YOUTH EMPLOYMENT ON THE ROMANIAN LABOUR MARKET IN THE CONTEXT OF THE CURRENT ECONOMIC AND FINANCIAL CRISIS

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Abstract

The paper intends to analyze the main labour market characteristics and factors for Romanian youth in the current market position. The analysis and forecast of the educational process and of graduates' employment according to their differing educational levels on the Romanian labour market is realised based on Markovian techniques. By making use of the developed scenarios, the crisis effects can be quantified with respect to economic growth, labour market perspectives, as well as the employability and mobility of young labour force participants in the various economic sectors.

Key-words: *crisis, unemployment, labour market, young, impact modelling*

JEL Classification: I_{21}, J_{62}, J_{65}, J_{82}

Introduction

The world economy is deeply affected by the ongoing global economic and financial crisis. If initially the effects of the global crisis on the Romanian economy were small, later on, the national economy has been hit due to the dependency on the evolution of developed countries.

The economic activity was regressing, a fact also reflected on the labour market, as the crisis manifested in the strong growth of the number of unemployed and of the unemployment rate. The number of unemployed has increased during 2009 by 75.8%, from 403,441 persons in December 2008 to 709,383 persons, recorded in the NEA in December 2009. The unemployment rate, which in December 2008 was 4.4%, increased to 7.8% in December 2009.

Even as of 2007, boosting employment of graduates took on new valences (targeting both segments of the labour market: employers and graduate), nevertheless the number of registered unemployed aged up to 29 was 24.2% of the total number of unemployed in 2009.

The 10,662 graduates employed in 2009 are merely 15.51% of the total number of graduates registered in the records of the National Agency for Employment.

Former financial crises have shown that a labour market upturn takes place in an interval of four to five years after the economy's recovery. The difficulties in

diminishing the growth trend of long-term unemployment and spread-out "informality" of the Romanian labour market are enhanced by significant migration flows from urban to rural areas and the return of foreign workers. All these negative factors trigger a long-term crisis with considerable social difficulties.

The paper intends to analyze the main characteristics and factors on the labour market for Romanian young people in the current market in order to identify some possible ways to increase youth employability in the short-, medium-, and long-term. For this purpose, also some economic and mathematical instruments are used. The analysis and forecast of education and employment of graduates of different educational levels on the Romanian labour market are made based on the principal components method and Markovian techniques. By making use of the developed scenarios, the crisis effects can be quantified with respect to economic growth, labour market perspectives, as well as the employability and mobility of young labour force participants in the various economic sectors.

General characteristics of young people's access on the labour market at European Union level

At the European Union level, the economic-financial crisis wiped out years of economic and social progress, while highlighting the structural weaknesses of the European economy.

In this context, the "Europe 2020" Strategy proposes three priorities which are mutually reinforcing:

i) smart growth by developing an economy based on knowledge and innovation;
ii) sustainable growth by promoting a more efficient economy in terms of resource use;
iii) promoting inclusion enhancing economic growth by promoting an economy with a high rate of employment, ensuring social and territorial cohesion.

One of the most important initiatives of the strategy for economic growth "Europe 2020", aimed at fighting unemployment among young people across the continent, is "Youth in Motion", which seeks to prevent rising unemployment among youth, while providing also some practical tools.

The "Youth in Motion" initiative suggests 28 key-actions designed to link education and vocational training to the labour market and to encourage young people to take advantage of scholarships offered by the EU, or of the internship opportunities in another country.

The "Youth in Motion" actions will help Member States to achieve the main objective of the EU, that is an employment rate of 75% over the next 10 years, ensuring that young people have the necessary skills for tomorrow's jobs.

At European Union level it is estimated that future jobs will require more competencies and that 35% of them will require higher education, and 50% medium level studies. In this context, early school leaving is a serious problem in reaching the objectives of Agenda 2020.

By "Youth in Motion", the EU aims to reduce the early school leaving rate from 15% to 10% and increase the number of young people with university degree or equivalent from 31% to at least 40% by 2020.

