

LOGO

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# Abstract

The topics selected to be extensively discussed were skills needs and transitions from school-to-work, career and job transitions. In fact the emphasized put during the last years on these two topics by both Ministry of Labour and Ministry of Education and Research was due to **the need of assessing the quality of VET and to provide information to decision makers in planning both initial and continuing VET.**

When it comes to transition from school to work, **lack of a panel survey is the most important limit of the research studies in Romania.** We have to underline that there are two major causes of this lack of panel survey: the absence of a continuing and proper source of financing and the low capacity of Ministry of Education's decentralized bodies to generate a consistent data base with graduates of schools and universities. So, no research institution has undertaken such studies so far. Even if SEF seems to be an opportunity for these kinds of methodological approaches, the second cause is still not overcome.

In 2000, Romanian National Institute for Statistics carried out an ad-hoc module to the Household Labour Force Survey on "Youth transition from school to work". A remake of this module was carried out, but the results are going to be released no sooner than the end of 2009. In this context, most important research studies related to "School-to-work, career and job transitions" in Romania remain disparate ad-hoc surveys carried out by few research institutions, mainly as pilot research studies for the Ministry of Education.

Also **not many studies and researches are carried out on transitions, for e.g. from activity to inactivity and vice versa, between different occupational statuses,** as access of researchers to micro data collected and administrated by National Institute for Statistics is still not regulated. So researchers practically have to develop each time a specific survey or statistical investigations for topics above and this leave no room for trend analyses, impact assessments or comparative studies.

Research endeavours in Romania regarding anticipating of skills need started more than 5 years ago and continued to develop and refine since then. The first studies carried out in 2002-2003 focused on matching between labour force supply and demand. Then under the technical supervision of international experts, mainly in the framework of PHARE projects, methodologies regarding skills shortages and skills gaps started to be designed and implemented. During the last two years the methodological approached were developed considering the expertise of other EU-15 countries with longer experience in assessing skills need through employer surveys. **One of the most important limits of these surveys is that methodology was changed/ improved every time, so no series can be sketched.**

So much emphasize is put on anticipating skills need via employer surveys as there are no data series long enough to permit macro-modelling approaches. Although, there are at least two such exercises carried out at national level in order to estimate skills need on long term in different scenarios of economic growth.

Both Ministry of Education and Ministry of Labour initiated and financed research studies on skills need in order to plan and design new policies of labour market, as well as of initial and continuing vocational education. Starting with 2005 **Committees for elaborating Regional Action Plans for Technical and Vocational Education used when possible the findings of surveys and forecasts on skills need.**

As said before **none of these has a regular character.** Moreover assessing skills shortages were during 2007 and 2008 a research topic often associated with other phenomenon of the Romanian labour markets such as emigration, migration, innovation, wages, etc.

When it comes to benefits of education and financing mechanisms, research studies carried out in Romania usually have a pure descriptive character. Apart from the assessment of labour market policies carried out at national level, all over studies on the monetary and/or social benefits of VET and improving financing mechanisms were carried out by or even under the technical assistance provided by different international financing institutions/organizations.

Financing mechanisms of initial VET was often a subject of debate strongly linked with under-financing of education system, low quality of education and decentralization.

# Theme 1: School-to-work, career and job transitions

## 1.1. CONTEXTUAL INTRODUCTION

Following the aim of assessing and increasing the quality of education system in Romania, monitoring its outputs, in terms of graduates' speed of insertion on the labour market, became a must. So, both vocational and technical education, and then faculties and universities started to address the issues of transition from school to work. Also, under researches on topics like the access of vulnerable groups on the labour market, insertion on the labour market is analysed in relation with other social capital determinants or relevant (to the vulnerable group addressed) life skills.

Transition from school to work is a complex process for most young people in Romania and other European countries. In order to enter the labour market and benefit from the existing employment opportunities, young people in general and school leavers in particular have to compete with older workers with longer working experience. School to work transition refers to the time period between leaving education and entering a stable job. Due to the fact that most of the studies are carried out during the demand expansion on the Romanian labour market (characterized by high rates of economic growth during 2004-2008), the graduates' entry on the labour market is analysed both in relation with first job, but also in relation with **first significant job** (defined as a regular job with at least 20 hours of work per week).

Also, the theoretical frameworks of the studies included the fact that, nowadays, we witness a shift from the classical model of the direct transition to a model of indirect and dual transition in which school and work overlap for certain periods of time. Moreover, as some researchers theorise a decline in importance of the structural factors such as gender, social class and family of origin in relation to school to work transition, the aim of the most of the studies was to identify factors influencing duration to the first significant job for graduates with tertiary education.

As at the moment of elaborating this report there were no regular available studies on transition from school to work, we decided to address separately each bibliographic resource, as, you could see bellow, target groups, methodology and aims of research are rather different from one survey/research to another.

## 1.2. DETERMINANTS OF LABOUR MARKET INSERTION FOR GRADUATES WITH TERTIARY EDUCATION IN ROMANIA<sup>1</sup>

In order to investigate school-to-work transition of graduates with tertiary education in Romania, National Research Institute for Labour and Social Protection (NLRI) carried out a

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<sup>1</sup> Pirciog S., Zamfir A. M. and Mocanu C., 2009, *Insertion on the labour market of graduates with tertiary education and challenges of the economic crisis*, research paper presented at the international conference "Effects of economic crisis on the Labour Markets. Pathways to recover" organised by National Research Institute for Labour and Social Protection, Bucharest, September 2009.

national survey via a face-to-face questionnaire among graduates who left school in 2003, 2005 and 2007. Therefore, the survey registered **subjects' experiences on the labour market after one, three and five years since graduation. Lack of a list with names and contact information of the graduates from the target group was the most important obstacle hindering the design and implementation of the survey.** So, due to the limits of the available administrative data on graduates, the research team decided to use a quote sample. The design of the sample was based on statistical data regarding the structure of the graduates by field of education. Sample included 2100 subjects from all counties who graduated both public and private tertiary education institutions. Moreover, the projected sample included equal quotas for the three years of graduations (2003, 2005 and 2007) and proportional quotas for the seven fields of education (technical, agriculture, economical, medical, university, juridical and artistic). The final sample consisted in 2194 subjects identified via the snow-bowling technique, including 656 graduates from 2003, 723 graduates from 2005 and 815 graduates from 2007. Data was collected on December 2008. The questionnaire included three main sections concerning education and vocational training, participation on the labour market and job searching.

**Results of the survey show that 4.3% of the investigated graduates had no job after graduation.** In fact, artistic (6.3%) and juridical fields (5.3%) register the highest shares of graduates with no working experience, while technical specialisations display the lowest figure (2.7%). As it was expected, most graduates have had one job since graduation (65.7%), around 20% two jobs, 7% three jobs and 2.4% four or more jobs. Graduates with medical specialisations are characterised by lowest job mobility due to the specificity of the domain and its regulations. **Moreover, job mobility increases with number of years since graduation.**

**Distribution of graduates by number of jobs since graduation, year of graduation and field of education (%)**

|             | 1 job | 2 jobs | 3 jobs | >4 jobs | no job | Total |
|-------------|-------|--------|--------|---------|--------|-------|
| 2003        | 52.9  | 27.6   | 13.3   | 4.6     | 1.7    | 100   |
| 2005        | 63.1  | 24.1   | 6.9    | 2.6     | 3.3    | 100   |
| 2007        | 78.3  | 12.0   | 2.1    | 0.4     | 7.2    | 100   |
| Technical   | 60.4  | 23.8   | 10.4   | 2.7     | 2.7    | 100   |
| Agriculture | 60.0  | 28.0   | 2.7    | 5.3     | 4.0    | 100   |
| Economical  | 64.3  | 22.5   | 5.6    | 2.6     | 5.0    | 100   |
| Medical     | 80.0  | 13.3   | 2.1    |         | 4.6    | 100   |
| University  | 66.3  | 19.1   | 8.2    | 2.4     | 4.0    | 100   |
| Juridical   | 68.3  | 17.3   | 6.7    | 2.4     | 5.3    | 100   |
| Artistic    | 57.1  | 25.4   | 9.5    | 1.6     | 6.3    | 100   |
| Total       | 65.7  | 20.6   | 7.0    | 2.4     | 4.3    | 100   |

Source: Pirciog S., Zamfir A. M. and Mocanu C., 2009, *Insertion on the labour market of graduates with tertiary education and challenges of the economic crisis*

However, **12% of the investigated graduates have been working at the moment of graduation, while 43.8% entered their first significant job during the first three months after graduation and 9.4% after three to six months since graduation. Still, 14.5% of the graduates had no significant job after graduation, adding those 4.3% who had no job at all.** In fact, those who entered a significant job after graduation reached such position, on average, in 4.9 months. Average duration to the first significant job peaks among those graduating juridical studies (6.3 months), while those with technical specialisations display the highest speed of entering a significant job (4.0 months).

