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Does European Union and national regional policy
correlate with a decrease in unemployment rate in
Romania?

Bachelor Thesis

Author: Diana Gorda

Thesis Supervisor: Ing. Mgr. et Mgr. Michaela Ševčíková, Ph.D.

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I declare that I have written the bachelor on my own, respecting the academic requirements of the University of Economics.

Diana Gorda 20.08.2015, Prague

I would like to thank my supervisor, Michaela Ševčíková for her academic support, valuable directions and recommendations, which shaped the final form of the thesis.

Abstract

The bachelor thesis aims at answering the question if the regional and European Union Cohesion policy correlates with a decrease in unemployment rate in Romania. The thesis starts the analysis with a controversial theoretical background, including the convergence and divergence views and the related economic theories, as Solow and AK models. The study proceeds to a short description of the Cohesion Policy, its funds and targeted aims. The bachelor thesis then analyses the challenges of the Romanian labor market, the reasons that bring to a non-competitive labor environment, and further on focuses on the vulnerable groups of population most affected by unemployment. At the same time, at this section the paper provides a final distinction between two time horizons: before joining and after joining the European Union. The last part of the research is composed of an empirical work concerning Cohesion policy funding and the effectiveness on a macroeconomic indicator, as unemployment. The correlation between unemployment rate and Cohesion Policy is found to be negative, as expected from the theoretical background.

Key words: European Union, Cohesion Policy, Romania, unemployment, labor market

JEL: E13, E20, J01, J23

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Introduction

The unemployment rate is one of the most discussed topics among young scholars, as it directly affects the post education life of a student. The topic of the paper is not only attractive for recent graduates, but it is also economically significant, firstly because it analyses the current labor market issues of a relatively new European member state as Romania, secondly because it aims to find a correlation between Cohesion policy and decrease in unemployment rate, and thirdly because the analysis of the past unemployment trends and targets of Cohesion funds give an insight of the possible results of the current 2014 – 2020 Regional Policy. The paper plans to contribute an added value for future researches, which try to estimate the effectiveness of EU policy and its relation to a macroeconomic indicator. At the same time, the thesis is expected to provide an explanation of the wide variation of results from previous empirical studies and to state why a classic single – used indicator, which measures the effectiveness and absorption rate of Cohesion Policy may ease the work of forthcoming empirical studies.

The theoretical part of the paper introduces two distinct doctrines, the convergence and divergence theories, which are highly important, as the Cohesion Policy aims to decrease the economic divergences between EU countries and the main bulk of the Cohesion Policy funding is concentrated on less developed European countries and regions in order to help them to catch up and to reduce the economic, social and territorial disparities that still exist in the EU.

The theoretical part also includes the Solow model in the regard to convergence theory and AK model in regard to divergence theory. Both these models theoretically explain, why countries may hypothetically overcome economic disparities or by contrast grow further apart and suggest the reasons for high or low levels of unemployment.

Further on, the theoretical background also introduces a description of the Cohesion Policy funds, how and where each fund is monetized.

The thesis is structured as follows: theoretical part, practical part and final conclusion. Every section, except the conclusion, includes subsections which analyze deeper the theoretical and practical issues concerning the unemployment rate. The structure of the thesis is chosen according to the academic recommendations. The practical part is further on divided into 4 subsections: challenges of the Romanian labor market,

population most affected by unemployment, a comparison of unemployment before and after joining the European Union and an empirical analysis. The author considers that the empirical analysis cannot be run without a full comprehension of the situation on Romanian labor market and potential factors that may change the strength of the tested correlation.

All in all, the paper examines the problems of the Romanian labor market and aims to find a correlation between decrease in unemployment rate and EU Cohesion Policy and regional Policy at national level. The main hypothesis of the thesis is that the Cohesion Policy has a slight influence of the unemployment rate, however a conclusion concerning the hypothesis of the paper is stated in the final section of the work “Conclusion”.

1. Theoretical background

The heterogeneous economic development of regions is a widely discussed topic. Academics question why a number of countries such as Niger, Afghanistan or Zambia are underdeveloped; while other number of territories such as USA, Norway or Singapore are developed and what sources bring to the accumulation or oppositely the dis-accumulation of wealth.

