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The Problem of Post-Communist Education: The Romanian Example

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The crucial role of education in transforming post-Communist society is illustrated by developments in Romania during its first post-revolutionary decade, where post-communist governments have yet to come to grips with the problem of highly trained scientific specialists being attracted to service abroad. According to a survey in 2000, 66% of Romania's students are likely to emigrate. The Romanian economy is still primarily oriented around agricultural and industrial production so the education system is burdened with essentially basic demands. However, measures were introduced in 1990 to create centers of excellence in an effort to prevent the flight of skilled technicians to other nations, and the current Romanian education system is designed to prepare for European integration.

Key Words: Romania, higher education, selective migration, brain drain, European economic integration

Introduction

With the collapse of Germany in 1945, one of the first concerns of the military occupation forces was a dramatic reform of the nation's educational system. Allied policies were based on recognition of the fact that unless the German educational system could meet the demands of a post-Nazi system, a political, social, and economic transformation of Germany would not be possible. The lessons of post-war Western Europe are relevant for post-Communist Eastern Europe and the transformation of the Romanian educational system, a policy that was forged by the Romanians themselves, gives us a clear picture of the problems now faced by other former Communist Party states.

For every nation, the educational system represents its highest achievement. The educational system paves the way for advances in standards of living and recognition of the overall accomplishments of the social, political, and economic systems. Unlike natural resources and other attributes that may be dismissed as blessings of fortune, the various educational disciplines define what people have done in terms of

utilization of their natural resources. In calculating national power, political scientists routinely take into account the educational standards of the population and science and technology generally receive special emphasis.

During the Cold War, developments in science and technology (S&T) were at the forefront of competition between the communist and non-communist worlds. Scientific installations and their staff members were targets of some of the most determined efforts of intelligence services in the East and the West. Numerous special incentives were offered to personnel willing to defect from one side to the other. Moreover, scholars devoted great attention to the educational systems of their national rivals in order to make projections about future educational advances that might in some way alter the current balance of power.

With the end of the Cold War, the S&T battle has assumed very different dimensions. Today there is a struggle to determine who will be able to keep those individuals most highly trained in scientific and technological disciplines. The British may have been among the first to recognize the crucial role played by scientists associated with the “deadly arts” of S&T and under various special programs, opportunities were created in the UK for those specialists in the former communist party states who found themselves unemployed.

An essential question, therefore, is how do the former communist party states retain the “best and brightest” of their educated elites. How are they educated and what incentives exist to encourage them to remain in their homelands? Furthermore, how does the system utilize such people in order to help the nation weather the difficult post-communist transition? Because it was a part of the communist party state system and its leadership exhibited excessive intellectual pretensions, the authors have selected Romania as the focal point of this study. Romania’s accomplishments, especially in the area of S&T education, are all the more remarkable because of the heavy handed politicization of S&T during the Ceausescu era when Elena Ceausescu, wife of Romania’s leader, Nicolae Ceausescu, imposed her personal style on all scientific work.

1. General perspectives

Romanian society faced many challenges during the first post-communist decade. Among the most prominent were:

- An economic crisis after 1989.

- A random change in the labor market, especially an increase in training requirements so that people could meet the needs of the changing labor market.
- The appearance of an economic private sector
- Restriction in industrial activities and the return to agricultural properties.
- Dramatic changes in social structures.
- Demographic changes: a decrease of the birth rate index, changes in territorial distribution of the population, its effects on the social and cultural make up of these territories, increased migration from urban to rural areas.
- A decrease of the birth rate. The 1997 birthrate is only 61.3% of the birthrate in 1989.
- A decrease in the total student population, from 24% of the national population in 1989/1990 to 20.7% in 1996/1997.

Each locality records yearly statistics on changes in birthrate. The figures concerning migration, which phenomenon was very significant in respect of the period covered by the last statistical analysis, were an estimation, the real level of which could be determined if a separate census were to be taken.

The education level of the population (Social Statistic in NCS 1996)*

Only 38% of Romania's population, i.e. 9.5 million people, have a high or advanced level of education:

- 9% higher education
- 29% high school or over high school.

Economic context

Although the services sector has increased quickly, the Romanian economy is still based mainly on agricultural and industrial production. Unfortunately, both face serious problems. The collectivization effect and public property can be observed everywhere. The return of land to agricultural use began in 1990, but agricultural property fragmented severely. Thus, the majority of agricultural farms are not benefiting from the efficiency of the larger agricultural areas.

Capitalization at its maximum production and the export potential that Romanian agriculture has is partially due to the underdevelopment of the food industry. In contrast to this, industry suffers too much.