**Average duration to the first significant job, by year of graduation and field of education (number of months after graduation)**

|              | Average duration (no. months) |
|--------------|-------------------------------|
| 2003         | 6.1                           |
| 2005         | 5.7                           |
| 2007         | 2.7                           |
| Technical    | 4.0                           |
| Agriculture  | 4.5                           |
| Economical   | 4.9                           |
| Medical      | 5.3                           |
| University   | 4.9                           |
| Juridical    | 6.3                           |
| Artistic     | 4.6                           |
| <i>Total</i> | 4.9                           |

Source: Pirciog S., Zamfir A. M. and Mocanu C., 2009, *Insertion on the labour market of graduates with tertiary education and challenges of the economic crisis*

**Findings of the study indicate that most graduates entered their first job in sectors such as education (15.7%), other services (14.9%) and commerce (14%).** Due to the increasing demand for labour in some economic sectors in the past years, high share of graduates with technical specialisations entered in constructions and other services, while those graduating economic studies found employment mostly in commerce and financial services. On the other hand, most graduates with juridical or university specialisations entered their first job in the public sectors, mostly in administration and education. In fact, **only 68.3% of the graduates who entered labour market worked in a first job in accordance with their specialisation.** Medical (90.3%) and technical specialisations (70.9%) register the highest shares of graduates with a first “adequate” job, while juridical (59.9%) and agriculture (61.1%) display the lowest figures. Moreover, 5% of graduates with tertiary education who entered the labour market worked at their first job as unskilled or skilled workers.

**Distribution of the graduates by sector of their first job and field of education (%)**

|                         | Technical | agriculture | economical | medical | university | juridical | artistic | Total |
|-------------------------|-----------|-------------|------------|---------|------------|-----------|----------|-------|
| Agriculture             | 1,7       | 26,4        | 1,2        | 0,5     | 1,4        | 1,1       | 1,8      | 2,2   |
| Mining                  | 1,4       |             | 0,7        |         | 0,5        |           | 1,8      | 0,6   |
| Manufacturing           | 15,1      | 8,3         | 4,1        | 0,5     | 2,4        | 1,1       | 3,6      | 5     |
| Energy                  | 5,3       |             | 1,6        |         | 0,5        | 1,1       |          | 1,6   |
| Constructions           | 16,8      |             | 3,6        |         | 2,1        | 2,6       |          | 4,8   |
| Commerce                | 13,4      | 26,4        | 22,4       | 6       | 8,4        | 11,6      | 14,3     | 14    |
| Hotels, restaurants     | 0,3       | 1,4         | 3,2        |         | 2,5        | 2,1       | 3,6      | 2     |
| Transport communication | 9,2       | 5,6         | 7,3        |         | 3,8        | 6,3       | 1,8      | 5,6   |
| Financial services      | 2,5       | 1,4         | 15,7       |         | 3          | 7,4       |          | 6,4   |
| Real estates            | 2,2       | 1,4         | 2,8        | 0,5     | 2,1        | 4,2       | 3,6      | 2,4   |
| Public adm.             | 5,3       | 2,8         | 13,3       | 1,6     | 9,5        | 25,9      |          | 10,1  |
| Education               | 5,3       | 4,2         | 5,9        | 1,1     | 37,7       | 3,2       | 37,5     | 15,7  |
| Health                  | 1,1       | 12,5        | 4,6        | 87,5    | 10,8       | 5,3       | 1,8      | 13,6  |
| Other services          | 19,6      | 9,7         | 11,9       | 1,6     | 14,4       | 26,5      | 30,4     | 14,9  |
| <i>Total</i>            | 100       | 100         | 100        | 100     | 100        | 100       | 100      | 100   |



Source: Pirciog S., Zamfir A. M. and Mocanu C., 2009, *Insertion on the labour market of graduates with tertiary education and challenges of the economic crisis*

Regression results show **that unemployment at regional level is a key factor hindering insertion of the graduates with tertiary education on the labour market.** Moreover, factors such as **gender, age at graduation or area of residence don't influence duration to the first significant job, but standard of living of the family of origin do.** Finally, field of education plays an important role with respect to the success and speed of school-to-work transition of those with tertiary education. **Graduates with technical specialisations display the smoothest transition, while graduates with juridical studies the most difficult one.**

### **1.3. INTEGRATION ON THE LABOUR MARKET OF YOUTH FROM THE CHILD PROTECTION SYSTEM<sup>2</sup>**

Youth leaving the child protection system experience multiple transitions while having less human and social capital than others. Researchers distinguish between a model of linear transition from school to work and a model of non-linear transition which characterises mostly youth from disadvantaged groups, with poor socio-economic status and low level of qualification. Linear transition is “smooth” and direct, while non-linear or complex transition includes chaotic transits between different occupational statuses, multiple interruptions within the working experience, long and repeated unemployment spells, extremely high job mobility coupled with returning to school. Non-linear transition from school to work often deepens the social vulnerability of youth and generates marginalisation.

In general, youth from the child protection system display a deficit of human and social capital. Lack of support from the family of origin represents one key factor hindering their transition to adulthood and active life. They are often discriminated in accessing the labour market. Moreover, they suffer from “multiple discrimination” as high share of youth from the child protection system are Roma or disabled. Public and private networks of social assistance try to support youth after leaving child protection institutions, but they manage to address just partly to youth' specific needs, especially in relation with dwelling.

The methodological approach mixed quantitative and qualitative methods. First, a secondary analysis was performed on the NGO's data bases containing information on profile, history and experiences of their beneficiaries who left the child protection system. Second, in-depth interviews were carried out with representatives of institutions with responsibilities in the field of social protection and youth. The quantitative component consisted in an exploratory study based on the secondary analysis. The target group was represented by youth who have left the child protection system and live in Bucharest-Ilfov region, including boys and girls with all levels of education. Main analysed variables were as follows: human and social capital and participation on the labour market. The qualitative component aimed at identifying main obstacles and support factors for transition to work of youth leaving the child protection

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<sup>2</sup> Pirciog S., Mocanu C., Zamfir A. M., Sanduleasa A. B. and Matei A., 2008, *Transition to work of youth from the child protection system (Ro. Investigarea procesului de tranzitie a beneficiarilor sistemului de protectie a copilului aflat in dificultate)*, publication under the project Phare/200/018-147.04.02.03.01.01.806.

system. 12 interviews were carried out in August 2008 with representatives of public institutions with responsibilities in the field.

Results of the study show that due to low levels of education and lack of qualification, youth from the child protection system experience significant difficulties in transition to active life. In this context, they often choose to return to school in order to complete compulsory education or gain qualification and diploma. The solution of returning to school is more present among girls and younger subjects. On the other hand, boys are overrepresented among unemployed. The highest incidence of unemployment is registered among subjects with low education.

Although most of them have gained some experience on the labour market, almost half of the investigated youth were inactive or unemployed at the time of the research which indicates a non-linear transition to the world of work as they failed in securing an employment position. Moreover, one fifth of the investigated youth never worked after leaving school and protection institutions and so they register total failure in transiting to the working life.

At the moment of the investigation, most employed youth from the child protection system worked in positions of “personal and protective service workers” or “unskilled workers in constructions and transport”. Moreover, results highlight that **a significant number of the investigated youth have connections with the informal sector** of the economy which underline their vulnerable position. Just a **few young people leaving the child protection system managed to negotiate with success their transition to work**, while rest of them display non-linear transitions characterised by multiple interruptions and come backs which aggravate their social vulnerabilities and risks.

Research findings substantiate several recommendations for increasing the access to labour market of young people leaving the child protection system in Romania. First, the team research supports the idea of **a specialised body within the local authorities responsible for monitoring and mentoring the professional insertion of these young people on long term**. Also, such a specialised body should work closely together with child protection institutions and local NGOs. Second, the research findings highlight the importance of **developing quality professional guidance services within the child protection institutions**. Third, **programs of assistance should address more to the dwelling problem of youth leaving the child protection system as it represents a major obstacles in their socio-professional integration**.

#### **1.4. SOCIO-ECONOMIC INSERTION OF GRADUATES FROM TECHNICAL AND VOCATIONAL EDUCATION SYSTEM<sup>3</sup>**

Monitoring the entry of graduates on the labour market together with estimations of the skills need via enterprise surveys and forecasting techniques represent important tools for substantiating the annual educational plans. Therefore, **Ministry of Education and its**

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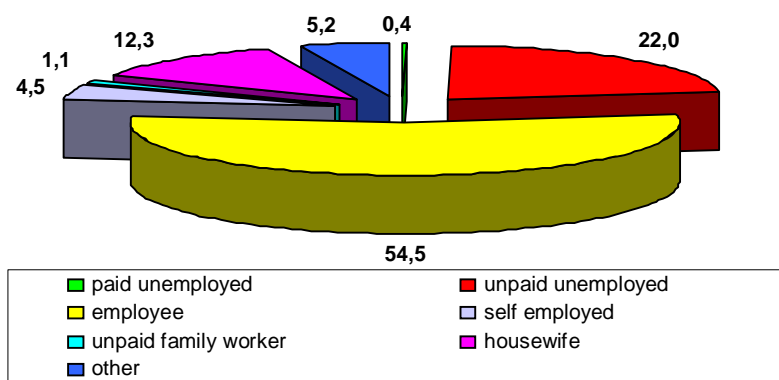
<sup>3</sup> Pirciog S., Mocanu C. and Zamfir A. M., 2008, *Methodology for assessing insertion on the labour market of graduates with technical and vocational education*, presentation at the international conference “Phare and public policies: technical and vocational education system” organised by the Romanian Ministry for Education, Sinaia.

**regional and local bodies need yearly detailed data regarding the entry on the labour market of the graduates at local level.** Moreover, information on skills required at the workplace are needed in order to reform the curricula in the area of technical and vocational education. Beyond employment rates among graduates, there are other important dimensions which have to be taken into account when it comes to school-to-work transition. One such dimension is the match between occupation and the acquired qualification. Also, elements regarding quality of graduates' employment need to be assessed for a proper understanding of school-to-work transition. **The below-described methodology was approved by the Ministry of Education and currently it is applied at county level,** when ESF resources were accessed.

