

SKILLS MISMATCH OF THE YOUNG PEOPLE AT THE EUROPEAN LEVEL

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Abstract: *Transition from school to work is a main issue with many fields of study. Studies on transition from school to work, have highlight the importance of two categories of factors at the level of the individual formal proceedings which may affect how easy it is to graduate to integrate into the labor market: 1) so far as the educational systems are transmitting specific competences as compared with those general and 2) so far as there are direct links between employers and the education system. In this way, are reduced the costs of selection and allocation for employers. A poor articulation between educational institutions and the labor market produce a high level of unmatched competences of assimilated by formal education and competencies required of the labor market (skill mismatch) (Parodi et al., 2012). The surveys with European employers reflect particular difficulties that they are experiencing in employment vacancies. Investigation on the European companies in the spring of 2013 found that 40% of the firms in the EU have difficulty in finding employees with suitable qualification (CEDEFOP-European Center for the Development of the Vocational Training, 2014). Skills mismatch is a generic term that refers to various types of imbalances between skills and competences offered and those required in the labor market. Concept has become one intensely discussed and submitted to measurement in international research on the background concerns the under-utilization human resource. Numerous opinion polls with employers come to the same unexpected conclusion - that despite high unemployment many posts can't find occupants satisfactorily prepared and identify the causes: most of them criticized the lack of skills of the candidates or the absence of skills specific to the workplace. Based on the latest studies on international databases have built a set of questions that, through secondary analysis, we tried to find answers. Questions that we try to give answer are: What are the main types of skills mismatch? What are the main ways to measure skills mismatch? What are the indicators of skills mismatch? What is the level of over-education and under-education in European countries? How to calculate skills mismatch between demand and supply of labor at European level? What factors explain the different labor market chances of young people compared to adults? What are the predictors at the macro level and individual level of skills mismatch?*

Keywords: labour market, skills mismatch, employment.

JEL classification: J40, J41, J50.

Introduction

Recession started in 2008-2009 has produced an increase of unemployment in EU countries. (Bell, Blanchflower, 2011). However, the surveys with European employers reflect particular difficulties that they are experiencing in employment vacancies. Investigation on the European companies in the spring of 2013 found that 40% of the firms in the EU have difficulty in finding employees with suitable qualification (CEDEFOP, 2014). Numerous opinion polls with employers come to the same unexpected conclusion - that despite high unemployment many posts can't find occupants satisfactorily prepared and identify the causes: most of them criticized the lack of skills of the candidates or the absence of skills specific to the workplace (workplace skills) (CEDEFOP, 2014).

1. Educational Signals

Studies on transition from school to work, have stressed the importance of two categories of factors at the level of the individual formal proceedings which may affect how easy it is to graduate to integrate into the labor market: 1) so far as the educational systems are transmitting specific competences as compared with those general and 2) so far as there are direct links between employers and the education system. In this way, are reduced the costs of selection and allocation for employers. School-work transition is different from country to country, depending on the link between education and the labor market, the degree of standardization of national education system, whether the educational system provides options in choosing career path during their studies, is widely recognized that the so-called dual model. In this model, education and practice occur simultaneously, allowing the student to become insider in labor market even before graduation and standardized education system is more layered and has very close links with business organizations ties resulting from continuously offer internships, jobs for graduates, etc., is the successful insertion of young people in to the labor market (Ehlert, H. Cordier, H., 2002; Müller, W., Gangl, H., eds. 2004, Noelke, C., M. Gebel, et al. ,2012, Sloane, P. J. , Battu, H., Seaman, P. T. ,1999, Müller and Shavit 1998). A similar advantage can be registered and from the perspective of young enrolled in routes in vocational training, in particular in apprenticeship: they are with a "foot on the threshold" of employment at the time of studies. In other words, a poor articulation between educational institutions and the labor market produce a high level of unmatched competences of assimilated by formal education and competencies required of the labor market (*skill mismatch*) (Parodi et al., 2012). Obviously this determination can be applied to understand transition from school to working life both at the individual level but also for collectively, when we compare different levels between countries of unemployment rates among young people. As can be observed, the second feature - a mentioned between education and the labor market - is a variable which sets from the point of view of human resource creation varieties of capitalism as it is also one of important criteria for distinguishing between education systems (Cummings, etc.). The two characteristics are strongly correlated (Breen, 2005), since it is highly likely that system with strong ties between schools and employers to transmit much more specific than some with general competences. His study (Breen, 2005), in the same way as many others, certifies that countries with education systems professional powerful as Germany for example, manage to maintain unemployment rate among young people at levels significantly low, on equal terms.