Legacies from the days of Communism, in the form of subsidies and the overprotection of the government, are major causes of the problem. The use of obsolete technologies and equipment (combined with an abundance of employees) made many companies unprofitable. Public sectors provided a greater number of jobs even though the salaries were low. In the meantime, the private sector registered an increase in GDP from 23.6% in 1991 to 52.5% in 1996; even though it employs less people than the public sector it contributes more to the GDP. The labor force in agriculture increased from 28.9% to 37.3%, but the effect of this increase on GDP remains unmodified: 20% for the same period of time. The principal agricultural crops and goods are cereals, olive oil, plants, potatoes, orchards and vineyards, all of which contribute greatly to GDP.

The greatest part of heavy industry is public, although privatization efforts continue. Some industrial processing companies performed similarly. The metallurgy and petrochemical industries are sectors with the potential to grow, although changes in the oil market affected the petrochemical sector. The processing industry has specialized in producing tractors and other engine vehicles, machine tools, and industrial equipment. The textile and wood processing industries are other important sectors that create many jobs. The services industries, which include the PC industry and tourism, are fundamental sectors of the economy that might generate prosperity in the future.

A serious concern regarding the labor force is the effect of privatization on unemployment, resulting in the closing of public companies. These companies employ a large number of unskilled workers. Granting retirement to such employees represents a short term solution; but in the long run it is better to continue to run these companies as long as possible and to teach the employees new skills before releasing them into the job market. The employees' attitudes toward work have retarded this process. Their opinions about work must be changed, and they must be retrained to properly prepare them to re-enter the job market.

In the last decade the Romanian economy experienced a dramatic increase in unemployment. In the first five years alone, over 1.3 million jobs were lost. As a result, the number of people with part time jobs has increased, as has the number of those with a second job. Only 14% of people in the labor force have part-time jobs, and the percentage of those with part-time jobs is higher among men and in rural areas. Other indicators of dramatic changes in Romania's economy in the last ten

years are:

- A decrease of salaried workers.
- An increase of those who are self-employed.
- An increase of those who work at home.
- A decrease in agricultural workers.

Education contributes to an increase in the quality of work performance and creates jobs for new graduates. Though macroeconomic politics in Romania emphasizes activities that create new jobs, no results have been seen thus far. Contributions from the private sector cause GDP to rise higher and higher, even though lack of capital, high interest rates, and lack of well-trained managers hinder its activities. It is important to realize that a considerable part of the contributions from the private sector towards GDP might be ignored, because the system for collecting economic data by the Government was not initially created to pursue the activity of free entrepreneurs, especially at the volume and intensity of those that started to develop in Romania. In the next few years, the significance of the private sector will increase GDP contributions and create new jobs.

Romania's infrastructure, especially its road system, is well developed, but it needs to be extended and improved, and a limited railway system should be built. In spite of the construction of a European hydroelectric power plant, only a few nuclear power plants exist. Access to electrical energy and its costs are serious problems, and Romania cannot maintain European standards. Industry contributed to 1/3 of the GDP in 1996, which is a 40% decline from its contribution in 1991. Two other major macroeconomic changes that took place in the last 10 years are: reduction of GDP contributions from the state sector and its contributions in forming capital (the latter due to an increase in inflation during the last year). Budgetary expenses and savings in the private sector decreased along with the GDP, thereby diminishing society's ability to adjust to the changes necessary for a economic, social and political transition. Due to disguised unemployment from state enterprises, higher inflation that discourages savings, and the insufficiency of management, the Romanian economy has not been able to recover sufficiently to support social reform. Helped by foreign partners, the Government tried to encourage economic stimulation by concentrating on the social aspect, an extremely challenging task. Education is the only social institution where these efforts are felt. While education is dependent on the economy for financial support, the economy needs

graduates whose attitudes and abilities can contribute to an increase in productivity and managerial competence. The linkage between the economy and education caused Romanian authorities to initiate an Education Reform, which is in progress.

TABLE 1

*Comparison of Romania with Europe & Central Asia,
and with medium & low incomes states*

	<i>Romania</i>	<i>Europe & Central Asia</i>	<i>Medium & Low income States</i>
Population July 1st (<i>millions</i>)	22.5	473	908
GNP per capita (<i>US\$</i>)	1,520	2,190	1,710
GNP (<i>US\$ billions</i>)	34.1	1,039	1,557

TABLE 2

Yearly medium increase, 1993-1999

Population (%)	-0.2	0.1	1.1
Labor force (%)	0.5	0.6	1.5

TABLE 3

Recent estimation (the last available dates 1993-1999)

Poverty (<i>% of population under poverty line</i>)	22
Urban population (<i>% of total population</i>)	56	68	58
Life expectancy (<i>years</i>)	69	69	68
Infant mortality (<i>per 1000</i>)	21	23	38
Malnutrition (<i>% of children under 5 years old</i>)
Access to drinkable water (<i>% of population</i>)	62	..	75
Illiteracy (<i>% of population over 15 years old</i>)	2	4	14
Inclusion in primary education (<i>% of population of scholar age</i>)	104	100	103
- Male	104	101	105
- Female	103	99	100