Most recent pilot-study on school-to-work transition of the graduates with technical and vocational education was carried out in Bucharest-Ilfov region in 2008 via a questionnaire based survey. The target group of the research included graduates with levels 1 (schools of arts and crafts) and 2 (complementary year) of qualification who left school in 2007. A random sample of subjects was extracted from a data base with graduates from the Ministry of Education. Moreover, sample was proportionally stratified by field of education (17 fields), level of qualification (2 levels) and area of residence (urban and rural). Data were gathered through face-to-face interviews carried out at the residence of the subjects.

At the moment of the survey, 54.5% of the investigated graduates were employees, while 4.5% worked as self employed. Due to the fact that Bucharest-Ilfov region includes the biggest urban centre in the country, only 1.1% of unpaid family workers were registered among the targeted graduates. However, **22.4% of graduates were unemployed and 12.3% housewives.** So, **one year after graduation, more than one tenth of subjects were economically inactive and almost a quarter unemployed showing a failed transition to the labour market.** The large share of unpaid unemployed, almost 1 quarter of the total sample of graduates is due to the low reaching out of public employment services. Most of the unemployed do not use to ask for unemployment benefit. Data show that field of qualification influences chances of graduates to become employed. Graduates qualified in “clothing and letter industry”, “constructions” and “mechanics” display the highest shares of employees, while those qualified in “wood industry” are characterised by lowest share.

**Distribution of the graduates by occupational status at the moment of the survey (%)**



Source: Pirciog S., Mocanu C. and Zamfir A. M., 2008, *Methodology for assessing insertion on the labour market of graduates with technical and vocational education*

Findings of the study show that, **one year after graduation, 34.4% of the employed graduates had an occupation matching his/her qualification, while rest of them worked in mismatched jobs.** Mismatched graduates were overrepresented among girls and those from rural areas. Still, only one tenth of the employed graduates declare that they were unsatisfied by their job, while subjects working in commerce seem to be most unsatisfied ones.

The “successful transition rate” shows that 34.2% of subjects were, one year after graduation, in position of employer, employee or self employed and worked in a matching occupation. This indicator of the quality of transition registered higher figures for boys, those from urban areas and those with higher level of qualification.

**“Successful transition rate” by gender, area of residence and level of qualification (%)**

|                                   | Gender |      | Area of residence |       | Level of qualification |                  | Total |
|-----------------------------------|--------|------|-------------------|-------|------------------------|------------------|-------|
|                                   | female | male | Urban             | rural | 1st <sup>4</sup>       | 2nd <sup>5</sup> |       |
| <b>Successful transition rate</b> | 28,8   | 36,9 | 37,4              | 16,7  | 32,4                   | 34,9             | 34,2  |

Source: Pirciog S., Mocanu C. and Zamfir A. M., 2008, *Methodology for assessing insertion on the labour market of graduates with technical and vocational education*

**1.5. WORK RELATED ATTITUDES IN ROMANIA<sup>6</sup>**

Most Romanian strategies and policies bring forward the necessity of human resources development via lifelong learning and increasing the access to employment opportunities. In this context, social norms and values regarding the importance of education and work play a key role in the process of (re)construction of socio-economic reality. Investigation of work related values and attitudes is needed in order to substantiate projection, implementation and assessment of the public policies.

The research questions of this study aim to better understanding the Romanians’ perceptions, beliefs and expectations with respect to jobs and career. Moreover, the study tries to explain several career trajectories relevant for the Romanian labour market: working in private vs. public sectors, activating in the informal economy, commitment to organisations, etc.

The research methodology included two national questionnaire based surveys: one among the adult non-institutionalised population of the Romania (aged 18 years and more) and one among Roma population from Romania (aged 18 years and more). First survey was carried out on a sample of 2400 subjects, while the second investigated a sample of 1000 Roma. Data was gathered through face-to-face interviews in May 2008.

The research instruments investigated topics such as characteristics of ideal and current jobs, commitment to work and organisation, job satisfaction, working conditions, career

<sup>4</sup> 1<sup>st</sup> level of qualification refers to those graduating schools of arts and crafts

<sup>5</sup> 2<sup>nd</sup> level of qualification refers to those graduating complementary schools, that last for 1 year and facilitate the access of those graduating schools of arts and crafts to vocational high schools

<sup>6</sup> Comsa M., Rughinis C. and Tufis C., 2008, *Work related attitudes in Romania (Ro. Atitudini fata de munca in Romania)*, research study founded by the Romanian Soros Foundation, <http://www.soros.ro/ro/publicatii.php#>

development, professional stress, attitudes toward education and work, attitudes toward the principles of market economy, relation between ethnicity and participation in education and on the labour market.

Results highlight **the distance between the ideal and current job of the Romanians**. Most employed subjects declare that the ideal job is characterised by security, high income and advancement in career opportunities. In fact, the preference for job security and high income is higher for persons working in lower positions. On the other hand, answers of the subjects show that their current jobs are secure and useful to society, but display low levels of income and advancement opportunities. Men, older subjects, better educated ones and those from Bucharest have more positive appreciations with respect to characteristics of their current jobs. So, **highest distance between the ideal and the current job is displayed with respect to the income level and advancement in career opportunities**. However, most employed subjects are satisfied by their current jobs. In fact, higher levels of job satisfaction are registered among men, older workers, better educated ones and employers.

Regarding work related values, employed population seem to be slightly more committed to work than the entire adult population. With respect to company commitment, most subjects are proud to work for their organisation and available for extra work on behalf of its development, but they are not willing to keep their current job in spite of job offers with better payment.

Job tenure in the current workplace indicates important differences between career patterns in private and public sectors. **Subjects who have worked only in the public sector are characterised by an average job tenure of 14 years and 2 months which is double in comparison with the job tenure of the other categories**. As it was expected, **job mobility is extremely low in the public sector**. Moreover, employees from the public sector consider that they have higher job security, better advancement in career opportunities, more interesting and useful for society work, but lower level of payment. With respect to work related values, employees from the public sector perceive work not only as a source of income in higher extent than those from the private sector. On the other hand, **students display the highest propensity for entrepreneurship**.

## 1.6. JOB MISMATCH AMONG YOUTH IN ROMANIA

In those regions and sectors registering a surplus of labour force, young people are more vulnerable to unemployment and inadequate employment in relation to their qualifications. For some of them, such situations represent simple stages of their careers. However, inadequate employment has negative effects on work productivity and career development. Job-matching theory postulates that the degree of fitting between the required and acquired skills influences productivity of workers and, subsequently, earnings in a specific job. When someone works in a non-matching job, his/her skills are underutilized. Therefore, optimal allocation of workers means that all workers are matched to jobs in which they perform better than all the other workers.

Inadequate employment can be the result of an existing mismatch between the supply of and demand for skills on the market or simply the effect of incomplete information at the level of employers and/or job seekers. Labour market is characterised by a two-sided matching game

between the employers and job seekers. Thus, inefficient formal mechanisms of labour force allocation to jobs are conducive to inadequate employment.

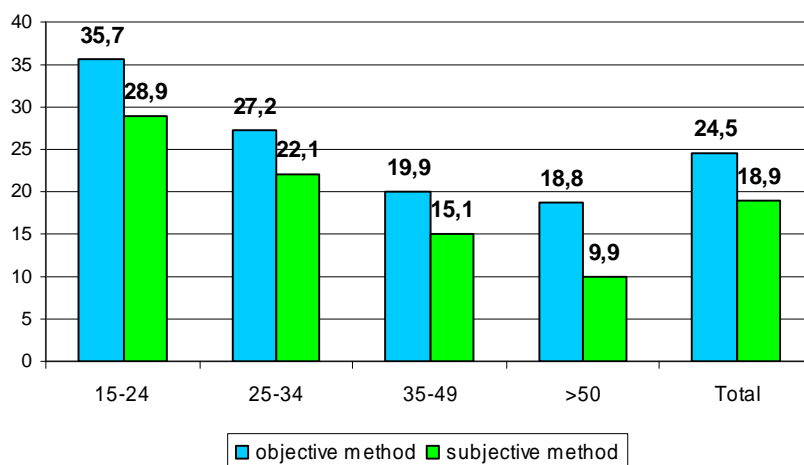
Obviously, education plays a key role in matching the supply of and the demand for skills. On the one hand, the inertia of the education system in meeting the requirements of the evolving labour market determines a relative low degree to which the curriculum provides the needed knowledge and skills. On the other hand, an over-supply of highly educated school leavers leads to a “bumping-down” effect on the labour market as those better-educated start to compete with those less-educated. Also, poor institutionalized link between the education institutions and employers hinders the access of school leavers to jobs that match their qualification.

Moreover, fluctuations in the business cycle impact the incidence of inadequate employment. School leavers who enter labour market during economic recession face a higher risk of unemployment, being more vulnerable to job mismatch. Additionally, individual characteristics affect the likelihood of having a job mismatch as members of the disadvantaged groups are more vulnerable to inadequate employment.

For the empirical analyse, authors use data from a 2006 national representative survey among Romanian employees. Sample included only firms from private sector and was stratified by NACE, region and age of the employees. The sampling design allowed authors to study the relation between age and job mismatch as the data set includes information on education and qualification of the employees, as well as characteristics of their current jobs.

Measuring job mismatch poses important methodological issues. One method is the *objective method* (job-analyst method) in which the employees’ level of education is compared with the one requested by their occupation. The problem is to determine the level of education needed in a specific occupation. The research team has established it according to the provisions of the Romanian Occupations Framework. Another method is the *subjective method* (self-reporting method) which takes into account answers of the employees assessing the match between their skills and skills required by their jobs. In order to validate the findings, authors have used both described methods.