2. Skills mismatch

Skills mismatch is a generic term that refers to various types of imbalances between skills and competences offered and those required in the labor market. Concept has become one intensely discussed and submitted to measurements in international research on the background concerns about under-utilization of human resource ("Skills mismatch in Europe," 2014).

The main types of skills mismatch to which they refer in literature and policy documents at work and training are the following:

- Skills scarcity or abundance – when the offer (or request) for a given skill exceed the request (or offer);
- Skills disability - skills type and level are different from those required in the workplace;
- Vertical skill mismatch - the level of training or of qualification is less than or higher than the requested;
- Horizontal skill mismatch - type/scope of training or the skills are inappropriate for the workplace;

- Over-qualification/Under-qualification - employees having qualifications high/low than job requirements;
- Aging skills - skills used to employment are no longer necessary or skills have deteriorated over time.

Because skills and competences are seldom measured as such, by indicators straightforward, measurement of skills mismatch are carried out, usually by indirect indicators (proxy) each of them with its advantages and disadvantages. For example, the measurement between the supply and demand on the labor market on the basis of a comparison of educational achievements structure of those employed and of those unemployed can clearly indicates what level of education is in deficit without indicating which areas/specializations are in deficit ("Global Employment Trends for Youth 2013: A generation at risk," 2013). The main ways of measuring the skills mismatch are:

1. Comparing the level of training of those engaged with the level of job requests - analysis identifying over-education or under-education. As a general rule, due to further expansion of education in developed countries there is an increase in the share of those over-educated, while in the developing countries, due to poor access, education cases of under-education are more frequently.
2. Comparing level of training of the employed with that of those unoccupied, especially unemployed people. This type of analysis usually demonstrates the advantages on the labor market of those with higher education ("Global Employment Trends for Youth 2013: A generation at risk," 2013).

2.1 Over- and under-education in Europe

Over-educated - those who work in jobs of lower level of qualifications held suffers from numerous disadvantages compared with those whose education and employment are suitable ("Skills mismatch in Europe," 2014):

- Even if their wages are higher than those at the same place of employment they have the appropriate level of qualification, years return in addition to a school or training are less (additional qualification shall bring them a profit reduced in financial terms);
- Their wages are on average lower than of those who, at the same level of training have job corresponding to education;
- Lack of career opportunities for those over-educated may result in a deficit of commitment and satisfaction to work, so that those who are in this situation show a high probability to engage in search of the place of work;

Vertical skills mismatch has, however, some advantages one of them being that over-education is correlated with ascending mobility ("Skills mismatch in Europe," 2014).

International Labor Office of the International Labor Organization summarized the results of the measurements on over- and under-education in the European countries in the past few years, the data allowing a few conclusions can be drawn from a simple analysis:

- Skills mismatch estimates on the same country produce large variations in the results of what he raised doubts as to their consistency and their relevance to education policies and employment. This unsteadiness is rooted in different procedures used in the various estimates, the procedures described in the report ILO ("Skills mismatch in Europe," 2014, pp. 10-11)
- Average rate of minimum over-education is nearly two times higher than the average minimum under-education (27% to 14 %) being required to emphasize that the number of countries in which it has been estimated under-education is much lower than of the countries for which we have estimates of over-education.
- Result in a conservative estimate that, on average, the European Union, the percentage of those who manifest skills mismatch of both ways is at least 40 %.

- The over-education rates for youth are smaller than the general over-education rates. Young people in the EU have a less probability than adults to suffer from over-education.
- Because of the number of countries for which there are no data is difficult to work out inferences regarding the relationship between under-education of young people and adults.
- In most cases the under-education rates of the young people are higher than those of over-education. From this we can infer that the percentage of young occupying occupational positions for who are not sufficiently trained is larger than the number of young people who are in the reverse situation. This gives us indications for certain regional imbalances in the labor market (employers prefer, for example to employ young under-educated people and over-educated adults).