Also, "Youth in Motion" will encourage higher education institutions to improve quality through greater openness/transparency and cooperation with their partners in other parts of the world. The action will provide for more transparent information about the performance of each institution based on a new international multi-dimensional system of classifying universities. The New Agenda for modernizing higher education, which is part of "Youth in Motion" and will be presented by the Commission in 2011, will underpin comprehensive actions to cover all these concerns.

The measures proposed by the European Commission within the "Youth in Motion" action focus on three areas:

i) modernizing education and vocational training so that they become more relevant to the needs of youth and employers. The actions will be directed toward schools, apprentices and to a better recognition of skills acquired outside formal education. They also aim to increase the attractiveness of higher education so as to increase the share of young people with high level qualifications

ii) supporting mobility in education and jobs. The measures include new sources of information at EU level, a new generation of EU financing programmes for education and vocational training and an improved jobs portal (EURES).

iii) providing a new EU framework for youth employment, including recommendations to Member States on labour market reform and more aid to public employment services for improving support for young people.

The most affected states by the economic-financial crisis are Spain with 37.8% youth unemployment and Latvia with 33.6%. Only Germany, Austria, Denmark and Norway have young unemployment rates with values about 10%, while the Dutch youth unemployment rate is only 7.7%.

Romania took place 14 in the top of young unemployed in the EU countries, in accordance with Eurostat data, with an unemployment rate among young people aged 16 to 24 years of 20.8%, as this was the first year in which the international crisis hit Romania.

In 2010, about five million Europeans under 25 years of age were unable to find a job, which represents an increase by one million people worldwide against 2008, that is in the year of the economic and financial crisis outbreak.

If one of the main objectives of the future "EU 2020" Strategy will be to promote the development of a society and an economy heavily oriented towards knowledge, UK education and training from the perspective of lifelong learning will have to take the core position within this strategy.

In addition to their intrinsic value for each person, education and vocational training are essential for both economic and social progress. Therefore, Europe needs high-quality education and vocational training systems that are open and flexible, combining efficiency and equity. These systems could allow all individuals to achieve their full potential and would prepare them for the labour market, while promoting the social inclusion and nurturing civic responsibility at

the same time. These are systems that aim to develop and improve skills, promote mobility and encourage entrepreneurship, creativity and innovation.

At the European level, cooperation in the field of education and vocational training has recorded considerable progress for the last decade in identifying and addressing common challenges and in developing the experience exchange and best practices.

The school helps young people acquire basic skills for life and skills necessary for personal development. The quality of a student's school experience affects not only personal development, but also his position in society, his/her education and employment opportunities.

Demographic trends of the past three decades reflect the declining birth rates, which led to the aging of the population of EU countries and the diminished shares of individuals under 30 years of age in most Member States. These changes might significantly impact human and material resources required for the proper functioning of educational systems.

Increasing international competitiveness implies high professional skills combined with the ability to create, to innovate and to work in multicultural and multilingual environments. Together with demographic pressure, this makes it even more important for education and vocational training systems to increase overall levels of education, while providing the opportunity for all persons, young and adult – regardless of their socio-economic or personal circumstances –, to develop their full potential through lifelong learning.

Regarding higher education, at the EU-27 level were registered, in 2007, approximately 18 million students and about 1.3 million people with higher education.

Special emphasis is placed today on the linkages between universities and enterprises. Thus, in 2009, the European Commission presented a communication entitled "A new partnership for the modernization of universities: EU Forum for University-Enterprise"(http://ec.europa.eu/education/higher-education). Its purpose was to establish a university-business forum as a European platform for dialogue to enable and stimulate the exchange of best practices, debate common problems and identify joint solutions.

Mobility of students and teachers are regarded as important tools for enhancing innovation, productivity and competitiveness of the field.

General characteristics of young people's access to the Romanian labour market

For Romania, the economic and financial crisis manifested at the world level strongly influenced the labour market until 2009, when a sudden growth in the unemployment rate was recorded. Registered unemployment underwent an upwards trend in 2009, as this was the one year (save for 1999) in which the unemployment rate increased on a monthly basis. If in January 2009 the unemployment rate increased to 4.9% (against 4.4% in December 2008), in December 2009 this rate increased to 7.8%.

