4.5	7.4	28.0	60.2
	Rural	17.2	19.6	32.0	31.2
Sciences	Urban	1.2	6.3	31.8	60.7
	Rural	8.2	17.9	40.3	33.6

Source: National Assessment and Examination Service, 2002

4. **These differences in performance may be attributable to inequitable and inefficient distribution of resources.** There are high funding disparities between schools within the same jurisdiction. Recent analysis indicates that disparities between schools are greater and more challenging than disparities across local or county jurisdictions. This means that any financing formula will have to have well-developed compensatory components.

5. **Compared to EU countries, the competitiveness of Romania's workforce in terms of education and skills is low.** In PISA, about 70 percent 15- year-old Romanian

[2] The assessments reported in Table 4 are for a criterion referenced examination, not a norm referenced one. This is significant because the results reported indicate proportions of students achieving above a bar (figuratively), not simply how they perform relative to their peers.

students performed below a level that is required to function in a modern workplace, compared to 37 percent of 15-year-old EU students. Romania has low levels of education indicators compared to EU benchmarks. This is attributable to relatively low completion of secondary education, take up of tertiary education, and very low rates of participation in life long learning.

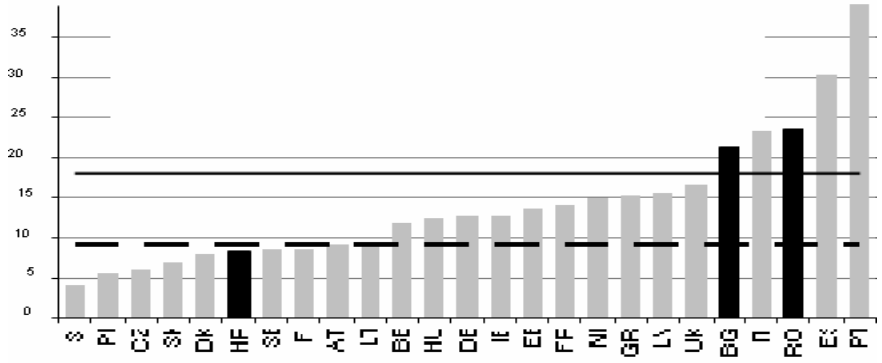
Table 5. EU Benchmarks and Romania Situation

Indicator	Level in Romania	EU Benchmark (Average for all Countries)
School drop-out	11% in secondary education in 2002-2003	Maximum10%
Percentage of youth 22 graduating upper secondary education	66.5%	At least 85%
Participation in long life learning (25-64 old)	1.6% in 2004	At least 12.5%

Source: Education Resources Information Center (ERIC) and Ministry of Education, Research and Youth (MERY)

6. **Romania's labor force competitiveness is low compared to that of EU countries** (estimated by the percentage of labor force graduating tertiary education)[3]. According to the European Innovation Scoreboard 2005 database, the percentage of the population aged 25-64 who have graduated from tertiary education is relatively low (10.6 percent) when compared to the EU 25 countries (21.9 percent). Participation in life long learning (LLL) is also very low. The percentage of persons aged 25-64 participating in LLL in Romania is 1.6 percent, as compared to 9.9 percent in EU 25 countries.

Figure 1. Percentage of Population Aged 18-24 with at most Lower Secondary Education (2004)



Source: Eurostat

[3] Romania is in a better position regarding the graduates of mathematics, sciences and technology, which are important fields for the knowledge economy and in which Europe is confronted with a crisis. The number of graduates in the population aged 20-29 is high in Romania, above the EU8 average.