Table 1. Over and under-education in European countries - synthesis of research published between 2007-2014 carried out by the International Labor Office

Country	%Over-educated	% Over-educated young people (under 30 years)	%Under-educated	%Under-educated young people (under 30 years)
Austria	58,0	1.1 -10,6		8.4 -30,6
Belgium	10.5	1.5 -59,0	25,8 -32,4	5.4 -25,5
Czech Republic	50.0	1.5 -9,3		11.1 -17,8
Denmark	34.0			
Estonia	39.0	2.2 -8,4		18.4 -33,1
Finland	11.1	3.3 -14,1		10.9 -26,3
France	28.0	4.4 -13,9		14.4 -15,4
Germany	11.8 -60,6	2.2 -12,6	12.1	6.3 -25,9
Greece	32.0			
Hungary	37.0			
Iceland	30.0			
Ireland	33.0 In			
Italy	13.9 -71,5	4.0 -19,0	17.1	11.7 -22,5
Latvia	43,0			
Lithuania	31,0			
Luxembourg	27.0			
Netherlands	11.2 -39,0	2.9 -41,7	12 70	5.3 -25,2
Norway	16 76 -34,0	2.5 -20,4		11.6 -29,1
Poland	13.9 -29,0			
Portugal	12.6 -33,0	3.4-6.5	17.0 -38,0	22.6 -50,8
Romania	10.1 -25,0	14.5	33.3	29.4
Slovakia	49.0			
Slovenia	36.0			
Spain	13.8 -37,2	6.5 -24,8	11.0 -25,6	7.1 -23,8
Sweden	27.0			
Switzerland	13.4 -14,9		1.9	
Great Britain	13.0 -36,8	13,7 -53,0	17.0	5.5 -26,1

Source: "Skills mismatch in Europe," 2014

Using ISCO methodology (International Standard Classification of Occupations) the measurement of the vertical skills mismatch exists by successive waves of ESS (European Social Survey) ILO (International Labor Organization) has reached the following conclusions concerning the skills mismatch identified between 2002-2010 ("Global Employment Trends for Youth 2013: A generation at risk," 2013, pp. 30-31) :

- **Over-education** has increased during the period under consideration, the growth being accelerated in time of crisis. Having regard to the methodology used, the increase reflects the growing level of training for the young people in the period under consideration. Moreover, accelerated growth of over-education reflects and a sharpening of competition for jobs associated with crisis of jobs. According to Eurostat data is especially about an increase in the number of young people with higher education employed in jobs un-manual with low qualification requirements.
- **Under-education** decreased constantly throughout the period in question, with acceleration in the years of crisis (2008-2010). It reflects, in the same way, increased competition for jobs in this period. In contrast to the overall trend, however, in time of crisis under-education rates to young people have increased. Specialists appreciate that this evolution, in contrast with those of the entire population, reflect changes in occupational structure, especially the decline an increasing number of unskilled jobs occupied by young people.

Vertical skills mismatch affects around half of active people on the labor market in Romania, the percentage for young people being approximately 40 % and under-education being, before crisis, about twice as over-education frequency than in the case of young people. Unfortunately these data are calculated for the last set of data ESS in which Romania has contributed, in 2008, so that an estimate of crisis effect is uncertain.

3. Skills mismatch between the supply and demand for employment in Europe

Skills mismatch between the supply and demand for employment can be quantified using indices of dissimilarity Duncan and Duncan. It starts from the comparison between the structure of training levels of those employed and those unemployed, the skills mismatch being identified when unemployment rates differ between employees with different levels of training. The index varies from 0 to 100, where the value 0 is reached when there are no differences between rates on unemployment and training levels (shall be taken into account, usually three levels - primary, secondary and tertiary). On the other hand, if all the workers with primary and tertiary education are employed and those with secondary education are all unemployed, dissimilarity index is 100.

Table 2. Skills mismatch between the supply and demand for employment of the young people (persons under 30 years of age)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change 2010-11
Austria	12.0	14.7	6.8	13.2	21.6	17.2	19.0	18.6	20.6	17.2	13.5	17.3	3.8
Belgium	18.0	31.6	22.5	19.1	14.0	12.8	14.5	15.8	16.9	11.6	19.4	20.6	1.2
Bulgaria	13.8	21.3	17.9	17.5	17.8	22.9	23.2	19.9	23.3	18.3	13.1	15.0	1.9
Cyprus	10.1	3.8	11.9	18.9	18.2	0.3	11.2	7.3	3.6	8.2	5.9	9.2	3.3
Czech Republic	18.8	19.4	18.0	18.8	20.0	16.5	16.6	19.9	27.7	18.9	16.3	18.7	2.4
Denmark	5.8	5.5	15.4	15.4	4.4	4.7	8.0	10.7	10.4	7.1	7.8	9.0	1.2
Estonia	25.6	9.2	34.0	14.9	16.1	11.4	15.7	26.2	15.3	21.2	14.3	10.7	-3.6
Finland	26.7	24.1	29.9	26.7	27.3	17.9	20.9	22.8	25.9	20.3	19.7	23.3	3.6