Why, for example, countries as Luxembourg have roughly 5% constant unemployment rate, while other lands, e.g. Bulgaria are described by rigid fluctuations from 6.8% to 10.3 % in the unemployment estimate, according to Eurostat?

What components cause one country to have 23,78 % of population unemployed while other country to have an unemployment rate as low as 3, 20 %?

The research paper focuses on one out of infinitely many possible factors that affect the unemployment rate. Thus, the research question: Is there any correlation between European Union as well as internal regional policy and decrease in unemployment rate in Romania?

In order to answer the question of interest and furthermore questions, it is crucial to master the relevant terminology, which is specific for the economic context.

- A region is an area that is usefully considered as an entity for purposes of description, analysis, administration, planning or policy. It can be demarcated on the basis of internal homogeneity or functional integration (C. J. Dawkins, 2003, p. 133).
- A region is different from a surrounding periphery based on the fact that it maintains spatial dependence of workers on adjacent employment centers (C. J. Dawkins, 2003, p. 133).
- A region is a historically evolved, contiguous territorial society that possesses a physical environment, a socioeconomic, political, and cultural milieu, and a spatial structure distinct from other regions and from the other major territorial units, city and nation (C. J. Dawkins, 2003, p. 134).

For the aim of clarity, a region is further on assumed to be a geographic area, which has

specific economic characteristics. The social, political, cultural or other elements that equally reasonable may characterize a region are dropped out the analysis and cannot be referred to.

1.1 Convergence theory

The importance of defining a region is infinitely high, because the term is constantly met throughout the oldest and newest Treaties and documents of the European Union. The Treaty of Rome from 1957 mentions the devoir to strengthen the unity of their economies and to ensure their harmonious development by reducing the differences existing among the various territories and the backwardness of the less-favored regions (L. Gang, 2012, p.1). Given the aim of the Treaty, it is also important to understand what is meant under the term a “less-favored” region and how it differs from a “more-favored” one. This distinction is furthermore puzzled than the definition of a region, therefore it is necessary to first analyze the roots that create an economic position of a region and then hypothesize what a developed, developing and underdeveloped land represent.

Since the study touches macroeconomics, the definition is not cumulative or universal and may differ from one scholar to another. Nevertheless, all the theories that attempt to explain the economic differences and give definitions to different types of regions stand on two contrasting poles.

The first pole is represented by the convergence theory. This doctrine, also known under the name of the “catch-up effect”, was first introduced by Clark Kerr and represents a hypothesis which states that all regions tend to converge to the same economic development and eventually have the same national income per capita. The convergence theory doesn’t focus on the importance of international trade or the assignment of property rights. The theory doesn’t differentiate between the effects of socialism nor capitalism on economic situation of a country. The catch-up effect justifies the economics of different regions based mostly on their level of industrialization.

The convergence of regions is possible due to the fact that developing regions do not have robust diminishing productivity of capital in comparison to developed countries.

Therefore, the developing regions have great potential to grow at a rapid rate and come closer to the economic level of developed regions. On top of the distinct diminishing returns, the developing regions are also able to mirror the technologies of developed territories, thus do not have to spend colossal amount of national income on research and development.

Furthermore, the convergence theory implies that not all countries have to converge at the same moment in time, hence the distinction between three types of convergences:

- absolute;
- conditional and
- club.

An absolute convergence happens when the economic differences disappear “by definition”. Initially, these regions are poor, but at a particular moment in time start to develop intensively.

Conditional convergence happens when regions tend to achieve their own steady state level of development. Conditional convergence may differ from one territory to another given various saving and population rates, capital stocks along with depreciation rates. The second type of convergence is well recognized in the Solow model to which the research analysis refers later.

The third specification - the club convergence happens when a number of regions tend to have homogenous growth patterns. The club convergence simply classifies countries with high, medium or low levels of economic development, but essentially those that develop in the same direction by similar improvement proportions.