2. Economic Structure

TABLE 4

Comparison with 1989

% GDP	1989	1998	1999
Agriculture	15.7	15.0	15.5
Industry	56.4	36.6	31.0
Manufacturing (Processing)	..	27.3	22.2
Services	27.9	48.3	53.5
Household consumption	58.9	72.2	69.6
Public administration consumption	11.6	14.5	14.7
Imported goods and services	18.2	31.8	34.3

3. National Policies in Education

Higher Education: Structure and school figures

Higher education in Romania, which today is struggling to respond to the demands of the post communist transition, originated in the middle of the 17th century. It began with the founding of the Academia Vasiliana (1640) by Prince Vasile Lupu, as a superior school dedicated to the study of Latin and Slavonic languages. Higher Education taught in the Romanian language began in the 19th century when topometry engineering classes were established in Valahia (1818) and Moldova (1824). The first universities were the "Universitatea din Iasi" (University of Iasi) (1860) and the "Universitatea din Bucuresti" (University of Bucharest) (1864). Until the end of WW I, Romania's higher education system was rapidly developing. Rules adopted between 1924 and 1928 were destined to establish higher education as part of a larger sector of education. After 1948 and the creation of the communist regime, higher education – particularly universities – became part of a more unified and centralized system. Though higher education was theoretically universally accessible and free of charge, economic restrictions hindered its development during the first half of the century. Despite this, until the end of the 1970s there were 42 higher education institutions – including the universities of Bucharest, Cluj-Napoca, Iasi, Timisoara, Craiova, Brasov sau Galati – with a total number of 164,567 students.

During the final days of the communist regime in 1989, major curriculum and administration reforms were implemented by each institution, and educational legislation continues to be examined. An “explosion” of private higher education institutions led to the creation of the NCAEA (National Council of Academic Evaluation and Accreditation) by the Romanian Parliament. In 1996, within the framework of reform drafts on higher education, the implementation of the accreditation system began. New “buffer” councils were set up, block finances through grants were developed and a competitive system of incentive grants was introduced for research and development activities. Some of the new private universities, most notably the Romanian American University led by Rector Ion Smedescu, have prospered but most failed to meet the rigorous standards imposed under the new legislation.

Since its debut in 1990, and with increased efforts since 1997, new reform in education has had the following key objectives for higher education institutions:

- Preparation for European integration.
- Introduction of IT, and of quality management systems.
- Accreditation and transferability among institutions and programs developed towards transferable credits.
- Growing orientation towards curricula and institutional services market.
- Continuous growth of new fields of study, interdisciplinary and multidisciplinary programs.
- Additional decentralization of budgetary funds.
- Promotion of scientific research within universities.
- Increased enrollment capacity in higher education through diversification of financial support granted to higher education, and through an increase in forms and types of higher education.
- Creation of new approaches to financing and providing social services to students.
- The development of supplementary possibilities for post-graduate studies, including the organizing of new institutions for advanced studies.

The legal framework of reform, established in 1990, has the following objectives:

- To change the relationship between the Government and institutions through an increase in university autonomy.
- Modernization and improvement in the quality of education.
- Creation of evaluation and academic accreditation mechanisms and proceedings.
- Introduction of new financing mechanisms.
- Establishing excellence centers and technology and innovations transfer.

In this new relationship, the NEM (National Education Ministry) will facilitate the creation of settlements. In individual institutions and higher education sectors the NEM will assume, in general, a greater responsibility in planning, managing, and financing.

While enjoying administrative autonomy, the NEM is also responsible for encouraging efficiency. New legislation and current reforms within institutions are meant to promote this equilibrium of authority, and provide the answer for social and individual needs. In a special way, the NEM has a responsibility to coordinate the development of the education system (including the higher education institutions), to establish a framework of institutional competence through quality evaluations and through financing based on performance, and to prevent the obstructions and distortions created by inefficient institutions. In the future, the NEM will play a greater role in providing guidance to employers and the public.

From a structural point of view, Romanian higher education consists of 6 types of private, as well as public, institutions:

- i. *University* – The greatest of the higher education institutions, it includes a large number of departments and programs and it awards academic diplomas and scientific degrees, combining research and teaching responsibilities.
- ii. *Academy* – A higher education institution that prepares specialists, usually in only one general field (e.g. Music Academy).
- iii. *Polytechnic University* – This designation was given after 1990 to former polytechnic institutes (programs accenting technical and practical fields of study).

- iv. *Institute* – An institution that awards diplomas and provides professional training based on studies and professional experience in limited specializations.
- v. *University College* – An Institution that offers 2 or 3-year courses, awards diplomas, but does not qualify students for admission to postgraduate studies (can be part of university or might function autonomously).
- vi. *Postgraduate schools* – independent by university.