At the level of the year 2009, out of a total population of 21,498.6 thousand persons, the civil active population represented 9,150.4 thousand persons and the civil employed population was of 8747.0 thousand.

Statement of vacancies reported by employers in 2009 shows a drastic reduction in their bid compared to previous year.

In the year 2009, the records of the National Employment Agency registered 1,140,052 people looking for a job. Out of these, 50.46% were from urban areas and 49.54% from the rural areas. In terms of age, 19.17% were people aged under 25, 23.56% persons aged 25-35, 27.04% persons aged 35 and 45, and another 30.21% people over 45 years of age.

The data supplied by the *Statistical Yearbook of Romania – 2009* indicates that employed population for the age group 15-24 years represented in 2008. 8.3% of total employed across the country, and for the 25-34 years age group only 26.8%. The highest share of employed population for this age group was held by those with middle-level education both for urban and rural areas.

The year 2009 characterized the segment of the population aged 15-24 years with a slightly lower employment rate than in 2008 and an increased ILO unemployment rate (Figure 1).

Source: Activity Report for the Year 2008-2009, NEA

Fig. 1. *Evolution of employment rate and ILO unemployment rate among young people*

For young people, aged between 15-24 years, long-term unemployment rate decreased to 10.3% in 2009 (as compared to 10.5% in 2008) and the incidence of long-term unemployment among young people to 49.5% from 56.3% in 2008.

In the period 2008-2009, 5.669 individuals benefited by non-taxable employment bonuses granted from unemployment insurance fund, respectively 2.989 graduates employed for a period longer than 12 months.

The current stage of Romanian education is defined by an important number of bottle-necks and crises that need to be solved.

The radical improvement of the educational offer of the whole education and vocational training system in Romania is recognized as an important strategic priority for youth employment on labour market for the medium- and long terms. It also takes into account the fact that system reforms aswels as effort and resources investments in the field, have a high degree of inertia, the absorption capacity being a determinant factor, and the return rate lower on short-term, tangible results becoming noticeable only after a given number of years.

In the Romanian society there is widespread recognition of the fact that education is a strategic factor for the future development of the country through its essential contribution to the multidimensional and predictive modelling of human capital. Education is perceived as a path to sustainable development which, in fact, is a social learning process in search of innovative solutions.

If with respect to the level of education for young people, Romania is very close to the EU-27 average, in terms of school abandonment rate, for 2008, Romania continues to be placed on position 6 as compared with other European countries in this respect.

As of 2007, encouraging the employment of graduates undertook new valences, targeting both segments of the labour market: employers and graduates. Hence, the subsidies to employers for hiring graduates differentiated by level of completed education had as effect an increase of the number of young people employed on the labour market and who are registered with the records of the National Agency for Employment.

In 2009, by subsidizing employment, 3,605 graduates (33.81%) were employed with individual labour contracts for undetermined period. Out of these, 6.8% were graduates of secondary schools of arts and crafts, about 39% were graduates of upper secondary or post secondary education, and 54.2% were graduates.

Also, in 2009, 7,057 graduates (66.19%) were employed by individual labour contracts, but without subsidized workplaces.

The 10,662 school graduates employed represent 15.51% of total graduates registered in the records of the National Agency for Employment.

At the county level, the highest number of graduates employed was in Bucharest (437), Iasi (426), Cluj (332), Mures (308), Timiş (260), and Harghita (217). In counties such as Argeş, Bacău, Bihor, Bistriţa Năsăud, Botoşani, Covasna, Dâmboviţa, Galaţi, Neamţ, Tulcea and Vaslui no graduate was employed.

An important contribution to employment of graduates has been organizing at national level the Job Market for graduates, in September 2008 and 2009. Thus, of the total of 30,843 (in 2008) and 35,189 (in 2009) participants, 13,506, respectively 27,252 were graduates. If in 2008, 3,662 graduates were employed, in 2009 their number was reduced to 2,603 individuals.