The idea that countries are able to achieve the same level of economic development was not completely new when introduced in 1960s by Clark Kerr. This theory heavily relies on Marshall’s doctrines and particularly the external economies of scale. Marshall’s theory states that when external economies of scale occur, it is possible for a firm to benefit from positive changes in the industry. Given the fact that the mentioned firm is a representative firm in the perfectly competitive environment, the same process happens to all the firms in the market, until equilibrium is reached.

In the convergence theory the equilibrium is simply defined by the convergence of all regions to the same level of GDP per capita.

Economists tend to disagree on the reasons that bring to the increasing, decreasing or constant returns to scale, however there is a trend to particularly study the Solow - Swan model, when interested in the convergence process.

The Solow model is a neoclassical exogenous growth model, where technology is not explained and which assumes closed economy, i.e. no export or import.

The model also has assumptions such as:

- one single good is produced;
- constant returns to scale;
- decreasing returns from variable factor;
- initial levels of capital and labor are given;
- all factors of production are fully employed and
- constant savings and depreciation rates (Mankiw, 2012).

The Solow model generally works with the Cobb- Douglas production function in the intensive form:

$$y = k^{\alpha} \text{ (1.1)}$$

where y and k stand for product per worker and respectively capital per worker, α - capital share of income.

The intensive form is derived from the extensive form of the Cobb-Douglas function, simply by division on labor:

$$Y = K^{\alpha} L^{1-\alpha} \text{ (1.2)}$$

where Y is the output, K- capital and L- labor and $1-\alpha$ - labor share of income.

The production function is usually also represented in the graphical form.

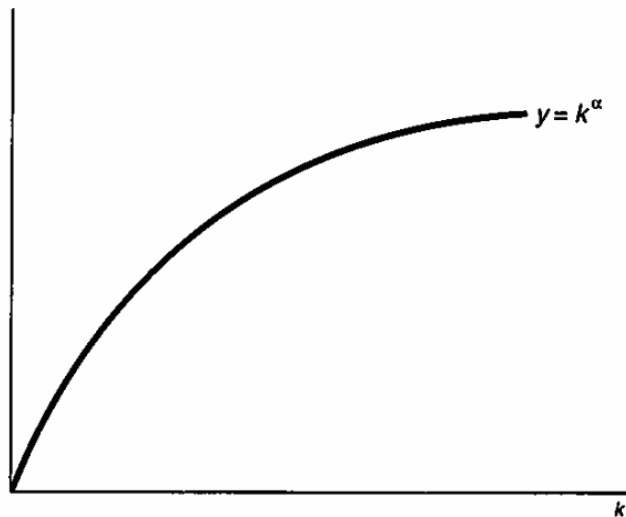


Figure 1.1 Production function in the intensive form of the Solow model

Source: own adaptation, based on Mankiw, 2012

The shape of the function depends on the assumption of diminishing returns from variable factor.

The neoclassical model has two distinguishable features:

- the steady state level of capital stock that represents capital at which depreciation and investment are equal;
- and the golden rule of capital at which the steady state maximizes consumption (Mankiw, 2012).

When economy is at a steady state, which maximizes consumption level, the economy is considered to be in equilibrium, *ceteris paribus*.

In order to derive a definition of rich and poor region from the Solow-Swan model is necessary to analyze the mathematics behind the theory. In 1956 the authors include in the model an equation describing loanable funds market:

$$y = c + i \quad (1.3)$$

where y , c and i represent in mentioned order output per capita, consumption per capita and investment per capita.

The second important equation introduced is

$$c = y - s \times y \quad (1.4)$$

where s stands for savings per capita.

Hence, after basic mathematical adjustments, the equilibrium on the loanable funds market is described by the equation:

$$i = s \times y \quad (1.5).$$

The shape of the net investment function is similar to the shape of the production function, because it directly depends on it.