### Incidence of job mismatch by age (%)



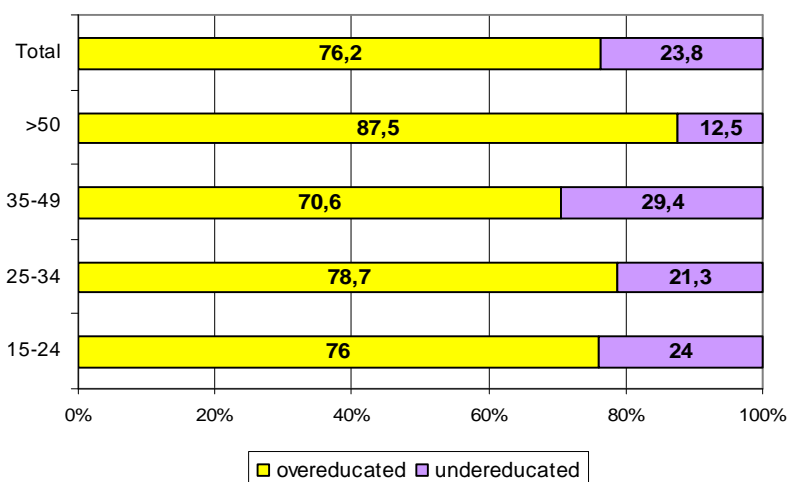
Source: Zamfir, A. and Mocanu, C., 2007, *Job mismatch among youth in Romania*

At national level, **the objective method shows that 24.5% of the employees are characterised by inadequate employment in relation to their qualification, while the subjective one indicate a share of 18.9%.**

However, both methods indicate that **young employees are those exposed to inadequate employment in the highest extent** as incidence of job mismatch declines with age of the employees. In fact, 35.7% of the young employees (by the objective method) and 28.9% (by the subjective one) are characterised by job mismatch. Obviously, these figures highlight the vulnerable position of youth on the Romanian labour market.

By the subjective method, 76.2% of the mismatched employees are overeducated for their job and only 23.8% are undereducated. Young employees characterised by job mismatch register a similar distribution: three quarters are overeducated for their jobs, while one quarter is undereducated which points out to an oversupply of highly educated school leavers. In fact, **67% of those overeducated declare that the main factor explaining their employment situation is lack of jobs adequate for their qualification.**

#### Type of job mismatch by age – subjective method, (%)



Source: Zamfir, A. and Mocanu, C., 2007, *Job mismatch among youth in Romania*

Both objective and subjective methods indicate that share of mismatched employees increases with the level of their education. Around 80% of mismatched youth with medium and higher education are overeducated for their current jobs. As participation in education has increased sharply in the recent years, school leavers display higher and higher levels of education. They transit to a market which is not ready to absorb them and, therefore, they experience job mismatch in high share.

Both methods highlight high share of youth from real estates and financial intermediation working in a non-matching job. Also, high incidence of job mismatch is registered in mining and manufacturing (according to the objective method) and in constructions (by the subjective one). **Both methods indicate that most young employees affected by inadequate employment activate as unskilled workers.**

Still, data show that **young employees characterized by inadequate employment are those displaying the highest incidence of job searching behaviour.** Obviously, for some young

employees, job mismatch situations represent stages of their transition process from school to work.

## 1.7. CONCLUSIONS

Even if important steps have been made with respect to research on labour market insertion, at least with respect to developing adequate methodologies (both in order to answer to institutional requirements, as well as in order to provide scientific information) using the non-reimbursable funds from EC or any other financial institutions/organizations, not even one activity and research endeavours presented above became a regular activity. Due to fact that different decisions' makers asked for these studies in order to respond to a specific policy need, the findings of these studies are hardly comparable, and no evolution trend could be designed. So, having a statistical investigation on a regular basis on topics transition from school to work, careers is a must for a rapidly changing economy.

Also, with respect to transition from school-to-work, developing a longitudinal study is a necessity, but deeply depends on the capacity of Ministry of Education to provide comprehensive data bases with graduates of different vocational paths.

In-depth studies have to be carried out on how technical and vocational training and higher education could be better articulated. Also, with respect to technical and vocational education, studies on how VET contributes to growth and labour market outcomes are still needed. Until now, impact assessment of VET and labour market outcomes were done for active labour market programs, but they need to be extended. Even it is widely recognized that VET contributes to increases of productivity and economic growth; still there is only a scant supply of studies on this topic (see Ghinararu C., 2007, Autumn Review of the European Employment Observatory, <http://www.eu-employment-observatory.net/resources/reviews/EEOAutumnReview2007.pdf>). Also, more importance has to be put on the quality of staff/teachers competences of VET system, as this is another side of the quality in education that has to be addressed. Labour market is changing, skills needs are changing, so also the technical skills of teachers have to be regularly assessed and updated.

Labour market groups at risk also have been subject of different studies and researches, but less importance was accorded to social stratification and to social mobility and equity. Also, not many studies were done on the labour market insertion, skills capital of those graduating the educational system in minority languages.

Also, more studies have to be done on learning and teaching of elderly or other vulnerable groups of the labour market, in order to provide adequate CVTS. Much also have to be done on standardization of pupils/student assessment, so in-depth studies are needed.



# Theme 2: Skills Need

## 2.1. CONTEXTUAL INTRODUCTION

The reforms of Transition from plan to market started to press policy makers under the Ministry of Labour and Ministry of Education to put much emphasize on anticipating the labour market evolutions and to match the outputs of initial and continuing VET with these anticipations.

First econometric exercises of anticipating skills needs were practically extrapolation of past trends, adjusted with information provided by employers' surveys. In-depth analyses were carried out at sectoral level, but these were rather ad-hoc approaches.

Until now, several surveys were carried out on anticipating skills needs, and their objectives varied from anticipation of demand to forecasting, from matching demand and supply to even assessing the role of public employment services.

Unfortunately, all studies had different beneficiary, different aims and methodology, so it is not possible to analyse evolutions of the labour market during the analysed period of time. So, we will try to summarize both the methodological approaches and key findings according to the most important key issues addressed in the near past, as presented above.

The most important research issues addressed during the last 5 years at national level are as follows:

- Designing and testing methodologies aiming at assessing skills shortages and skills gaps on the labour market via enterprise surveys;
- Forecasting labour demand at regional and sectoral level, in different scenarios of economic growth;
- Understanding the causes of co-existent deficits and surpluses of skills on the Romanian labour market, as well as redefining the role of public employments services on how to match the demand and supply;
- Identifying obsolete skills and individual strategies to keep up with the professional requirements of a rapidly changing environment;
- Assessing the changes in the content of occupations, as well as the implications for the knowledge, competences/skills and abilities required in order to perform the above mentioned occupations;
- Assessing the incidence of vocational training in Romanian companies.

## 2.2. ASSESSING SKILLS SHORTAGES AND SKILLS GAPS ON THE LABOUR MARKET VIA ENTERPRISE SURVEYS

This was the aim of four ad-hoc surveys carried out at national level in 2005, 2006 and 2008. Moreover, starting with 2006, National Institute for Statistics implements the EUROSTAT quarterly survey on vacancies.

First national exercise on anticipating skills needs consisted in a large scale survey based on a face-to-face questionnaire on a representative sample of 2400 active companies that covered 7 of 8 development region (NUTS 2) of Romania. Bucharest-Ilfov as the most developed region of Romania (at that moment of time) was not a subject of the Technical Assistance provided under PHARE 2002. The sample was randomly stratified one, using as stratification criteria the following: the economic activity (NACE classification, 1 digit), firm size (10-49 employees, 50-249 employees and 250 and more employees). The questionnaire employed was developed under the technical supervision of the international expert. **One of the most important limits of this survey was that a new and still changing qualification framework used by VET system was used**, so only Regional Committees benefited from the findings.

What has to be emphasized is that **the first conceptual approach on skills need implemented in Romania used as proxies: the evolutions on short time of the total number of employees and skills shortages operationalized as the number of vacancies existing in companies for more than 6 months.**

Second and third exercises were carried out national level (on all 8 development regions<sup>7</sup> of Romania). They were a face-to-face questionnaire on representative samples of 1200 active companies. The survey covered all economic activities (NACE classification from A to O), but excluded the public administration. The statistical unit of investigation was “enterprise with at least 1 employee”. The samples were randomly stratified ones, using as stratification criteria the following: firm size (0-9 employees, 10-49 employees, 50-249 employees and 250 and more employees) and 8 development regions. Face-to-face interviews addressed top-management representatives who posse a thorough, solid knowledge of human resources policies and firms’ plans for growth. **Following proxies for skills need were used: the structure and dynamic of employment for the previous year (2005), estimates of its short-term evolution (next 6 months), skills shortages for the previous year (2005), skills gap and vocational training employed during the previous year.**

**Skills shortages are operationalized as the number of vacancies existing in companies for more than 3 months during the previous year (2005), and number of vacancies existing during the previous year and still opened at the moment of investigation (early Spring 2006). Skills gap is operationalized as (mis)matching between required and acquired skills and employers’ level of satisfaction with employees’ qualification.**

In 2008, under *the Consulting Services for a Comprehensive Labour Demand Survey*, with the technical and financial support of World Bank, the National Research Institute for Labour and Social Protection Romania makes a very important step in developing the research methodologies on skills needs via employers’ surveys. The study was based on a survey undertaken on a representative sample of 1169 companies with a tolerated error of  $\pm 2.86\%$  at a confidence level of 95%. The questionnaire was designed in multiple sections, aiming at making operational as many as possible proxies for the concept of “skill”. Thus, the questionnaire consisted in the following sections: Structure and evolutions of companies’ personnel; Vacancies and recruitment difficulties; Estimates for the next 6 months with respect to companies’ personnel dynamic; Key drivers of change for occupations’ content; Vocational training and Skills gap.