Higher education programs offer various areas: short term education (graduation diploma) and long-term education (license diploma). University Colleges function within universities. Universities might develop short-term studies under each of their long-term specializations. Universities have to request accreditation for these specializations. There are short-term courses for the key scientific fields: engineering, medicine, social and economic sciences. The number of universities accredited for specialization is growing, which is regarded as threatening the integrity of initial training, and is a trend which worries the NEM

Long-term courses are available for the exact sciences, engineering, medicine, pharmacy, stomatology, agriculture, veterinary medicine, forestry, humanistic sciences, social sciences, law, economics, architecture, arts, sport and political sciences, journalism, and communication sciences.

Besides offering more subjects in various specializations, long-term courses provide students with more derivative specializations. For example, in the exact sciences, long-term courses are available for mathematics, cybernetics, physics, chemistry and technologic biochemistry, while short-term courses are available only in cybernetics.

In addition, individual institutions can offer permanent educational courses of a one year duration that concentrate on skills or knowledge that are in-demand by the labor market. There are advanced studies for university graduates (one to two year Master Programs), postgraduate studies (two or three years for offering a greater professional specialization) and doctoral studies (between four to six years for those institutions who are authorized by the National Council for Attesting Academic Titles, Diplomas and University Certificates). The private sector of higher education has 49 institutions (35 are universities) which contain 324 departments, the Romanian American University generally recognized as the most prominent.

The university sub sector consists of “general” institutions, techni-

cal, medical-pharmaceutical, agricultural and other institutions, such as:

- Art, music, and theatre Academies
- Economic studies Academies
- Agriculture and construction Colleges
- Economics College
- Sport College
- Public Administration College
- Civil Marine College
- Military College

Since 1990, nontraditional forms of tertiary education have grown rapidly in Romania. The education laws encouraged the creation of these kinds of programs, under the leadership of higher education institutions or in collaboration with other organizations. Now, certificates of study finalize these programs. Although they are not equivalent to traditional title certifications, they are recognized in the labor market, even if the official legislation does not provide the service.

Romania designates the open and long-distance education for adults. A major concentration of these programs is the preparation of teachers in the pre-university sector (almost 80,00 people are involved in this kind of instructional program at the national level). Since the year 2000, there have been six centers that offer access to open and long-distance educational opportunities. These centers use communications technology and didactic technology. Besides the training of the teachers, there are programs in journalism, management and informatics. On the tertiary level, there is also private open and long-distance education.

The private sector also provides courses in business administration, finance, accounting, public relations, marketing and human resources management. Certificates are awarded for these programs from the public sector as well. The role of the state, of the NEM especially, is to evaluate certificates and to bring this information to the attention of potential students. The Romanian American University was a pioneer in the area of business education and offered its first course, "Basic Principals of Entrepreneurship", in 1992, utilizing the services of an American instructor who used materials prepared by the College of Business at James Madison University in Harrisonburg, Virginia.

Admission proceedings at the initial level of tertiary education are based on an admission exam. Each institution establishes its own minimum requirements for each major field of study. Exams are

elaborate and organized by each department. The Rector of the institution is responsible for this task and authorizes the admission of students. Institutions, in collaboration with the NEM, establish the number of students admitted in a particular year. Budgetary allocation of the NEM is partially based on the number of students admitted (unit cost in specialization is the other major factor in the financing formula), thus there is little incentive for institutions to increase the total number of students admitted due to financial reasons; an exception would be when students pay the entire cost of instruction.

Admission to graduate education is limited to the number of spaces approved by the state because of public financing. In private institutions, financial aspects play a relatively more important role in the admission decision, and in some cases, this has caused a greater number of students to be admitted than the institution can handle. The number of students enrolled in public universities and colleges in 1996/1997 was slightly over 261,000, including approximately 14,000 foreign students. Students are enrolled at day-by-day, evening and non-attendance courses, the last 2 forms requiring long terms of study (usually, at least one year).

Table 5 indicates the number of universities, departments, and the percentage of students enrolled in public and private education in important university centers in Romania. Almost one third of the total number of students from the state sector and over half from private education attend classes in Bucharest; however, institution placement does not indicate origin of students. Students frequently migrate from their native town to attend their tertiary education in other places. This is the same case for centers such as Bucharest, Iasi and Cluj-Napoca, which attract a national mass of students. Since 1989/1990 there has been a change from 58.7% of students who attend day-by-day classes to an increase from 9,952 to 237,993 Attendance at evening courses decreased in the same time period from 59,342 to 8,656. These figures reflect a strong preference of students for day-by-day programs, as well as limited opportunities in the labor market for high school graduates. Without attractive hiring options, youngsters choose to continue their day-by-day studies, rather than combining a job with evening classes, or without attendance studies.