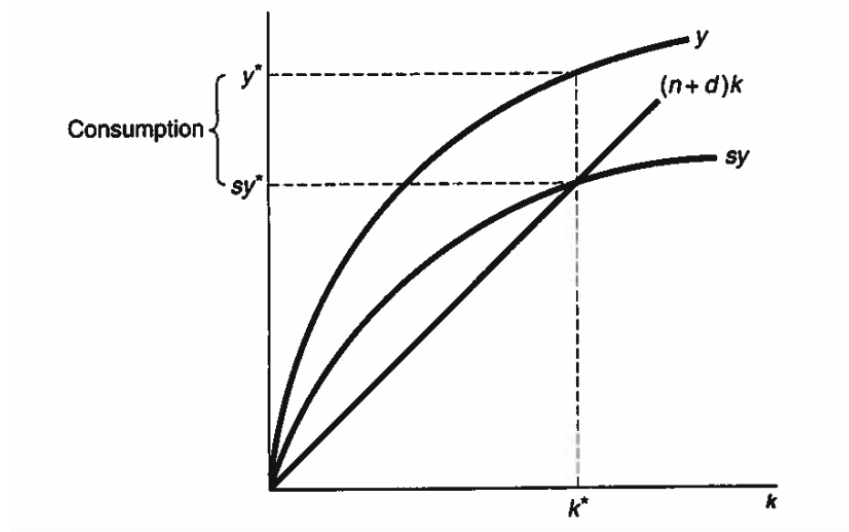


Figure 1.2 Production function in the intensive form, net investment, and savings functions of the Solow model

Source: own adaptation based on Mankiw, 2012

However, the steadiness on loanable funds market is not automatically equal to the steadiness of the capital stock. Solow and Swan also introduce in the model the concept of growth of the capital, which is a derivation from the law of motion of capital.

The change in the capital stock positively depends on investment and negatively on the rate at which the capital depreciates, hence the equation:

$$\Delta k = i - \delta \times k \quad (1.6)$$

where Δk is the change in capital stock, δ is the depreciation rate.

The equations (1.5) and (1.6) lead to the conclusion of the model about steady state, the situation where:

$$i = \delta \times k \text{ (1.7).}$$

In case when the investment is higher than depreciation of capital, the capital stock must be increased to reach the steady state and otherwise. Therefore, the situation where investment exactly equals depreciation of capital is the only state where the economic subjects do not have to increase or give up capital and hence product, keeping constant rate of depreciation, technology, saving and population growth. Yet, in the Solow model is possible to find infinitely many steady states, but not all N steady states maximize consumption.

The golden rule of consumption introduces further implications of the growth model.

In the equilibrium, a golden rule must be represented by the equality:

$$MP_k = (n + \delta + g) \times k \text{ (1.8)}$$

where MP_k stands for the marginal product of capital, n and g is the population and respectively the technological growth.

Given the rule, at the steady state which maximizes consumption the net investment must be equal to zero, in other words the marginal product of capital must be equal to depreciation of the capital stock.

In the case, when MP_k is higher than $\delta \times k$, the economy is saving less than needed for the golden rule, the capital stock must be increased and economic subjects decrease consumption at time t to be better-off at time $t+1$.

In the case, when the MP_k is lower than $\delta \times k$, the economy is saving more than needed for the golden rule, the capital stock must be decreased and the economic subjects are at both time t and $t+1$ better-off without any sacrifices at time t .

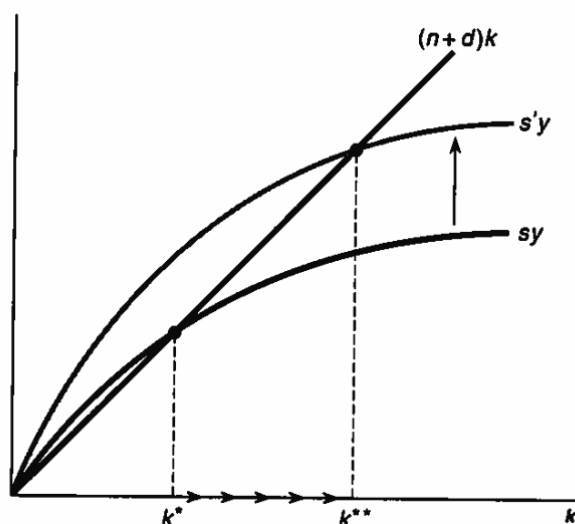


Figure 1.3 Economy is saving less than in the golden rule

Source: Own adaptation based on Mankiw, 2012

The Solow model explains the economic growth of a region and its actual economic situation in terms of the exogenous technology. However, a conclusion cannot be drawn from the neoclassical model that a rich region represents a territory that experiences technological progress and a poor region lacks technological progress.