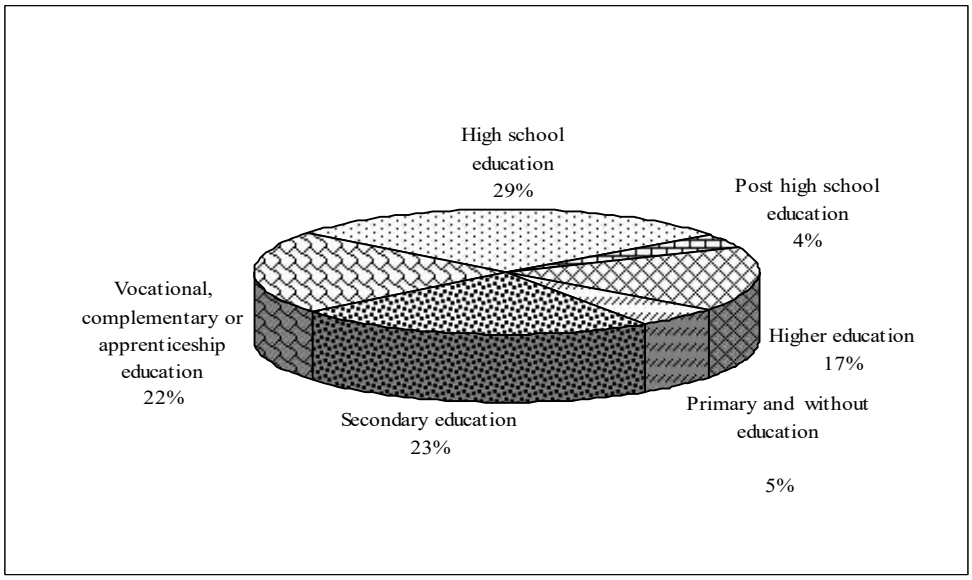
A solution to meet labour shortages in certain areas, regions and activity sectors, is geographical mobility, by which employment or relocation bonuses are granted. However, stimulating geographical mobility from the perspective of

employment and job identification has not produced any spectacular effects in the period 2008-2009 either for young people, as just 556 people were aged under 25 years of for people aged between 25 and 35 years as only and 693 benefited from this measure. Lower wages, issues concerning the possibility of obtaining housing for self and family and sometimes rooting mentality in the place of birth, are some of the reasons for which this measure is less effective.

Within the ad-hoc module realised by the National Institute of Statistics in the second quarter 2009 for analyzing the access of youth to the labour market, 5,923 thousand young people aged 15-34 years made the subject of the study from which 58.8% came from the urban area and 50.2% were women. The main objective of the ad-hoc module was to provide information on the transition of young people aged 15-34 years from education to working life.

Out of the 5,923 thousand persons considered, 5,849 thousands have taken some form of training in the national education system, and 74 thousands have never followed a form of training in the same system. If 33.3% of those who underwent training in the national education system continue to undergo a certain form of training, the rest have left the education system.

As individuals advance in age, participation in economic activity is intensified with the simultaneous decrease of the participation rate in education. People within the upper age interval of the analyzed segment of the population (30-34 years) had a share of 87.7% of the active labour market and their rate of participation in education was only 2.1% (Figure 2).