Table 6. Percentage of labor force graduating tertiary education and Enrollment Rate in LLL of persons aged 25-64 (2003)

Countries/Groups of Countries	Percentage Labor Force Graduating Tertiary Education
Bulgaria	24
Croatia	17
EU15	24
EU8	19
Romania	10
Countries/Groups of Countries	**Percentage Enrolled in LLL**
Romania	1.3
EU15	10
EU8	6.9

Source: Eurostat

7. **As Romania enters the EU, these relatively poor performance indicators point to an urgent need for investment in an improved education system that produces workers with greater skills.** If Romania wants to achieve and preserve high economic growth rates and remain competitive in the coming decade, it will need to have productivity and efficiency gains, for which higher qualifications will be required, i.e., a higher number of students graduating quality upper secondary and tertiary education, as well as effective systems for LLL. The trend during the last years is good, as shown by an increase in enrollments, but the process needs to continue and accelerate.

II. Principal Challenges in the Education Sector

8. **Staffing levels are generally too high and the student/teachers ratio is decreasing.** Enrolment declines will continue, but are likely to differ significantly by education level. The largest declines are predicted for lower and upper secondary, followed by vocational secondary and higher education. According to simulations of future trends by the World Bank, the upper secondary school student/teacher ratio will plummet from 12.17 to 7.6 by 2013. Simulations performed for the overall system show a continued and significant decline in upper secondary and higher education. Isolating lower secondary education in the simulations shows a mild decline over the next eight years, but not a continuous trend up or down.

9. **The pressures of demographic changes are clear, but the appropriate response is not.** On the one hand, one could argue for reduced teaching forces at these levels of education. On the other hand, this trend is in no small part driven by continued low attendance rates (especially in upper secondary) and thus it could be argued that schools and teachers must change to attract higher enrollment. With no other changes, constant parameters such as class size, and if hiring practices were entirely flexible, the

loss of students would imply a decreased need of over 50,000 teachers, 80 percent of whom would be in lower and upper secondary.[4]

Table 6. Simulated Student Teacher Ratios, by Level of Education

(Assuming Constant Age-Specific Enrollment Rates and no Changes in the Number of Teachers)

Academic Year	Preschool	Basic Education	Upper-Secondary	Higher Education
YR2004/5	18.37	13.72	12.17	18.48
YR2005/6	19.24	12.96	12.07	17.06
YR2006/7	18.93	12.65	11.53	17.15
YR2007/8	18.36	12.55	10.76	17.38
YR2008/9	18.35	12.48	9.90	17.57
YR2009/10	18.32	12.50	9.10	17.53
YR2010/11	18.21	12.60	8.44	17.13
YR2011/12	18.01	12.70	7.94	16.36
YR2012/13	17.73	12.79	7.67	15.33
YR2013/14	17.37	12.77	7.60	14.17

Source: Public Expenditure and Institutional Review (PEIR) Simulation Model, World Bank, 2006

10. **Strong trade unions and labor regulations make it difficult for the Government to adjust the provision of education to these trends.** Naturally, hiring practices are not entirely flexible. Teachers are not easily dismissed or redeployed, and there is pressure to hire new school graduates. However an overall 2 percent attrition rate would relieve the pressure a great deal. Teacher unions make any human resource adjustments politically very difficult for policy makers.

11. **Teaching loads are very low relative to comparable countries, but teachers and other staff are also poorly paid, which results in attracting low quality entrants into the sector**. The teachers' average salary is equal to 0.66 of GDP/capita, a low level compared to the OECD average of 1.33 of GDP/capita for primary education and 1.37 of GDP/capita for secondary education. Teachers are poorly motivated, barely supervised, and rarely held accountable. Deterioration of teacher conditions has lead to a deterioration of the teacher quality as indicated by the results at national teacher examinations for tenure. Corruption cases were reported during the national examinations

[4] The 50,000 figure for excess teachers assumes that student/teacher ratios should essentially be frozen at their 2004/05 level. However, this might not be possible. Thus, changing demographics will lead to a situation in which student/teacher ratios (STRs) continue to fall. Table 6 shows how the ratios would fall by level of schooling given underlying demographic changes and no attrition of teachers. In this case, the 50,000 "surplus" teachers is the number of teachers at all levels who would need to be removed from the system to have the STRs not fall over time. Another way to put this is that if personnel issues are not addressed and there is no teacher attrition, then the STRs will fall as they appear in Table 6 and this will lead to using 50,000 more teachers than would be used if the STRs do not continue to fall.

and competitions for teaching jobs. In addition, corruption situations are reported related to promotions in higher education and awarding of Ph.D. degrees.