Registration in private higher education in 1996/1997 was 93,434 (including 172 foreign students). The 22 private universities, including Bucharest (with 80 distinct departments), comprise 56.9% of the total enrollment in the private sector, indicating a relative greater geographi-

cal concentration degree in the private sector, in comparison with the public sector. Only 176 students from private faculties attend evening courses, but 35,108 attend courses with variable programs; 58,150 students from private universities attended day-by-day classes, an increase from 47,730 in 1995/1996, but almost equal with scholar figures from 1993/1994. Graduates of accredited private higher education institutions are obliged to pass a final exam at one of the state universities.

The participation ratio in the education process of students between 19 and 23 years of age rose from 15.1% in 1992/1993 to 24.0% in 1996/1997. In 1992/1993, the participation rate of males was slightly larger than that of females, 15.1% compared to 14.3%, but in 1996/1997 the reverse was true (24.0% and 24.3% respectively). This small increase in female participation is also reflected in the increasing number of specialization courses to which mostly women apply. In contrast with most other countries, the number of men and women who participate in higher education in Romania is fairly equal, but in the job market men are employed more often than women.

Table 6 presents the dates regarding current scholar records from higher education and projections for 2002/2003. New scholar figures from 1999/2000 exceeded projections of 66,000 with 19,000 due to the introduction of additional paid tax places. Adding the 25,000 freshman students from the private sector, there are 110,000 freshmen students in higher education in Romania. During 1999, population growth, participation ratios and available places were low, each restricting potential growth for new enrollments in higher education. However, starting with the first year of this century, participation ratios will begin to increase rapidly and during 2002, there will be a large increase in students in higher education. The result will be a tremendous change in aggregate participation at higher education from 13.1% in 1996/1997 to over 30% in 2002/2003. Private segments of higher education will increase from 26.2% to 29.9% and the freshmen students in private institutions will increase from 22.5% to 29.9%.

The Romanian government is now confronted with two profound and distinct challenges. First, financing partnerships will be necessary (including student taxes and loan system), if state higher education extends as is anticipated. Second, the NEM has to improve its evaluations and information, if it wants to promote interests in the new market for higher education to private and state students.

TABLE 5:

Scholar figures in higher education after localization and state/private status, 1996/1997

<i>Locality</i>	<i>State Universities</i>	<i>Departments</i>	<i>%</i>	<i>Private Universities</i>	<i>Departments</i>	<i>%</i>
Bucharest	12	78	32.1	22	80	56.9
Iasi	5	41	12.1	58		7.5
Cluj-Napoca	6	40	11.6	3	9	6.8
Timisoara	4	32	8.7	3	15	5.1
Craiova	1	15	6.1	-	-	-
Brasov	2	13	4.0	-	3	1.1
Sibiu	3	12	3.4	-	1	1.3
Oradea	1	13	4.4	1	6	3.9
Constanta	3	12	3.2	1	5	1.3
Galati	1	8	2.6	1	1	1.1
Targu Mures	3	8	1.3	-	5	1.8
Pitesti	2	5	1.3	-	1	1.9
Suceava	1	5	1.1	-	-	-
Ploiesti	1	5	1.5	-	-	-
Petrosani	1	4	1.1	-	-	-
Targoviste	1	6	1.3	-	-	-

Source: National Education Ministry

TABLE 6

*Dates and projections regarding scholar figures from higher education
1996/1997 ñ 2002/2003 (1000s)*

	96/97	97/98	98/99	99/00	00/01	01/02	02/03
18 year olds	383	380	368	340	301	306	339
Total number of high school pupils	792	760	727	804	812	958	1035
Pupils in XII class	190	192	203	176	160	161	200
Total number of students from state higher education	261	263	272	330	388	446	505
Total number of students from private higher education	93	93	93	123	153	183	216
Total number of students in higher education	354	356	365	454	543	632	721
Freshmen students in state sectors	62	50	65	66	77	98	101
Freshmen students in private sectors	18	18	18	24	30	36	43
Total number of freshmen students	80	68	83	90	107	134	144

Source: NEM, "Higher education in a society of learning. Directions lines of a new development politics of higher education in Romania", 1998

Curricula and teaching supplies

Each Romanian university has a strategic educational development plan. This is an official document that determines the range of disciplines and subjects offered. This document also details the number of years of study, the minimum and maximum teaching hours per week, various types of teaching activities, the structure of the university year, and it includes an evaluation system for both students and teachers. Fundamental and general disciplines are required by national standards to occupy from 15% to 18% of the total education, with the exception of the special sciences, where the total requirement of studies required is 30%. The curriculum for specialized studies represents 50-60% of the total education requirements, except for the medicine disciplines, which receive 75-80% of their total education requirements. "Complementary" disciplines represent between 5% and 10% from all areas of study.

Generally, private institutions follow the same pattern.

Teaching methods within the universities and colleges are consistent with each other within university lectures, seminars, student papers, research activities, and others. Each department, and sometimes each faculty staff member, decides the adequate combination of these approaches, as well as textbooks and other didactic materials. The lack of lab equipment and material for experiments and demonstrations is a common problem in institutions of tertiary education and very serious one in some small private institutions.