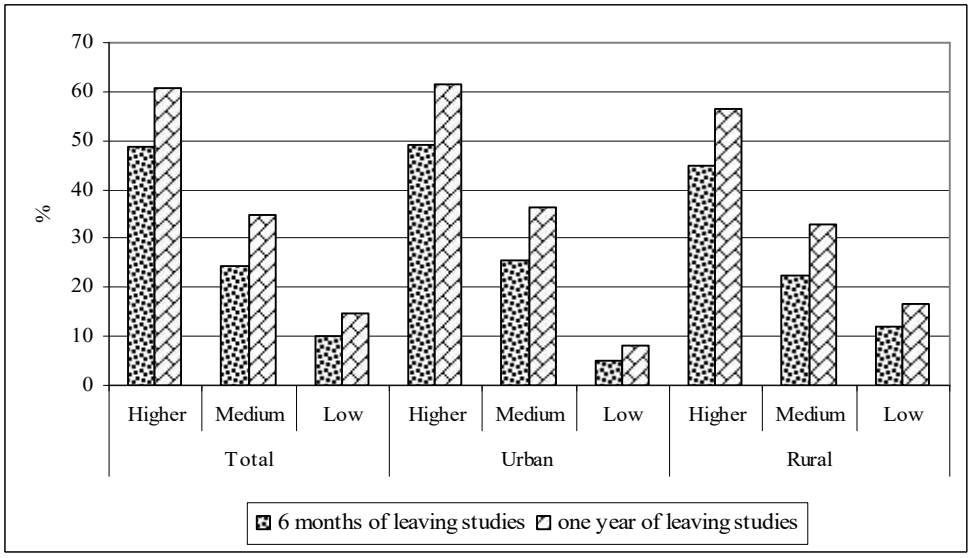


Source: Activity Report for 2008-2009, NEA

Fig. 2. *Participation to economic activity by level of training*

Of total young enrolled in education, 82.0% had at least one significant job after leaving the national education system, of whom 56.85% were in urban areas. Most (75.6%) entered the labour market as employees, and the largest part of them (92.1%) worked full-time.

The insertion rate was 24.4% at 6 months after leaving education for persons aged 15-34 years irrespective of the time at which they left education for the period prior to the completion of the complementary survey, and 33.6% at one year after graduation (Figure 3).



Source: Activity Report for 2008-2009, NEA

Fig. 3. *Rates of labour market insertion for persons aged 15-34 years who have left education*

Estimates regarding the impact of the economic and financial crisis on the process of schooling and education in Romania

The market position of socio-economic and political changes occurring in Europe and, implicitly, in Romania allowed for important steps in substantiating a new concept with respect to policies dedicated to youth.

One of the issues facing young people in attempting to enter the labour market is the fact that many of them, after graduation do not have a qualification, or if they have one, then it is no longer demanded on the labour market, or they lack sufficient experience for exercising the respective job/trade.

The study of the evolution of the schooling process by Markov-type models is useful for the analysis of employment and labour mobility in various sectors of the economy.

For the proposed analysis we used data on population comprised in the six levels of study of the Romanian education system and a series of assumptions were made, namely:

– it is assumed that a process of education consists of six stages, each having a certain length of time depending on the type of corresponding education form: four years for primary and secondary education, 2 years for post-secondary and an additional 3-4 years for higher education;

– at the end of each stage, graduation to next stage (or termination of schooling?) is decided by examination;

– it is recognized that a student may withdraw from courses at any time, but once withdrawn he/she never returns again. Hence, the situation of a student after a period of study can be described by one of the fallowing alternatives:

1) the student passes the exam and will attend the next stage;
2) the student does not pass the exam;
3) the student withdraws before this exam.

– it is assumed that the graduation probabilities to a superior stage, of repeating the concluded study or of withdrawal do not depend on the outcomes obtained by the student in the previous years. Under these conditions, the process of undergoing the successive stages by the students which might be concluded either by successful graduation of schooling or by termination, may be described by a Markov chain with stages 0, 1, …6. The 0 stage characterises a student in the first schooling stage, stage 6 a student who concluded schooling successfully, stage 7 a student who abandoned, and an intermediary stage *i,* $1 \leq i < 6$ characterises a student who did not promote the first *i* stages of schooling. Stages 6 and 7 are under these circumstances absorption stages.

Based on these assumptions, the performed computations led to obtaining the transition matrix (Iosifescu M., 1977, schooling Markov model), respectively:

$$\begin{pmatrix} 0{,}921 & 0{,}054 & 0 & 0 & 0 & 0 & 0 & 0{,}0089 \\ 0 & 0{,}867 & 0{,}0952 & 0 & 0 & 0 & 0 & 0{,}01451 \\ 0 & 0 & 0{,}841 & 0{,}118 & 0 & 0 & 0 & 0{,}0209 \\ 0 & 0 & 0 & 0{,}839 & 0{,}151 & 0 & 0 & 0{,}0192 \\ 0 & 0 & 0 & 0 & 0{,}971 & 0{,}042 & 0 & 0{,}00506 \\ 0 & 0 & 0 & 0 & & 0{,}932 & 0{,}049 & 0{,}0051 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Because the solving of any problems regarding the motion of an absorbing chain on its non-recurrent states do not lose anything of generality (if assuming that all its states are absorbent), will be considered that in such matters the transition matrix has the canonical form::