In order to study other reasons that position Romania on the bottom of the list within European area when it comes to long- term unemployment the analysis focuses on the second hypothetical pole: the divergence theory.

1.2 Divergence theory

The divergence theory states that the market structure does not create any conditions for convergence and poor countries may stay poor, while rich may stay rich.

The divergence theory introduces the concept of “better conditions”. The proponents of the divergence theory consider that a free market seeks for better conditions and concentrates where these conditions are found.

The divergence theory may allow later on to develop an individual hypothesis concerning the relation between European Union policies and the economic situation in its member state countries. If the “better conditions” of the divergence theory may be considered to include better assignment of property rights, more innovations, higher proportion of well-educated population etc., then is there any visible difference between

two countries with similar backgrounds one of which has the EU- orientated aims and one of which has the non-EU characteristics?

The divergence theory is usually studied within the new growth theory that similarly to the convergence theory represents an idea of the neoclassical school of thought, however it is an endogenous model, i.e. the reasons that bring to economic growth are not simply taken as given, but are fairly explained.

The divergence theorem also implies that policies that grasp competition and economic freedom do eventually create the path for a healthy long-run economic growth.

One of the simplest models that introduce the concept of economic discrepancy is the AK model. There are four main distinct assumptions of the model:

- sticky level of technology;
- exogenous savings;
- no diminishing returns from variable factor and
- constant returns to scale (Mankiw, 2012).

The last assumption comes from the fact that physical capital (e.g. machines or equipment) is described by decreasing returns to scale, while human capital (e.g. knowledge or skills) by increasing returns to scale.

Exceptionally, the third assumption makes the AK model distinct from the exogenous growth models and without this conjecture the conclusions of the theorem are different.

The new growth model has one distinct feature - the differentiation between physical capital and human capital.

The model is based on the production function, where output is dependent on marginal effectiveness of capital and capital stock itself:

$$Y = A \times K \text{ (1.9)}$$

where Y is the output, A is the marginal effectiveness of capital(or also know as marginal product of capital) and K is the capital.

The new growth model has a different graphical representation from the simple growth model, because the production function is of a linear form, therefore the investment function is also in a linear form.

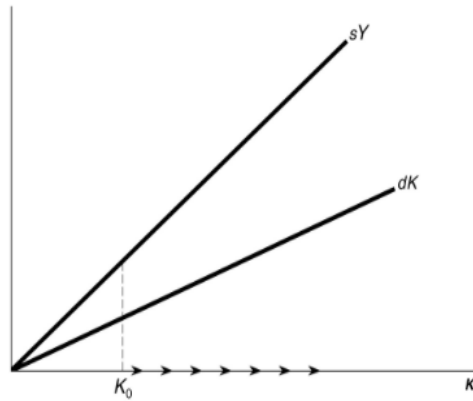


Figure 1.4 AK model in the intensive form

Source: Own adaptation based on Mankiw, 2012

The AK model also differentiates between extensive form (1.9) and intensive form of the production function:

$$y = a \times k \quad (1.10)$$

where all the variables have the same meaning, but represent per capita values.

The mathematics behind the AK model can be easily studied in classic economic textbooks, however the equation concerning capital growth and product growth cannot be dropped out of the analysis. For simplicity, assume that the product and capital growth are equal without any additional explanation, although if needed the mathematical evidence can be easily found in the Mankiw's Macroeconomics.

$$\Delta Y/Y = \Delta K/K = s \times A - \delta \quad (1.11)$$

Where ΔY and ΔK is the change of output and respectively change in capital stock, s and δ is the saving rate and respectively the depreciation rate.

The AK model suggests that a region that invests into human capital reaches economic growth.