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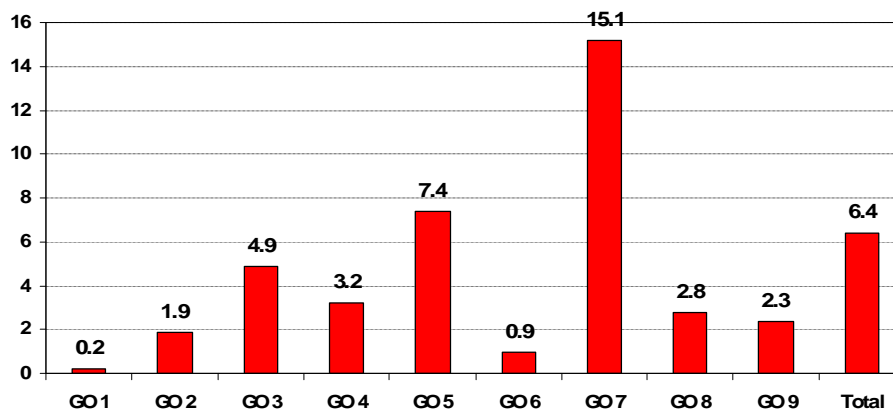
<sup>7</sup> The development region is an administrative unit created in order to access pre-access funds as well as SEF

As it is the most recent and most relevant methodological approach, we will focus our key research findings on this last ad-hoc survey.

Vacancies rates at sectoral level according to these four methodological approaches are in fact reflecting the evolution of Romanian economy during 2004-2008. Thus, in 2004 skills shortages were concentrated in manufacturing, commerce and constructions. In 2006. Skills shortages were concentrated mainly in manufacturing, namely in textile and clothing industry. Main conclusions of the studies carried out in 2006 was that the Romanian labour market is characterized by the coexistence of high labour force demand (shortages) in specific regions and sectors, and high labour force supply (redundancies) in others, so, the labour force allocation and low internal mobility seemed to a be a problem of that moment of time.

In 2008, the year when Romanian economy peaks its highest levels of growth, the survey carried out pointed that 16.6% of companies had vacancies. Rate of vacancies picks in Constructions, Hotels and restaurants and health and social care. **Lower the level of education required for a vacancy, higher the probability to become chronically vacant.** In occupational profile, rate of vacancies peaks for the occupational group of artisans and handicraftsmen and operative workers in services, commerce and assimilated.

#### Rate of vacancies by groups of occupations (%)



where:

GO 1 = Legislators, senior officials and managers

GO 2 = Professionals

GO 3 = Technicians and associated professions

GO 4 = Clerks

GO 5 = Service workers and shop and market sell workers

GO 6 = Skilled agricultural and fishery workers

GO 7 = Craft and related trade workers

GO 8 = Plant and machine operators and assemblers

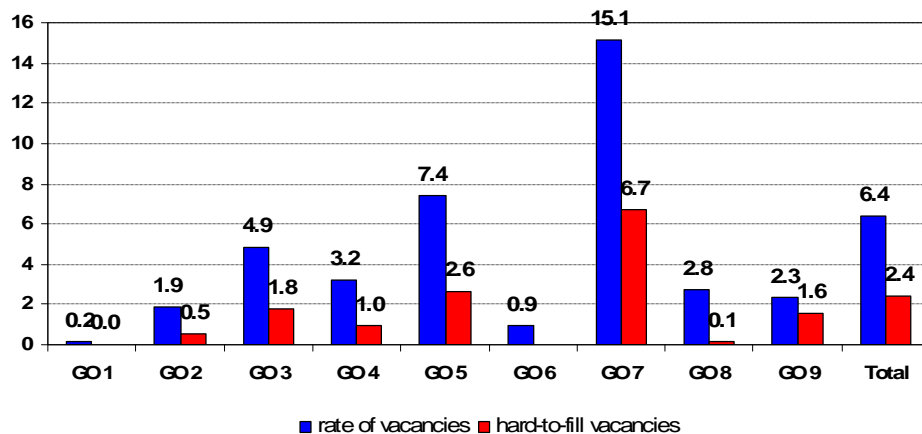
GO 9 = Elementary occupations

Source: National Research Institute for Labour and Social Protection Romania, 2008, Consulting Services for a Comprehensive Labour Demand Survey

**Main reasons for having vacancies are labour shortages (explaining 23.7% of vacancies), skills shortages (explaining 32.7% of vacancies), poor working conditions (explaining 14.1% of vacancies) and the employee's turnover (explaining 12.1% of vacancies).**

**One third of vacancies are the so called "hard-to-fill" vacancies.** The hard-to-fill vacancies are more probable to be found in Hotels and restaurants, Manufacturing, Agriculture, forestry and fishing and Constructions. **It is more probable to have hard-to-fill vacancies for some occupation groups for which rate of vacancies peaks.**

### Rate of vacancies and hard-to-fill vacancies by economic activity (%)



where:

GO 1 = Legislators, senior officials and managers  
 GO 2 = Professionals  
 GO 3 = Technicians and associated professions  
 GO 4 = Clerks

GO 5 = Service workers and shop and market sell workers  
 GO 6 = Skilled agricultural and fishery workers  
 GO 7 = Craft and related trade workers  
 GO 8 = Plant and machine operators and assemblers  
 GO 9 = Elementary occupations

Source: National Research Institute for Labour and Social Protection Romania, 2008, Consulting Services for a Comprehensive Labour Demand Survey

Even if the methodological approaches are unique and adapted to different requirements of different beneficiaries, the findings of the above mentioned projects are quite consistent with the data reported by the National Institute for Statistics on the basis of *Statistical Survey on Vacancies*.

**As the funds allocated to research were severely cut down starting with 2009, no relevant statistical investigations were carried on the impact of economic crisis on skills needs. NIS data are the only one that could be use as based for such speculations.**

According to NIS data rate of jobs vacancies picks in the quarters 2 and 3 of years 2007 and 2008 that are in fact the best years of Romanian economy during the last two decades. Starting with the last quarter of the 2008, job vacancy rate enters on a sharp decline strongly linked with the effects of financial end economic crises. Public administration and health and social assistances are sectors scoring the highest rates of job vacancies during the period reported. Also the occupation group of specialists with intellectual and scientific occupations still registers the highest job vacancies rate in occupational profile.

### Rate of vacancies by economic activities for 2006-2009

| Year             | 2006 |     | 2007 |     |     |     | 2008 |   |     |     | 2009 |     |
|------------------|------|-----|------|-----|-----|-----|------|---|-----|-----|------|-----|
| Quarter          | 3    | 4   | 1    | 2   | 3   | 4   | 1    | 2 | 3   | 4   | 1    | 2   |
| Job Vacancy rate | 1.8  | 1.6 | 2.1  | 2.1 | 2.2 | 1.8 | 2.1  | 2 | 2.1 | 1.5 | 1.3  | 0.9 |

Source: EUROSTAT, [http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

### 2.3. ASSESSING SKILLS NEEDS ON MEDIUM AND LONG TERM VIA RECURSIVE ECONOMETRIC MODELS

One of the few exercises as such was carried out in 2005 during the above mentioned project with PHARE financing<sup>8</sup> and designated to assist Regional Committees in order to substantiate the schooling plans for the year to come. As said before the exercise was undertaken on 7 of 8 development regions of Romania (Bucharest-Ilfov was the one excluded)

3 scenarios were elaborated in order to forecast the evolution of regional economies on long term in sector and occupational profile:

- 1<sup>st</sup> scenario (pessimist) was based on the extrapolation of the economic trends registered during 1993-2002; In this scenario, for 2013 was estimated a decline in the labour force demand with 24.8%. By economic activity in all regions were forecasts decreases of labour demand for mining, manufacturing, constructions, hotels and restaurants, transport, storage and communication, real estates. For 5 regions were estimated increases of labour demand in commerce, public administration and health and social assistance. Similarly, decreases were forecasts for technicians, foremen and assimilated, civil servants, artisans and handicraftsmen, operators for installations and machineries and unskilled workers in all regions. Small increases are estimated in 3 regions for legislators, clerks and managers, intellectual and scientific occupations, operative workers in services and skilled workers in agriculture.
- 2<sup>nd</sup> scenario (moderate) was based on assumptions of continuing economic growth, foreign investments, re-technologization, high increasing rhythms of productivity and decreasing rhythms of employment; The model is based on modelling techniques employed by ROA Netherlands. In this moderate scenario, for 2013 was estimated a decline in the labour force demand with 1.8%. By economic activity in all regions were forecasts decreases of labour demand for agriculture, public administration, education, energy, and mining; while increases were forecasted for manufacturing, hotels and restaurants, transport, storage and communications, financial intermediations and real estates. Similarly, decreases were forecasts for skilled workers in agriculture, unskilled workers and civil servants.
- 3<sup>rd</sup> scenario (optimist) was based on the assumptions of continuing economic growth, moderate increasing rhythms of productivity and slight increasing rhythms of employment. The optimistic scenario estimated a slight increase of the labour force demand with 1.8% for 2013. By economic activity in all regions were forecasts decreases of labour demand for agriculture, public administration, and mining; while significant increases were forecasted for manufacturing, hotels and restaurants, transport, storage and communications, financial intermediations and real estates.