$$\mathbf{P} = \begin{pmatrix} \mathbf{I} & \mathbf{O} \\ \mathbf{R} & \mathbf{T} \end{pmatrix}$$

where **I** is the unit matrix and the matrix **T** has following components:

$$\mathbf{T}=\begin{pmatrix} 0{,}921 & 0{,}054 & 0 & 0 & 0 & 0 \\ 0 & 0{,}867 & 0{,}0952 & 0 & 0 & 0 \\ 0 & 0 & 0{,}841 & 0{,}118 & 0 & 0 \\ 0 & 0 & 0 & 0{,}839 & 0{,}151 & 0 \\ 0 & 0 & 0 & 0 & 0{,}971 & 0{,}042 \\ 0 & 0 & 0 & 0 & 0 & 0{,}932 \end{pmatrix}$$

with the **T** matrix components and using:

$$\begin{cases} n(i,i)=\dfrac{1}{1-r_{i+1}} \quad 0\le i\le 6 \\ n(i,j)=p_{i+1}\ldots p_j\dfrac{1}{1-r_{i+1}}\ldots\ldots\dfrac{1}{1-r_{j+1}} \qquad i\le j \\ n(i,j)=0 \quad i>j \end{cases} \tag{1}$$

the probabilities of absorption may be computed:

$$\begin{cases} a(i,d)=\sum_{j=0}^{d-1} n(i,j)p(i,j)=p_{i+1}\ldots p_d\dfrac{1}{1-r_{i+1}}\ldots\dfrac{1}{1-r_d} \\ a(i,d+1)=1-a(i,d) \quad 0\le i\le d-1 \end{cases} \tag{2}$$

.

It is noticed that the probabilities of absorption $a(0,d)$ and $a(0,d+1)$ represent the probabilities that a beginner student successfully completes education, respectively withdraws.

Based on the data used, values of the absorption probabilities were obtained, as shown in Table 1.

Table 1

Probability values of absorption for the study of the evolution of a student during schooling

$a(1,6)$	0,544		$a(1,7)$	0,446
$a(2,6)$	0,634		$a(2,7)$	0,367
$a(3,6)$	0,719		$a(3,7)$	0,279
$a(4,6)$	0,818		$a(4,7)$	0,128
$a(5,6)$	0,9175		$a(5,7)$	0,079

The average length of schooling for a student, which is concluded either by graduation or withdrawal, was determined based on the relations:

$$E_i(v) = \sum_{j=o}^{d-1} n(i,j) = \begin{cases} \dfrac{1}{1-r_{i+1}}\left[1 + \sum p_{i+1}\ldots p_j \dfrac{1}{1-r_{i+2}}\ldots\dfrac{1}{1-r_{j+1}}\right] & 0 \le i \le d-1 \\ \dfrac{1}{1-r_d} & i = d-1 \end{cases} \quad (3)$$

The analysis of obtained results allows for determining the average value of the schooling period for a junior student (schooling concluded either by graduation or by withdrawal) for each educational level. Hence, for the considered case these values are presented in Table 2.

Table 2

Educational level	Duration of schooling (years)
Primary	3,87
Secondary	7,58
Complementary	10,56
Upper– Secondary	11,55
Post-secondary	14,81
Higher education	16,3

This information together with similar analyses on other groups of indicators can be very useful in adopting some measures for adjusting educational supply to future requirements imposed by the labour market, as indicated by inquiries conducted by employment agencies and other bodies.

Increasing the relevance of education and initial vocational training for the labour market needs is a major goal pursued by drawing up educational policies and the activities developed by education/training providers. The youth unemployment rate poses the question of education's relevance for the labour market. In this context, a series of measures have to be adopted which aim at adjusting educational and initial vocational training supply to the requirements of the labour market, at improving strategic planning and professional and technical training, at supplying professional guidance services and key-competences by means of a series of projects which are in the implementation, contracting or evaluation stage.

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