France	19.4	22.8	18.7	15.6	17.7	15.6	17.8	19.3	18.5	19.4	19.1	18.7	-0.4
Germany	8.3	6.2	4.0	4.3	2.2	8.2	12.3	16.7	14.7	12.9	16.5	18.5	2.0
Greece	8.0	6.8	8.3	8.5	5.1	9.1	5.9	9.1	5.7	5.5	6.2	2.6	-3.6
Hungary	13.6	14.9	14.8	20.3	17.4	14.4	16.7	15.9	16.3	18.7	14.2	15.1	0.9
Ireland	30.3	22.5	19.4	18.9	25.8	20.5	18.1	20.6	18.2	14.0	15.1	16.0	0.9
Italy	0.7	2.0	3.5	4.7	10.1	6.2	6.1	5.0	5.0	4.4	5.2	5.8	0.6
Latvia	19.4	19.3	19.1	14.2	11.0	25.9	26.1	16.7	17.3	18.7	12.2	12.2	0.0
Lithuania	12.6	12.2	9.6	11.6	5.9	11.0	4.9	5.7	16.3	13.5	11.5	10.6	-0.9
Luxembourg	14.8	14.6	29.7	11.8	15.5	19.3	22.7	20.9	14.6	15.8	23.3	22.7	-0.6
Netherlands	22.6	18.2	17.4	17.3	18.3	18.5	22.2	20.7	18.9	16.8	17.2	19.3	2.1
Norway	23.4	22.6	26.4	20.6	9.4	20.9	16.6	21.0	21.4	14.8	14.9	15.3	0.4
Poland	1.0	2.5	2.8	5.2	2.5	2.9	4.0	0.9	2.7	2.7	4.3	3.9	-0.4
Portugal	0.7	2.6	1.9	0.9	5.3	4.2	5.7	5.2	7.0	3.6	2.2	5.8	3.6
Romania	17.2	14.2	9.3	11.7	5.7	8.7	3.7	3.4	4.5	2.7	12.0	8.5	-3.5
Slovakia	8.7	10.2	10.2	11.3	18.2	23.0	25.5	26.9	25.7	14.7	13.3	12.4	-0.9
Slovenia	13.1	14.0	14.9	10.8	6.3	6.9	6.2	6.5	3.5	9.1	10.0	13.9	3.9
Spain	2.0	1.3	0.3	3.2	2.5	7.3	6.9	8.2	15.3	16.2	17.7	14.3	-3.4
Sweden	7.8	24.2	20.9	20.4	18.1	21.3	23.8	25.2	27.2	23.2	24.1	23.1	-1.0
Switzerland	4.2	21.2	0.7	1.3	7.7	5.9	4.2	4.6	1.7	3.7	1.4	1.6	0.2
United Kingdom	25.5	26.7	26.0	26.1	27.7	23.3	22.4	24.4	24.7	20.1	19.3	18.3	-1.0
Average	13.7	14.6	14.8	13.7	13.3	13.5	14.3	14.9	15.1	13.3	13.2	13.7	0.5

Source: Eurostat data processed by ILO

It has to be stressed that the measures this type of skills mismatch does not constitute indication for responsiveness quality or speed of education and training systems. In addition, in view of the fact that the index corroborates unemployment rates on three levels of training, the index itself doesn't say much about different opportunities on the labor market of young people with different levels of training.

As stresses the specialists of the International Labor Organization ("Global Employment Trends for Youth 2013: A generation at risk," 2013, p. 26) skills mismatch is not necessarily correlated with unemployment rate. Very high rates of unemployment in Greece shall be accompanied by a very small index of dissimilarity - this shows that unemployment affect them equally young Greeks, indifferently of the level of training. In contrast, low incidence of unemployment in Germany is accompanied by big difference in prospects of gaining access to the labor market of young Germans, according to their training level. These differences are explained by the fact that unemployment among young people is explained by many factors.

Compared with the average EU, skills mismatch between the supply of and demand for labor in the case of young people in Romania is below the European average. Dissimilarity in the case of youth unemployment rates between the three categories of level of training in Romania is 8.5 percent as opposed to a European average of 13,7 % in 2011 - in some countries skills mismatch being above 20% (Sweden, Belgium and Finland).