12. **The key policy dilemma for the Government is how to raise teacher salaries while improving efficiency and management.** It is very difficult to determine how much cost savings would be achieved through school-based management, decentralization, elimination of the current financing system (based on "sume defalcate"), restructuring of the County School Inspectorates, and implementing formula-based funding. If done well – and by improving accountability overall in the system – gains from cost efficiency would likely be significant. One thing is clear: human resource management is the over riding concern and the lack of a strategic plan continues to present an obstacle to improvement. While there may be myriad areas in which to achieve minor cost savings, all are dwarfed by the efficiencies that could arise from reforming the teacher hiring, deployment, management, and payment practices.

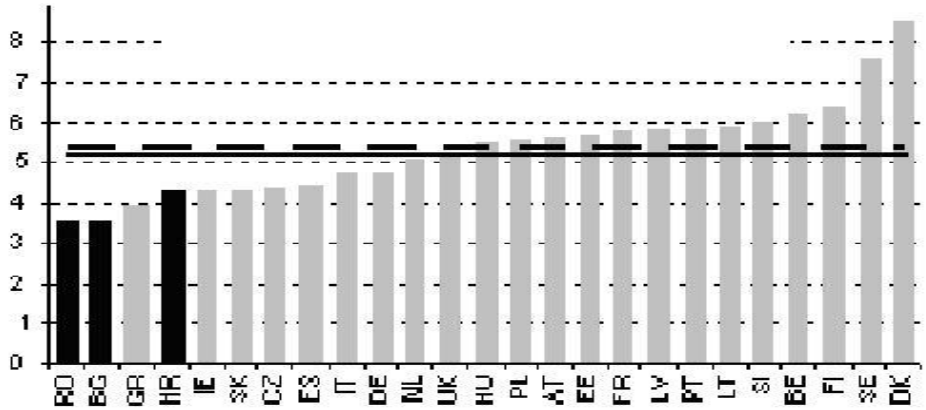
Table 8. Teaching Load in Romania and OECD

Country/group of countries	**Annual Teaching Hours**	
	Primary Education Teacher	**Lower Secondary Education Teacher**
Romania	473	525
OECD (average)	803	717

Source: OECD and MERY

13. **The education sector was, until very recently, chronically underfinanced, and spending was biased to tertiary education at the expense of pre-university levels.** Until 2006 education spending was low, compared to other countries. Spending is skewed away from basic and secondary education, the share of education spending for tertiary education being among the highest in the world. When budget increases have been made, these have largely been used for investment in infrastructure or "hardware", and little has been invested to modernize the "software" inputs of high quality education.

Figure 2. Public spending on education as percentage of GDP in 2002



Source: Eurostat

14. **The solution is not simply to increase education spending to an arbitrarily defined level, but to link budgeting to a strategic plan and a reform agenda.** Reallocation of the current budget envelope between levels of education is not necessarily a solution. Direct public spending on tertiary education is not high, much of the funding being own-resources (tuition, fees, contracts, entrepreneurial activities).

III. Conclusions and Suggested Priorities for Education Reform

15. **As discussed in previous sections of this note, the key problems in the education sector are to be found in the areas of quality, access, relevance, efficiency, and equity.** Enrollment in secondary education (especially in upper secondary education) is too low to foster a competitive workforce. Without interventions, this low enrollment rate in secondary education, combined with past demographic changes, could also lead to a significant loss of students and eventually to a substantial excess-capacity of teachers.

16. **Furthermore, Romania's competitiveness, particularly in the context of EU accession, is threatened by curricula that do not meet the emerging needs of employers, as well as the extremely low rate of participation in tertiary education and in life long learning.** Outdated human resources policies which fail to link compensation to performance and accountability, have made the sector unattractive to talented young graduates, which then lowers the quality of entrants into the profession. The low quality of teachers in turn lowers the overall quality of education services and by extension of education outcomes.