Main limits of the scenario-based models consisted in: the lack of inter-census data on the structure of employment by occupations, the changes of the National Framework of Occupations during different available statistical data sources, the lack of statistical data on GDP and GVA at regional level and in sector profile, short series of Labour Force Survey

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<sup>8</sup> **Provision of the development of regional labour market studies for estimation 2013 TVET supply according to demand**, 2005, National Research Institute for Labour and Social Protection Romania

available at that moment of time, difficulties in using and adjusting the econometric models due to data inconsistency.

#### **2.4. MATCHING BETWEEN DEMAND FOR AND SUPPLY OF LABOUR FORCE AT LOCAL EMPLOYMENT SERVICES**

This is the only one methodological approach used in order to identify the role of public employment services in matching demand and supply; it was employed in 2006. Even if the results of this exercise were quite interesting, the public employment services failed to use them in order to improve its role at local level.

The objective of the component was to match supply and demand on the labour market as it results from analysing the records of vacancies and persons looking for employment by accessing Public Employment Services.

The method has two steps. On the one hand the authors compared the results of the data analysis regarding the number of unemployed people registered over a two week period (June 22nd – July 5th, 2006) to the results of the data analysis of what it is called the *stock* (that is the total number of unemployed registered since the beginning of the year). Thus, the degree of concordance between the structure of the *sample* - the daily records within the two week period – is similar to the structure of the *stock* is assessed. The same is done to analyse the vacancies registered at the Public Employment Services. The method has limits as public employment services does not keep track of neither the unemployed people who get a job without notifying public employment services, nor of all vacancies advertised by the employers which become no longer available. On the other hand the authors made a comparative analysis of the labour supply and demand (only for the two week period chosen for the purpose of this study (June 22nd – July 5th, 2006)).

Results of the method described before points to an exceeding demand as compared to supply. By occupation, exceeding demand is registered for 1<sup>st</sup> group of occupations (except subgroup 11), 2<sup>nd</sup> group (except subgroup 23), 4<sup>th</sup> group, 5<sup>th</sup> group and 8<sup>th</sup> group (except subgroup 81). Shortages are registered for the following groups: 3 (except subgroup 34), 6, 7 (except subgroup 71), 9 (except subgroup 91).

*where:*

*GO 1 = Legislators, senior officials and managers*

*GO 2 = Professionals*

*GO 3 = Technicians and associated professions*

*GO 4 = Clerks*

*GO 5 = Service workers and shop and market sell workers*

*GO 6 = Skilled agricultural and fishery workers*

*GO 7 = Craft and related trade workers*

*GO 8 = Plant and machine operators and assemblers*

*GO 9 = Elementary occupations*

Results got by calculating the correspondence consistent with the first 6 digits pointed at national level that there is a shortage for the unskilled workers in packing of solid and semi-solid products/manufactured goods and for the unskilled workers in mainstreaming of roads, driveways, bridges, dams, while there is redundancy of vacancies for unskilled workers in building, brick laying, and for sellers and handlers of goods. Small or inexistent demand is registered for unskilled workers in agriculture, mechanics, carpenters and unskilled workers in packing goods made of dust. Small or inexistent supply was identified in textiles manufacturers and assemblers, security guards, drivers, brick layers and plasterers.

## 2.5. KEY DRIVERS OF CHANGE VIA MONOGRAPHIC APPROACH

Even if the results of this type of investigation of skill needs proved itself complex and comprehensive, the high costs, as timing and financing were the most important cause of the fact that such an approach was never employed again.

The restructuring process of Romanian economy led to significant changes in its occupational structure: new occupations have emerged, and on the other hand, the content of many others has changed. In certain sectors of activity, certain occupations have taken priority, while other have become obsolete and disappeared. For an in-depth knowledge of the specific and dynamic of changes affecting Romanian occupational system, a monographic research was designed. An analytical sample of 105 occupations was selected, using the following conceptual framework. “Dominant occupations” are well formalized, “crystallized”, with a certain „tradition” in the structure of the occupational system of the Romanian economy, that account for significant percentages of the total number of employed persons. It can be assume also that if they disappear, the existence of other occupations placed upstream or downstream is also endangered. “Occupations that have significantly changed their content” were strongly affected, especially by the reorganizations of the Romanian economy in the transition years, but also by inherent processes associated with economic growth. They are mainly found in those industrial sectors strongly affected by technological or organizational changes, but also in services, where the nature of the activity has changed a lot or where new market niches appeared. “Piercing/emerging occupations” are new occupations, mainly associated with the emergence of new sectors and new market niches. They can have with a high added value and an increasing potential for development

The questionnaire employed aimed to make a comprehensive description of 105 significant occupations, to identify the causes that shaped the occupations’ content and also to outline several evolution trends. For designing this instrument over methodologies developed in the field were consulted, such as the one elaborated by the U.S. Department of Labor, Bureau of Labor Statistics. 1 to 5 interviews were carried out for each occupation, and where it was possible information from job descriptions where also considered. Questionnaire were addressed to technologists, department/workshop/team managers, representatives of the human resources department, technical managers, workers with selected occupations, capable of providing relevant and comprehensive information about the occupation at stake.

According to the conceptual framework used out of those 105 occupations’ monographs, 51 were for dominant occupations, 19 for piercing occupations and 35 for occupations that had significantly changed their content. In order to analyse data collected a secondary analyses was carried on all monographs completed for all selected occupations.

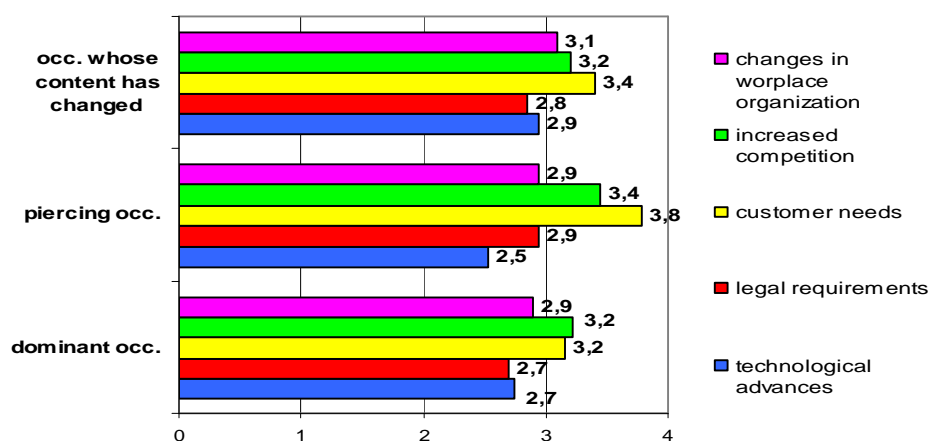
Regardless of their typology („dominant”, „piercing” and “occupations whose content has changed significantly”), **most of the occupations recorded changes in their work content.** Out of these, as it was predictable, the occupations „whose content has changed significantly” were those that recorded the highest levels of change, being followed by the „piercing” and „dominant” ones.

**The character of Romanian economy as consisting mainly in low value added sectors is strongly correlated with the occupations’ content.** For dominant occupations, the physic activities still play an important role. Piercing occupations put a premium on communication

skills and intellectual activities. Also intellectual activities scores among occupations that significantly changed their content.

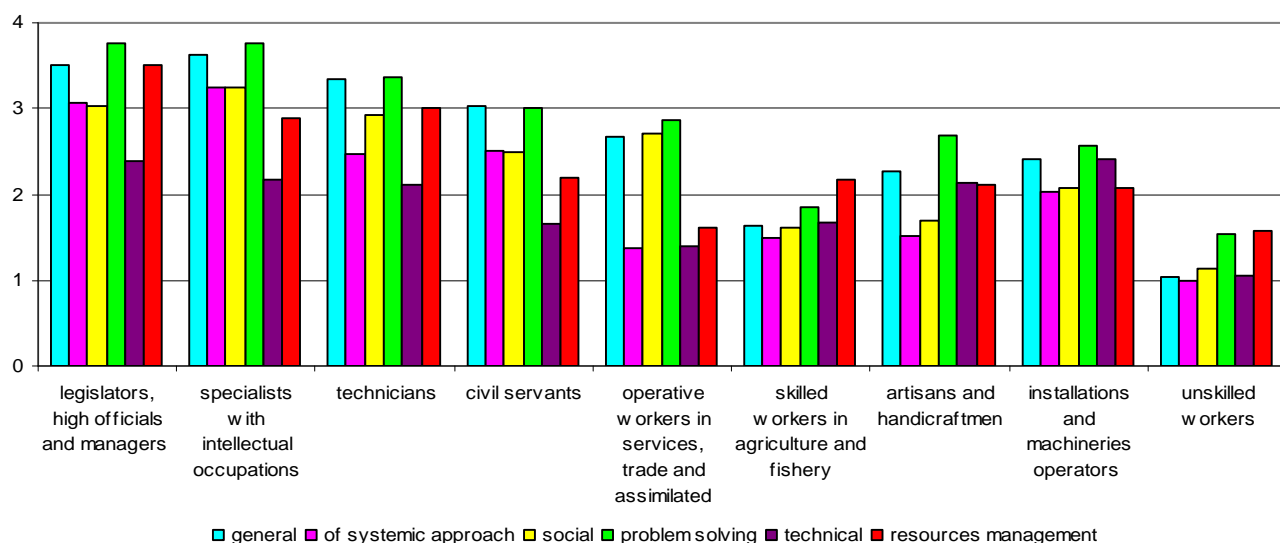
**Main key drivers of change were: meeting clients' needs increased competition and technological advances.** Development of the private sector and led to the development of „client orientated” policies at the level of the companies and, therefore, to the increasing role of certain factors such as „meeting the clients' needs” and „increased competition in the field”. Technological advances played a major role in redefining the content of the „dominating” occupations and of those „who's content has changed significantly” as well. **In public administration, the most important role in generating changes was played by the repeated changes of the legal regulations.**