A simple conclusion can be drawn from the new growth model; countries that invest into policies that boost education level and raise overall skills of population bring to a better economic development (the possible conclusion disregards the technological capital for the sake of simplicity). Therefore, a rich country may be considered one that

has a high-proportion of well - read inhabitants, because human capital exhibits increasing returns to scale and is a powerful tool of changing the economic environment. Similarly, a poor country does not display policies that focus on education of population, thus people are not sufficiently skilled and there is a lack in the employment area. A region, which lacks educated individuals, may also discourage foreign investment, because employees may be unavailable to complete all the required tasks, hence an investor needs to supplementary spend on academic courses, which increase his expenses and may motivate an investing company to shift to other market. The relation between human and technological capital and investment accompanied by economic growth is presented in a relatively new economic theory of polarization. In 1957 Myrdal introduces the idea that, initially development begins in the regions with visible superiorities, then wealthy regions attract educated people, because of better employment conditions, which in the end attract even more investment and poor regions stay poor, while developed regions tend to develop. Undoubtedly, it is possible to find evidences of the truth of both convergence and divergence ideas, but the world is a complex combination of different types of theories and the same situation holds on the labor market.

1.3 European Union regional policy

The convergence and divergence theories provide an insight why there is a general need for regional policy.

On the one hand, the explanation from the prospective of the convergence theory is that the integration in the European Union creates an environment that develops the lagging-behind territories, because the union aims at decreasing the economic disparities between the member states. On the other hand, the explanation from the prospective of the divergence theory is that the regional policy is highly needed, because the market concentrates in the countries with better economic conditions and without a well-structured regional policy the prosperity of the whole European Union territories may not be maintained.

The concept of Regional Policy was introduced in 1975 along with the European Development Fund, however the need of a regional policy was discussed from 1957 where the policy was mentioned in the Treaty of Rome.

Regional Policy targets all regions and cities in the European Union in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life (M. Lebrun et al., 2015). The Regional Policy is also referred to as the Cohesion Policy.

The European Commission underlines three main advantages of the Regional Policy:

- creation of investor confidence;
- minimization of the effects of a crisis and
- boosting employment level.

There are many other advantages of the Regional Policy, but the analysis restricts only to the three mentioned above advantages.

The regional policy is delivered through three main funds:

- the European Regional Development Fund (ERDF) ;
- the Cohesion Fund (CF) and
- the European Social Fund (ESF)

All the 28 member states of the Union financially contribute to ERDF, CF and ESF, but it is not a rule that a EU country receives investment from all three funds. The explanation comes from the fact that ERDF, CF and ESF target different countries and have distinct aims. Hence, it must be explained what regions or countries each fund targets.

The European Regional Development Fund divides its budget between:

- more developed regions;
- transition regions and
- less developed regions.

The division of the budget is not equally made between the three categories of regions. The more developed regions must use at least 80% of funds to meet the objectives of Regional Development Fund; the transition regions must use 60% of funds, the less developed must use around 50% of the funds, according to the European Commission.

On the other hand, the Cohesion Fund targets only member states where Gross National Income per capita is less than 90% of the European average, i.e. countries as Germany, France or Italy do not receive any budget's proportion of the fund.

The current period of the Cohesion Fund is 2014-2020 and it put lights on 15 from 28 member states: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

Lastly, the European Social Fund targets all the countries of the European Union, i.e. any EU country receives funding.

As mentioned before, the ERDF, CF and ESF have distinct aims, even though all three funds maintain a cumulative aim of the Cohesion Policy.

The challenges of the Policy are not static and have sharply changed from 1975. For example, the Cohesion policy in the period of 1989-1993 was focused on the poorest regions and involved both regional and local partners. The Cohesion policy in the period of 2000-2006 was focused on Lisbon strategy, i.e. growth, jobs and innovation. The latest Cohesion policy is planned for the period 2014-2020 and has the following targets:

- Employment: 75% of the 20-64 year-olds to be employed;
- Research & Development: 3% of the EU's GDP to be invested in R&D;
- Climate change and energy sustainability: Greenhouse gas emissions 20% (or even 30%, if the conditions are right) 20% of energy from renewables, 20 % increase of energy efficiency;
- Education: Reducing the rates of early school leavers below 10%;
- Fighting poverty and social exclusion: At least 20 million fewer people in or at risk of poverty and social exclusion (C. Cretu, 2015).