17. **The Ministry of Education, Research and Youth (MERY) leadership is very interested in advancing with decentralization plans to strengthen education quality and its relevance to the needs of the economy.** There is also strong commitment, once appropriate efficiency and accountability measures have been taken, to increase the budget for education in order to address longstanding weaknesses in the sector. Plans to increase teachers' pay include changes in the accountability frameworks and plans for professional development.

18. The challenges identified in this note can be addressed through a set of priority policies. These include:

(I) Increase education efficiency and equity in the context of education decentralization through: (i.a) the introduction of per capita formula financing, based on rigorous norms, which in turn must be supported by strong analytic work reflecting real costs and policy objectives; (i.b) optimizing the school network to reflect the needs of a shrinking school population; (i.c) increasing capacity by training of education managers at sub-national levels.

(II) Increase education quality by: (ii.a) developing a human resources strategy with improved incentives that ties teacher salaries to performance, and that addresses human resources management inefficiency, including changes in the way teachers are deployed, hired, fired, promoted, and granted tenure; (ii.b) redeploying teachers across levels of schooling and geographic jurisdictions, and vocational teaching staff

to general education[5]; (ii.c) set standards for pre-service teacher training, in-service teacher training, teachers' career development, teachers evaluation and employment regulations;[6] (ii.d) increase the average work load; (ii.e) set incentives for pedagogic innovation; and (ii.f) implement the measures required by Law no. 87/2006 on Quality Assurance especially related to self and external evaluations.

(III) Increase competitiveness of the Romanian labor force by: (iii.a) ensuring higher qualification of school graduates by increasing enrollments in secondary education, while also improving the quality and relevance of the curriculum and the teaching; (iii.b) promoting life long learning for specific workplace qualifications, qualifications update, new qualifications for career change; and (iii.c) increasing the relevance and attractiveness of VET, while also likely reducing its share of enrollment.

(IV) Raise the governance capacity of the MERY by: (iv.a) linking budgeting to strategic planning and reform agenda, increase the capacity to formulate outcome based policies, strategies, programs and implementation follow-up, and review the education regulatory policies[7]; (iv.b) enhancing the institutional capacity and management practices (including by merging and strengthening the Education Policies Department with the Public Policies Unit at MERY); (iv.c) set-up a coordination mechanism to link strategic budgeting to strategic planning and policy leadership; and (iv.d) establishing a cross-ministerial body that will coordinate cross-sectorial initiatives.

(V) Promote ownership of sector improvements and reforms through (v.a) expert studies, stakeholders consultations, public debates, communication campaigns (e.g.: with parents – student cards with annual achievements, compared with school level performance, county level performance, and national level standards, job observer for higher education graduates); (v.b) identify early-on a high level of political support for education changes; (v.c) prepare a reporting strategy to keep the government and the public informed on progress; and (v.d) provide regular reports to the relevant Parliament commissions.

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[5] This will need to be done over time and will require some direct measures (such as incentives, buy outs, and retraining) and some indirect measures (like using retirement and natural attrition to reshape the system.

[6] Including recruiting, hiring, promoting, and compensation (incentives, differentiated salaries - performance based, in order to attract teaching staff to deficient domains) policies.

[7] OECD has set forth principles of "good regulation," in the 1995 OECD *Recommendation on Improving the Quality of Government Regulation.* According to these principles, basic questions that countries should consider in reviewing their regulatory policies are: Do the regulations serve clearly defined policy goals and are they effective in achieving those goals? Do the regulations have a sound legal and empirical basis? Do the regulations produce benefits that justify costs, considering the distribution of effects across society, and taking economic, environmental and societal effects into account? Do the regulations minimize costs and market distortions? Do the regulations promote innovation through market incentives and goal-based approaches? Are the regulations clear, simple, and practical for users? Are the regulations consistent with other regulations and policies? Are the regulations compatible as far as possible with competition, trade and investment-facilitating principles at domestic and international levels?