**Importance of key drivers of change during the last 10 years and The role of different factors in generating, during the last 10 years, changes of content for the investigated occupations (averages on a scale from 1=less important to 4=very important)**



Source: National Research Institute for Labour and Social Protection Romania, 2006, **Evolution of occupations on Romanian labour market in 2010 perspective**

**Competences necessary in performing jobs' tasks (averages on a scale from 1=very small extent to 4=very large extent)**



Source: National Research Institute for Labour and Social Protection Romania, 2006, **Evolution of occupations on Romanian labour market in 2010 perspective**



Competences mainly associated with the changes in occupations' content are: using the computer, problems solving, resources management and communication. Trans-sectors competences such as using the computer and knowledge of a foreign language (mainly English) are and remain the most important ones.

All this different and ambitious methodological approaches were employed in order to reach the ambitious objective of assessing the labour force demand on short and medium term and to a better understanding of the changes that the Transition from plan to market shaped on the Romanian labour market. Most of the findings substantiated the elaboration of the Regional Action Plans. All methodologies were "inspired" by other European countries' experience in forecasting the labour market trends and their implications for the vocational and training experience. When it comes to Romania, these methodological approaches were a must, as during transition the economic reforms and technological changes, massive layoffs, the reform of education system, the lack of statistical information (even the statistical support was changing and tried to keep up with the new processes affecting Romanian society), the opening of the Romanian economy and the efforts to integrate it in the global economic and commercial flows, etc.

## **2.6. CONCLUSIONS**

As pointed to the above topic, even if important steps have been made in order to develop complex, adequate and alternative methodologies for assessing skill needs, none of the exercises financed by World Bank, EC, or any other financial institutions/organizations became a regular, annual activity. The findings of these studies are hardly comparable, no evolution trend could be designed so they could not be extrapolated or used to make assumptions with respect to impact of economic crises on skills needs.

Many occupations had changed their content, other occupations have a "blurred" content so much emphasis has to be put on the evolution of occupations and skills required for them. Also, the changing legal framework extensively affected career in public administration so studies on this topic can make contributions to a more and efficient public administration reform.

Romania is currently through the National Research Institute for Labour and Social Protection an active part of CEDEFOP led initiative geared towards the anticipation of the medium term demand and supply of skills in Europe. In recognition of previous individual contributions to the CEDEFOP researches on demand anticipation and supply anticipation at European level, the Romanian research group is responsible for the entire area of Central and Eastern Europe plus Greece in terms of country data validation. Access to this important pan-European tool will greatly boost the capabilities of Romanian research in the field and might prove a milestone in developing future researches on the topic using both econometric tools, as well as national established approach which emphasizes firms' surveys.

## Theme 3: Benefits of Education and Training

Main topics related to the benefits of education and training investigated in Romania refer mostly to its economic benefits and monetary returns. Thus, research studies carried out on effects of training focus on: impact of active labour market policies on employment and wages, effects of education on poverty risk and effects of education on employment.

As the methodologies employed are different for each scientific exercise, we will present them accordingly to the bibliographic sources identified. Also, we have to point again that none of this exercises was carried out on a regular bases.

### 3.1. IMPACT OF ACTIVE LABOUR MARKET PROGRAMS IN TRANSITION ECONOMIES<sup>9</sup>

The research study aims to assess the impact of the training component of the active labour market programs on employment. The methodological approach is based on the propensity score matching technique which permits comparing outcomes for two groups: one group of individuals who attended training programs organised by the public employment agencies and one control group. Due to anticipation of a low response rate, all individuals who registered at the County Agency for Employment in Brasov and participated to training programs between 1<sup>st</sup> of January 2001 and 1<sup>st</sup> of July 2002 were investigated, representing a group of 500 subjects. Data was collected in March 2004 via face-to-face interviews. Only 253 of total participants to training responded to the survey and constituted the investigated sample. Additionally, a second sample of non-participants to training was selected among individuals who registered in the same period to the County Agency for Employment in Brasov. The comparison sample included 349 individuals who responded to the same questionnaire as those participating to training.

**Results show that participation in training programs had a positive and significant impact on employment.** In fact, participants to training registered a probability of being employed at the moment of the survey higher with 15 percent points and a probability of being employed in 2002-2003 higher with 13.9 percent points. Additionally, results of the impact analysis indicate a positive effect on probability of being unemployed in 2002-2003. The impact of training on probability of being employed at the moment of the survey reached 17.2%, while the impact on probability of being employed in 2002-2003 was 16.8%. **On the other hand, participation to training had a negative impact on the monthly wage at the moment of the survey.**

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<sup>9</sup> Research study - Impact of active labour market programs in transition economies (*ro. Impactul programelor active de ocupare in economiile aflate in tranzitie*), Vasilica Ciuca and Raluca Branza, National Research Institute for Labour and Social Protection Romania, 2006

### Impact of participation in the training program

|   | Participants | Non-participants | Difference | Impact   |
|---|--------------|------------------|------------|----------|
| Probability of being employed at the moment of the survey | 73.9%        | 58.9%            | 15%        | 17.2%*** |
| Probability of being employed in 2003-2003                | 76.7%        | 62.8%            | 13.9%      | 16.8%*** |
| Probability of being unemployed in 2002-2003              | 40.7%        | 58.1%            | -17.4%     | -18%*    |
| Wage  | 38.3%        | 61.7%            | -23.4%     | -7.3%*   |

\*\*\*significant at 1%, \*\*significant at 5%,\*significant at 10%

Source: Impact of active labour market programs in transition economies, National Research Institute for Labour and Social Protection Romania, 2006

Moreover, **the calculated impact of training on employment was weaker for men and more important for women.** This result was obtained for both the probability of being employed at the moment of the survey and in 2002-2003. By age, **participation to training had a stronger positive impact for individuals aged 24 years or less and 35-44 years and a weaker effect for individuals aged 25-34 years** (for individuals aged 45 years and more the impact couldn't be calculated due to small number of cases). Also, the impact of training varies with the education of the subjects. **Participation to training had a positive impact for individuals with low and medium education and a negative one for those with higher education.** On the other hand, the impact was stronger for individuals with working experience of 10 years and more or less than 1 year.

### 3.2. IMPACT OF ACTIVE LABOUR MARKET PROGRAMS ON THE ROMANIAN LABOUR MARKET<sup>10</sup>

The current study aimed to assess the efficacy of the active labour market programs in Centre and North-East regions. Selection of the regions was based on level and nature of unemployment and on the requests of the beneficiary, namely the National Agency for Employment. In fact, the Centre region was chosen due to massive lay offs in the period of the investigation and the North-East due its high unemployment rate.

The methodological approach aims at assessing the net impact of active labour market programs and is based on the propensity score matching technique. Impact was estimated in relation to four active measures: training, business start up consultancy, stimulating labour mobility and subsidised employment (fixed term employment). For each of the two analysed regions, two groups of subjects were selected: one with participants and one with non-participants to the active labour market programs. Totally, 1021 individuals were investigated in North-East region and 1154 in Centre region.

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<sup>10</sup> Research study - Impact of active labour market programs on the Romanian labour market (*ro. Impactul programelor active de ocupare pe piata muncii in context socio-economic romanesc*), Vasilica Ciuca, Aniela Alexandrescu and Andra Bertha Sanduleasa, National Research Institute for Labour and Social Protection Romania, 2006

In both investigated regions, **the impact assessment indicate that all the analysed active labour market programs had a significant positive impact on the probability of being employed in 2004 and at the moment of the survey, except for the subsidised employment program which registered a significant negative impact.** Moreover, **training and stimulating labour mobility programs had a stronger impact for men, while business start up consultancy registered a stronger effect in the case of women.**

Also, **results show that non-participants to the subsidised employment program from both regions are more likely to be long term unemployed at the moment of the survey as against the participants.** In Centre region, **participation to business start up consultancy and stimulating labour mobility have a positive impact on wage levels,** while beneficiaries of subsidised employment are more likely to have low wages.

### **3.3. EFFECTS OF EDUCATION ON POVERTY RISK<sup>11</sup>**

This report represents the joined work of the World Bank, Romanian Ministry of Labour and Romanian Institute for Statistics, aiming to monitor the level and profile of poverty in Romania. It tries to assess the impact of good years of economic growth on poverty indicators, as well as to identify the nature and location of those “hard to reach” pockets of poverty.

Since 2000, years of rapid economic growth has determined an important decline in absolute poverty, from 35.9% in 2000 to 13.8% in 2006. Also, Romania has displayed a moderate level of inequality which is comparable with average level of inequality of EU-25 and EU-15. However, despite this positive evolution, deep pockets of poverty still remain. Thus, **those from rural areas, Roma, youth, those with low education, unemployed and self employed are much more likely to be poor. So, low education continues to determine a higher risk of poverty.**

Analysis clearly demonstrates that, in Romania, **education is one of most powerful correlates of welfare.** Thus, the risk of poverty declines significantly with more schooling, reaching near zero for individuals with higher education. In fact, 70% of total poor adults have graduated at most 8 grades. Highest poverty risk is displayed by those with no formal education.