The budget of the Regional Policy has also radically changed. In the period 1989-1993 it was € 64 billion, while for the period 2014-2020 it rose 5.5 times and it is now € 351.8 billion. Today, the total fund of the Policy is set once in seven years, which creates a reliable environment for investment. In order to be part of the projects of the Regional Policy all countries must complete pre requirements that assure a transparent, well-oriented and valuable investment. Some of the ex-ante conditions are:

- the development of smart specialization strategies
- strategies to reduce youth unemployment and promote non-discrimination;
- compliance with environmental laws;

- business-friendly reforms;
- measures to improve public procurement systems (M. Lebrun et al., 2015).

In addition, the investment plans must also be strategically set on the national level. The European Commission has full right to suspend the investment plan or in cases when it is not consistent at the national level, the Commission recommends structural reforms through the European Semester. The Semester represents a check of the member states economies once in a year, where each country may be addressed to apply structural changes. After pre requirements are successfully completed the funds can be channeled. The investment of the funds represents a three steps process. Firstly, the European Parliament and the EU Council of Ministers establish the budget. Secondly, the European Commission cooperates with countries or entire regions to receive drafts of the concrete operational plans. During the second stage the Commission negotiates with authorities on the national level in order to come to the final version of a robust investment program. Lastly, a large number of projects are selected and evaluated by the managing authorities in the countries or regions of interest. Therefore, the managerial duty of the programs lies in the national and subnational level. However, the administrations at national level do not have full power of control of the investment plans. The Commission is constantly provided with accounting of the projects, financial reports and lists of bodies responsible for the project. All in all, the Commission double checks if the investment is adequately spent and respects the European law.

The budget is available at the beginning of every year, when EU member states are able to invest into individual plans. Also, if the project exceeds EUR 50 million is automatically subject of approval by the European Commission. During the targeted seven years period both the EU countries involved in the investment plans and the European Commission must report on the completed points of the investment areas of the Regional Policy. Therefore, for the purpose of analysis is crucial to examine what are the focused areas of each fund in particular.

The European Regional Development Fund has the spotlight on few areas, known as “thematic concentration”:

- innovation and research;
- the digital media;

- support for small and medium-sized enterprises.

The European Regional Development Fund has as its aim correcting imbalances between regions in order to achieve economic cohesion.

The Cohesion Fund has the spotlight on:

- trans-European transport networks and
- environment.

The CF promotes sustainable growth and targets the minimization of economic disparities.

The European Social Fund has the spotlight on the areas:

- employment and
- education.

The ESF focuses on the power of human capital, the improvement of involvement in education, employment as well as the improvement of the situation of people at risk of poverty.

1.4 Partial conclusion

The theoretical background gives an insight that is possible to find a relation between Cohesion Policy and unemployment rate. Firstly, because the 2014-2020 Regional Policy of the European Union targets the creation of jobs and aims at 75% of the 20-64 year-olds to be employed. Secondly, because the Cohesion Policy focuses on reducing the rates of early school leavers below 10%, as the theory implies the higher percent of the population is educated, the higher chances of attraction of investors, economic growth and therefore new workplaces. Thirdly, because the Cohesion Policy holds strong implications of the convergence theory and suggests that countries may achieve a similar unemployment rate over a period of time. Nevertheless, these arguments are weak to draw a final conclusion, because there is a demand in data demonstration and in an econometric model for testing the economic hypothesis.

2. Practical part

Over the period 2007-2012 the Cohesion Policy has created approximately 594 000 new jobs (European Commission et al., 2014). The European Social Fund has implemented projects, through which in the period 2007-2010 2.4 million people were able to find a job during 6 months. In general, the CP has a drastic impact on the EU labor market and its components such as employment, unemployment, productivity, earnings and quality of work. The further specifications of the relation between CP and unemployment require an operational definition, which is based on 'Recommendation of the 13 International Conference of Labor Statisticians', convened in 1982 by the International Labor Organization (ILO).