4. Factors which explain different chances in the labor market of young people compared with adults

For skills mismatch is pretty easy to blame the deficit of skills of those who are in search for a job. As a matter of fact, ask about the causes of the difficulties encountered in job occupation, European employees indicate the most common that are missing appropriate competences ("the school it prepares for yesterday's labor market and we are preparing for the world of tomorrow") (CEDEFOP, 2014)

Strangle in the course of recruitment (lack of competent) happens it's true, in the case of certain classes of occupations, as well as those of technology, engineering or medicine and lack of responsiveness of education and training systems can be accused for the skills mismatch. However, stresses specialists CEDEFOP (2014), should not be ignored the impact of other frictions of the labor market: low mobility of labor force, seasonal variations in the application of labor, lack of information and wage rigidity.

ILO report on trends in commitment of young people at the global level has tested several hypotheses regarding the macro-level determinants (at the level of the country) and at the individual level in situation of the skill mismatch ("Global Employment Trends for Youth 2013: A generation at risk," 2013, pp. 34-35). In summary, the findings of the statistical modeling of the ESS data (2010, when Romania was not involved) by macro variables are:

- A larger proportion of tertiary education graduates increases the incidence of over-education.
- The proportion of employment in non-qualified manual occupations decreases the risk of over-education and increases the under-education.
- As I have already stated, the unemployment rate is a predictor of poor skills mismatch. Unemployment rate increases the risk of over-educations for men, regardless of age group and decrease under-education rate for young men.

At the same time, the predictors at the individual level of skills mismatch are:

1. Young people (15-29) are much more exposed to the risk of over-education than mature employees and have a significant lower risk than the others to be under-educated.
2. Women are more likely than men to be over-educated, since they are more frequently in the situation to work in jobs below their level of qualification.
3. Young men with a background of migration are exposed to a greater risk of under-education.
4. Disability increases the risk of over-educated to young men and mature women.
5. Contrary to expectations, the situation of having a child does not enhance young people risk of being over-educated.
6. Having a partner, regardless of his occupational status, decreases the risk of over-education for young men and, as in the case of children, with whom it is covariate, increases the under-education risk.

In conclusion

Skills mismatch measurements are carried out by indirect indicators (proxy) each of them with its advantages and disadvantages. The main ways of measuring the skills mismatch are: comparing the level of training of those engaged with the level of training of the jobs - analysis identifying over-education or under-education. As a general rule, due to further expansion of education in developed countries there is an increase in the share of those over-educated, while in the developing countries, due to poor access education cases of under-education are more frequently; and comparing level of training of the employed with that of those unoccupied, especially unemployed people. This type of analysis usually demonstrates the advantages on the labor market of those with higher education.

The vertical skills mismatch analyses has reached the following conclusions: Over-education has increased during the period under consideration, the growth being accelerated in time of crisis. Having regard to the methodology used, the increase reflects the growing level of training for the young people in the period under consideration. Moreover, accelerated growth of over-education reflects and a sharpening of competition for jobs associated with crisis of jobs. According to Eurostat data is especially about an increase in the number of young people with higher education employed in jobs un-manual with low qualification requirements; and under-education decreased constantly throughout the period in question, with acceleration in the years of crisis (2008-2010). It reflects, in the same way, increased competition for jobs in this period. In contrast to the overall trend, however, in time of crisis under-education rates to young people have increased. Specialists appreciate that this evolution, in contrast with those of the entire population, reflects changes in occupational structure, especially the decline, an increasing number of unskilled jobs occupied by young people.

Skills mismatch between the supply and demand of employment can be quantified using indices of dissimilarity Duncan and Duncan. The analyses show that skills mismatch is not necessarily correlated with unemployment rate.

One of the findings regarding the macro variables are that a larger proportion of tertiary education graduates increases the incidence of over-education. At the same time, the predictors at the individual level of skills mismatch are that young people (15-29) are much more exposed to the risk of over-education than mature employees and have a significant lower risk than the others to be under-educated.

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“ACKNOWLEDGMENT

This paper has been financially supported within the project entitled „**SOCERT. Knowledge society, dynamism through research**”, contract number POSDRU/159/1.5/S/132406. This project is co-financed by European Social Fund through Sectoral Operational Programme for Human Resources Development 2007-2013. **Investing in people!**”