Interestingly, vocational school graduates had a much higher incidence of poverty than individuals who graduated general high school. This finding seems to show that graduates of the vocational school experience difficulties on the labour market, respectively in obtaining a job or an adequate wage level.

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<sup>11</sup> Research report - Romania: Poverty monitoring analytical and advisory assistance program, World Bank, 2007

### Poverty rate by education level (%)

|                                    | 2003 | 2006 |
|------------------------------------|------|------|
| higher education                   | 2.0  | 0.7  |
| post-secondary or foremen's school | 5.2  | 1.2  |
| Highschool                         | 13.3 | 6.1  |
| vocational/apprentice              | 23.4 | 11.1 |
| middle school (grades 5-6)         | 33.8 | 20.1 |
| primary school (grades 1-4)        | 40.5 | 25.9 |
| no formal schooling                | 59.0 | 43.5 |

Source: Research report - Romania: Poverty monitoring analytical and advisory assistance program, World Bank, 2007

A multivariate analysis was performed in order to assess the effect of various factors on consumption level, respectively on poverty risk. The dependent variable in the regression model is (log) consumption per equivalent adult. As compared to the graduates of vocational school, **those with middle, primary or no school at all display a lower consumption level, while those with high school, post-secondary and higher education have higher levels of consumption.** In fact, graduates of higher education register a 43% gain in consumption as against individuals with vocational school. On the other hand, those with primary or no education display a loss of 22% in the consumption level. Moreover, as compared to 2003, the relationship between education and welfare became stronger in 2006.

### 3.4. EFFECTS OF EDUCATION ON EMPLOYMENT<sup>12</sup>

The paper analysis the influence of labour market regulations, aging and education on poverty and employment outcomes (including labour force participation, long term unemployment and labour mobility). In spite of the steady economic growth, Romanian labour market is far from being efficient and display serious deficiencies which have to be addressed by public policies. Such policies include education reforms oriented toward enhancing life long learning, on-the-job training and toward reforms of the vocational education.

Longitudinal data show that better educated individuals are less likely to be poor. Moreover, households headed by graduates with low or no education have a smaller probability to move out of poverty in a three-year period than the others. Also, individuals with tertiary education have earnings 55% higher than those who completed basic education. However, individuals from rest of the educational groups have much lower “gains” as against those with basic education or less.

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<sup>12</sup> Research report - Romania: Poverty monitoring analytical and advisory assistance program: Labour market vulnerabilities, World Bank, 2008

### Returns to schooling in urban Romania

|  | 1998     | 2003     | 2004     | 2005     | 2006     |
|--|----------|----------|----------|----------|----------|
| Returns to one year of schooling   |          |          |          |          |          |
| Years of schooling   | 0.058*** | 0.042*** | 0.042*** | 0.050*** | 0.052*** |
| Returns to different levels of schooling (comparison group is basic education or less) |          |          |          |          |          |
| General secondary  | 0.180*** | 0.120*** | 0.159*** | 0.182*** | 0.167*** |
| Specialised secondary  | 0.149*** | 0.099*** | 0.131*** | 0.152*** | 0.159*** |
| Tertiary   | 0.537*** | 0.431*** | 0.451*** | 0.536*** | 0.545*** |
| Observations   | 17,064   | 17,510   | 20,755   | 20,501   | 20,332   |
| R-squared  | 0.30     | 0.23     | 0.21     | 0.21     | 0.21     |

\*\*\*significant at 1%

Source: Research report - Romania: Poverty monitoring analytical and advisory assistance program: Labour market vulnerabilities, World Bank, 2008

With respect to the sector of employment, **more education increases the probability of being employed in the service sector, while it decreases the likelihood of being employed in the agriculture sector. Higher level of education is associated with higher probability of being employee.** Another important finding is that individuals with higher education have lower probability of being unemployed or out of the labour force, as compared with the reference category: those with none or less than basic education.

Moreover, impact of education on labour force participation varies with gender. **For women, graduating tertiary education is associated with a significant reduction of the probability of being out of the labour force.** However, lower levels of schooling have no influence on the likelihood of being out of the labour force for them.

## Theme 4: Financing of VET

The key topics thoroughly analysed at national level in relation to financing of VET points that the impact of different forms of financing on participation in general, or on participation of different disadvantaged groups are not still yet a subject for analyse. The need to substantiate the decentralization process of education made that almost all available resources to be allocated to this topic (i.e. decentralization), but no aim was addressed to, for e.g., the impact of decentralization on the participation of different vulnerable groups to education. Still, in Romania, the process of substantiated a public policy is still “neutral”/ “blind” to how it could affect different groups and subgroups of individuals.

### 4.1. FEATURES OF VOCATIONAL TRAINING IN ROMANIAN ENTERPRISES <sup>13</sup>

The report elaborated by the National Institute for Statistics aimed to inform on type and participation to vocational training in Romanian enterprises. Data was collected via a national enterprise survey which covered all NACE divisions, except for agriculture, hunting and forestry, fisheries, public administration and defence, education, health and social assistance. Sample included enterprises with 10 employees and more. Data was gathered in the period April – June 2006.

One of the main topics of the survey was represented by the costs of the continuing and initial vocational training in enterprises. Costs of continuing vocational training includes: tax and payments to the training providers, costs for the transport, daily allowance and accommodation of the participants, labour costs for inside trainers and staff involved in organising the training and costs with the location, equipments and materials used in training. On this ground, average costs of training per participant and per hour were computed. The study also reports labour cost of the participants to training computed as total labour costs of the participants divided by the number of worked hours and weighted with number of hours in training. So, total cost of the continuing vocational training programs includes cost of the training and labour cost of the participants.

Per total, labour costs of the participants to vocational training programs represent 46.6% of total costs of the continuing vocational training programs, while costs of the training count for the rest of 53.4%. Highest shares of cost with the training are registered by mining, other services and commerce, while highest shares of labour costs of the participants are displayed by energy, hotels and restaurants. Also, findings of the report show that share of labour costs of the participants increases with the class size of the enterprise.

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<sup>13</sup> Features of vocational training in Romanian enterprises (*ro. Caracteristici ale formarii profesionale in intreprinderile din Romania*), National Institute for Statistics, 2007

### Total cost of vocational training programs by components, NACE and size class (%)

|                                       | Labour costs of participants | Cost of training programs | Total |
|---------------------------------------|------------------------------|---------------------------|-------|
| Mining                                | 30.2                         | 69.8                      | 100   |
| Manufacturing                         | 48.0                         | 52.0                      | 100   |
| Energy                                | 57.1                         | 42.9                      | 100   |
| Constructions                         | 56.0                         | 44.0                      | 100   |
| Commerce                              | 40.0                         | 60.0                      | 100   |
| Hotels and restaurants                | 57.6                         | 42.4                      | 100   |
| Transport, storing and communications | 52.8                         | 47.2                      | 100   |
| Financial activities                  | 46.7                         | 53.3                      | 100   |
| Real estates                          | 40.6                         | 59.4                      | 100   |
| Other services                        | 32.7                         | 67.3                      | 100   |
| 10-49 employees                       | 35.5                         | 64.5                      | 100   |
| 50-249 employees                      | 43.9                         | 56.1                      | 100   |
| 250 employees and more                | 48.1                         | 51.9                      | 100   |
| TOTAL                                 | 46.6                         | 53.4                      | 100   |

Source: National Institute for Statistics, Features of vocational training in Romanian enterprises (*ro. Caracteristici ale formarii profesionale in intreprinderile din Romania*), 2007

Additionally, highest average cost of continuing vocational training per participant is registered in mining and the lowest in constructions. Also, highest average cost of continuing vocational training per hour characterises mining industry, while constructions display the lowest cost. Similar results were obtained for average total cost of continuing vocational training programs per participant and per hour by NACE.

#### 4.2. PUBLIC EXPENDITURE AND INSTITUTIONAL REVIEW<sup>14</sup>

During transition, the Romanian education system has experienced several major reforms regarding the governance of the system and curricula. However, important deficiencies remain, mirroring problems of efficiency and efficacy of the resources use. The report elaborated by the World Bank aims to analysis features of the education system in Romania with focus on expenditure, budget and financing process and policies. The assessment points out that the system is under-funded and inefficient. So, an education financial impact simulation model was developed for estimating education cost needed for improved educational outcomes and increased efficiency of service delivery.

Under-funding of the education system is coupled with the inefficiency of resources spending, determining low quality of its results. Moreover, design of the budget processes doesn't provide the needed flexibility in the field. So, increasing funding is needed, but also factors underlying inefficiency of resources allocation and spending have to be corrected. Data analysis in a comparative perspective with other countries highlights the necessity of the increase in pre-university teacher salaries. Also, the report points out to large discrepancy between proposed and executed budgets which make planning very difficult. Also, local authorities are

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<sup>14</sup> Research report "Romania: public expenditure and institutional review", World Bank, 2006



reluctant to increase their responsibility within the educational system as long as they have little control on the teachers' salaries negotiations.

One simulation model was developed in order to estimate the financial developments in the public education sector, covering all levels of education. Results predict a decline in enrolments for most of the levels of education, with a loss of 800,000 students by 2013. Such loss would produce a decline in number of teachers with 50,000. Results of the model recommend giving to local governments the full responsibility for setting the school budgets.

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