The University year begins on or around October 1st and continues till June. The semesters are divided into 14 weeks each. The National Standards require the total amount of school hours to be between 24 and 28. The duration of each of the areas of study varies: humanistic, economic and social sciences, and law and communication sciences require 8 semesters; engineering, agriculture, and forestry require 10 semesters; architecture, medicine, and veterinary sciences require 12 semesters. Programs of short-term cycle have 4 semesters for social sciences and 6 semesters for all other fields.

The faculty of a college or university is organized into a hierarchy of 5 degrees:

- **Preparatory:** This is a beginner assistant and is the lowest didactic degree. The Preparator is usually responsible for practice courses.
- **Assistant:** This is an inferior academic position that implies teaching activity (in the general inferior level courses as well as practical courses) as well as holding research responsibilities. Assistants are usually selected by examination from preparators, but the assistant must be at least a Ph.D. student.
- **University lecturer:** This instructor must also be a student for a doctor's degree, and have a more substantial background in teaching and research responsibilities.
- **Associate professor:** is selected from a Ph.D. holder with a prestigious reputation.
- **Professor:** The highest degree within an institution is professor. At this level candidates have to hold a Ph.D. and publish original papers.

All didactic (teaching) positions are awarded through examination. Auxiliary personnel (who do not teach) support the teaching process as follows: auxiliary personnel in departments (21.8%), auxiliary personnel

to the general education process (12.87%), office workers and administrative personal (42.4%).

There is a symbiotic relationship between the state education and the private education sectors. Many professors from public universities teach also at private institutions, especially during the evening and non-attendance courses. This gives the private institutions prestige and superior quality because they are not forced into paying competitive salaries for full time employees. Similarly, if the possibility of additional earnings did not exist in the private colleges and universities, many of the professors from the state education system would take a job in another sector. Students often do not have the privilege of additional help from their instructors because of the additional workload that the professors take on elsewhere.

Evaluation and examination

In all of Romania's higher education programs, professors usually evaluate students through written or oral exams. For instance, instructors normally organize about 3 evaluation sessions for each student during the university year. Exams may be taken up to 3 times. Failing at a third attempt would then require a student to take the course again. Students must pass all exams at the end of the university year. If they do not pass these exams, they may be reexamined. If the students are to advance, they must pass within a month before the beginning of the next university year. The following degrees (titles) are awarded to students who graduate various study programs:

- i. License diploma
- ii. Graduation certificate of long term university courses for higher education graduates who do not pass license exam
- iii. Graduation certificate of short term courses for short-term higher education students who do not pass final exam
- iv. Diploma of thorough studies in a major specialization, for graduates of one year graduate studies
- v. Master's degree for graduates of 1.5 within 2 year graduate studies
- vi. Diploma of postgraduates studies for graduate or of post graduate program
- vii. Doctor's diploma for Ph.D. holders

In 1993 NCAEA was authorized to evaluate the higher education system. In conjunction with members appointed by Parliament, the

Council works with the various commissions representing specific specializations to evaluate all departmental faculties and colleges every 5 years. The resulting reports seek to analyze both cost and efficiency within the higher education system.

Management and financing

Higher education, like many other public services in Romania, has been centralized for a long time. Since 1989, however, a series of measures have been taken to promote a more adequate equilibrium between the central interest and the institutional interest. As previously noted, the NEM is becoming more and more a facilitator and coordinator. The NEM is supported in its higher education responsibilities by a variety of organizations which include: the National Council for Certified University Diplomas and Certificates, the National Council for Quality Management in Higher Education, the Agency for Development of Higher Education and University Research, the Social Agency of Students, and the National Council for higher Education Financing (including the National Agency of Information in University Management). Within the institutions there is a distinction between academic management and administration.

Academic management is, first of all, the teaching staff's responsibility as required under the Senate. Student organizations participate in the management as well. At the institutional level, the Administration Council coordinates the academic activities. The Administrative General Director of the University takes care of more daily administrative problems. Since 1989, new laws and settlements have attempted to make the selection process of academic leaders more transparent and democratic (e.g., to include student participation).

As stipulated by the 10/1991 laws, the NEM establishes the amounts from the state budget that will be allocated to each institution (partially based on the consultancy from CNFIS). Institutions may decide the domestic institutional profit allocation of any further funding and have full autonomy about the creation and spending of these funds on resources. The Institutions reserve the right to set student taxes. Some of the domestic institutional profit sources include revenues from service, research activities, contributions from individuals, legal entities, and taxes paid by the students. External revenue sources for higher education have risen in recent years. The World Bank Project, Tempus Program, the bilateral assistance, and the Soros Foundation (Foundation for Open Society) are the main external financing sources. Financial

aid for students is awarded in the form of praiseworthy scholarships, general scholarships, and social scholarships.

The first of the two scholarships are awarded based on academic results. The third scholarship is awarded based on the needs and the social status of the student. Since 1994, graduate assistantships have been awarded based on merit. The extended program studies in the doctoral areas have also received awards since 1996.

Students will receive free medical assistance, subsidies for hostels, refectory and sport facilities, as well as price and tariff relief. Within the Education Reform, accessibility to loans made by banks is expected. Scholarships financed by foundations and organizations, contracts and sponsorships, and between institutions and firms are all expected as well. The goal of these efforts is to create greater access to education and to maintain and improve the quality of higher education.

Private colleges and universities have more autonomy than state sector institutions, but still require approval by NEM for the education planning for 2 programs. As required by law, private institutions have to be nonprofit. Discrimination based upon religion or national origin is prohibited, and institutions must comply fully with the national academic standards. Private institutions depend almost exclusively on fees (taxes) as well as sponsorships (for example, by firms that desire a specific instruction for their employees).

However, accredited private institutions (those who received final accreditation) may compete for state institutional research and development funding, as well as funding for graduate assistantships. The academic quality of private colleges and universities varies. Some private institutions may be compared with public institutions, but many others have difficulty meeting the national standards. Merely 5-10% of the private educational staff work exclusively within private institutions. As previously mentioned, the majority of the faculty of private institutions comes from state institutions. Graduates of authorized private institutions (those recognized by NCAEA) may participate in exams for licenses and diplomas at an accredited state institution.

Major finance reform from higher education represents directions through "global" financing. This means that funds offered by the state will not be destined for a very detailed utilization without institutional input. On the other hand, institutions will qualify, according to the usual formula, for a certain level of funds and will be responsible for the utilization of these funds, but they will not be required to report detailed spending. Although accounting and audit proceedings will be main-

tained to protect against the wrongful utilization of funds, institutions will decide how the resources will be spent. Minister Order no. 3,132, dated January 19, 1988, states that the financing of a higher education institution will include basic financing and complementary financing. These state funds will be supplemented with extra budgetary sources such as donations, sponsorships, and any other come from services.

In an attempt to assure greater accuracy and success, the National Council for Financing of higher Education will take on the responsibility of researching unit costs and trying to make specific recommendations based on the different cost levels for different fields and study levels. Relative costs per field (per major) is multiplied by the number of students in that field to determine the funds for which the institution is qualified.

The total for all fields of study determines the total financing for the institution. If the total allocation – justified for higher education by these formulas – exceeds the amount available from the state, then proportional reductions will be made. However, the benefit of higher predictability for institutions, will link funds more to students rather than faculty (introducing in this way a market test for programs). This will offer a more transparent budgetary mechanism than before.

Some system disadvantages are similar with those found in countries such as Holland and Great Britain. The formulas remain, in part, subjective (and potentially arbitrary) depending on the activity of the parties who recommend weights and unit costs and who fail to consider the need for development of larger and new programs which may have high initial costs and few students. New allocations are especially included in order to renew existing programs and to create new programs. This function has not been ignored in the development of the new system.

Because higher education is constantly evolving, it needs a more efficient financing scheme for existing programs so that the scheme does not become an impediment to its evolution. Complementary financing categories are characterized by a competitive structure. This is available for capital expenses for new buildings and maintenance and repairs. Scholarship funds are allocated proportionally with the number of equivalent students.

A major area of concern is the competition to obtain funds for scientific research. The process of competition was devised prior to 1989. Much attention was being paid to the projection of a competitive mechanism. Since this mechanism was failing, 15% from the state

budget for higher education is allocated for academic scientific research. However, we have to remember that a great part of higher education is intrinsically linked to such research, therefore financing incorporates a significant teaching component. There are three components to sponsorship research:

- i. Competition is based on projects administrated through the National Council for University Scientific Research (CNCSU) and through external organisms such as Tempus.
- ii. Competition is based on common funds provided by CNCSU, World Bank, and the Government of Romania.
- iii. Competition for financing will come from complementary funds of NEM.

Complementary funds will be based on an algorithm that incorporates dates dealing with the teaching staff, curricula, and the characteristics of students. Initially, this includes using simple formulas and increasing the complexity of this process accordingly as time and quality allows. Institutions are also free, of course, to involve themselves in private research that would generate extra budgetary funds. Concerning this aspect is the proposal to create "Excellence Centers" within the tertiary education system. In this proposal, the teaching staff and selected departments may be identified as an "Excellence Center". Under this designation, they will receive additional financing and certain guaranties for research support that will allow them to conduct research for extended periods of time. However, selection of such centers has to be done in a transparent and fair manner. This process should take into consideration that such "Excellence Centers" may involve monopolies or oligopolies, so benefits of competition may be reduced or destroyed. It is important that the concept and operation of these centers should be reviewed constantly to ensure the faculty of these centers maintain the necessary quality of instruction.

The contemporary Romanian approach to higher education emphasizes market relevance, internal competition for state resources, support for entrepreneurial efforts, and equity concerns between students. Yet it remains essential that the new educational system does not settle into a new rigidity that merely replaces the old one. Planning and implementation must remain a fluid process that is adjustable to accommodate unpredictable changes in the challenges and needs that arise in the future.

The main problems limiting S&T research are generated at the

political level. This includes but is not limited to the poor recognition by Parliament and the Government of the importance of S&T research to the development of the economy and the solution of social problems.

4. “Brain Drain”: How many Students Want to Emigrate?

All of the former communist party states are confronted by the same problem – the emigration of the more talented of their young people – a process which has been called the brain drain. This loss of intellectual resources represents one of the greatest threats to post-communist society not simply in Romania but throughout the region.

Young specialists and the best graduates of higher education decide to study abroad because employment opportunities in their native countries are extremely low. We tried to determine the proportion of students who wanted to emigrate, and then compared our results with those obtained by the University of Bucharest in 1994.

The research conducted in 1994, exclusively among students, indicated that 9% said they would like to study abroad. The rest of the students, with the exception of 14.2% who did not respond, answered that they would make their decision depending on ongoing changes in social-economic conditions in Romania relative to conditions abroad.

Six years later, in the year 2000, 66% of the total students stated that they wanted to emigrate. (More precisely 67.5% of state students and 61.4% of private university students).

Obviously, not all 66% of the students would be able to emigrate. This is partly because of the financial conditions. Those who have a real chance to emigrate are those who have a higher financial status. Therefore, we cannot speak about a real massive emigration because students do not, necessarily, have the financial means to achieve this goal.

Looking at the above, we can build two hypotheses:

- In the first hypothesis, a massive potential for student emigration is an expression of a desire for independence. We can then assume that an increasing level of personal freedom and the desire to emigrate correspond with each other. If students are not satisfied by the entrepreneurial opportunities offered available in other countries.
- In the second hypothesis, students may be seeking a more supportive state than their native one.

Unfortunately, the data offered by the 2000 survey does not provide information which might suggest the reasons why students choose to

emigrate.

Conclusion: Equalization and Orientation Through Performance

The lessons of Romania illustrate the challenges facing post-communist societies throughout Eastern Europe and the former USSR. One of the most important and dramatic conclusions of the Romanian example is that 80% of all Romanian families have a child who desire to obtain a university education, but this is a luxury few can afford. If the Romanian situation were unique, This problem is widespread in post-communist societies.

The question is asked in the post-communist societies of Eastern Europe and the former USSR what will happen if society is divided into two social classes, one denied educational opportunities while the other is blessed with bright educational prospects? Will this work in a society in which educational institutions will be attended only by the 20% who possess the financial resources necessary for high-level education? What happens to the class that faces frustrations due to poverty and lack of education, something that they did not experience under communism?

Six years ago, educational specialists in Romania warned of political problems that would arise if society became closed to the intergenerational social mobility in an economically stratified economy. Social participation is considered a necessary precondition of groups, communities, and societies.

Six years after the recommendation for a selection based on competency and equal chances for social access, we notice that the intergenerational differences have been further aggravated instead of diminished. The changes initiated in the educational system have been concentrated at a macro-structural level. Political influence still plays an important role in the distribution of opportunities to students. Even though measures have been taken to increase the total number of students at the university level, policies that encourage the access of higher education are still neglecting disadvantaged families and undereducated families.

Looking again at the statistics, only 10% of students come from rural environments. There is a need to extend equal opportunities to students living in rural areas, and suffering from other socio-economic disabilities. Furthermore, state assistance for the students who come from underprivileged milieus must be supplemented with the assurance of dormitory space. Many developed countries supplement grants by fee and tuition exemptions, opportunities to work part time within the

university, and the possibility of loans to help pay tuition costs.

In Romania, the legal framework for these student loans was created and guaranteed by the state, but due to inadequate financing, this loan system has yet to be implemented. Also, the conditions needed for the loans require students to possess collateral security, and furthermore it would be extremely difficult to obtain a job that would pay enough to permit loan reimbursement after graduation.

The salaries that are offered in nearly all sectors of the Romanian economy for post-graduates are extremely low. Under these conditions, they cannot afford a decent standard of living. The period that comes after graduation coincides with establishment of a family and the purchase of a home. These factors limit the ability of students to repay loans.

Throughout post-communist Europe, scholars and reformers recognize that their prospects for creating a new, stable democratic order depend on enacting effective educational reforms. A weak educational system today will produce a weak social elite who will be responsible for guiding the new post-communist society in the next decade. If today Eastern Europe undergoes social atomization, the prospects for creating an effective and responsive social and political order will be severely inhibited.

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