An unemployed person according to Eurostat is someone between 15 to 74 years old, who is without work during the reference week who is available to start work within the next two weeks and who has actively sought employment at some time during the last four weeks.

In the same manner, the unemployment rate is the number of people unemployed as a percentage of the labor force.

The Cohesion Policy does not only target unemployment, but also focuses on minimizing the difference in the percentage of men and women unemployed. In 2006 the European Union introduced and implemented a new law focused on combating gender discrimination. The official ACT Directive 2006/54/EC of the European Parliament and the Council is implementing the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation.

Since 2006, the biggest European companies were required to have 40% of women employed.

Given the basic definitions and short statistics concerning the Cohesion Policy, it is important to demonstrate what challenges the Romanian labor market in order to demonstrate the possible advantages and disadvantages created by the EU regional policy.

2.1 Challenges of Romanian labor market

The Regional Policy targets Romania in various areas, because the country is heavily lagging behind in terms of economic development. In 2014, the Romanian GDP per capita represented only one half of the European Union average. Therefore, not as an exception the Romanian labor market also faces challenges.

On the one hand, the Romanian unemployment rate is not the highest in the EU, in comparison with Greek 27.5% or Spanish 26.1% in 2013, according to Eurostat. On the other hand however, the country's labor market encompasses a further more severe problem: long-term unemployment. The evidences can be found in the period of recent economics crisis. In 2008 the total unemployment was 5.8 %, while in 2011 it was 7.4%, from which 2.4% and 3.1% in 2008 and respectively 2011 represented long-term unemployment (See chart 2.1). Nonetheless, the unemployment estimate did not only maintain an approximately constant rate during the recent crisis, but it is at a steady level for more than 10 years. Romanian unemployment rate was 7.1% in 2005, when the country was not part of the European Union and was still close to 7% in 2014, according to Eurostat.

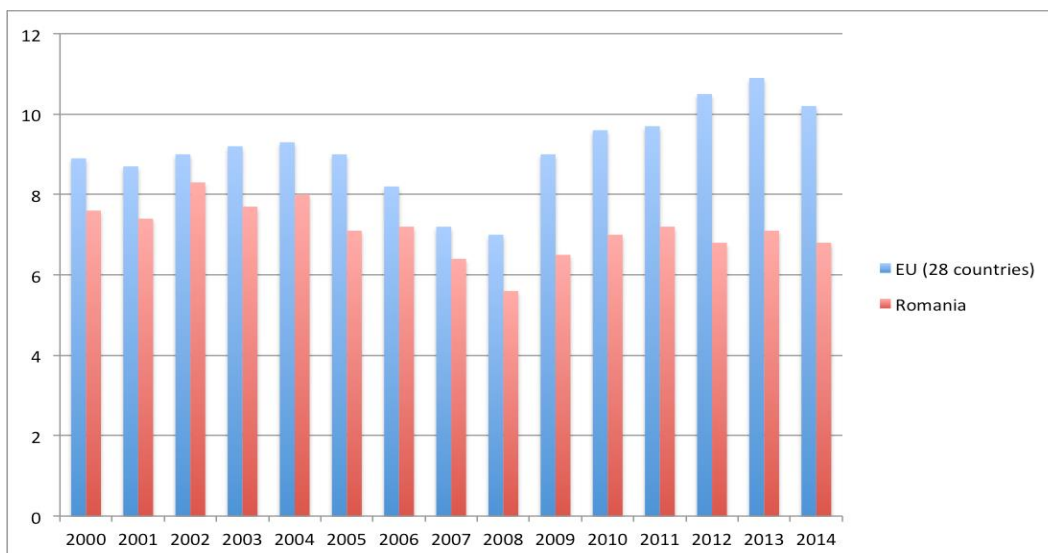


Chart 2.1 Unemployment rate in EU-28 and Romania 2000 – 2014

Source: Own adaptation based on Eurostat total unemployment data

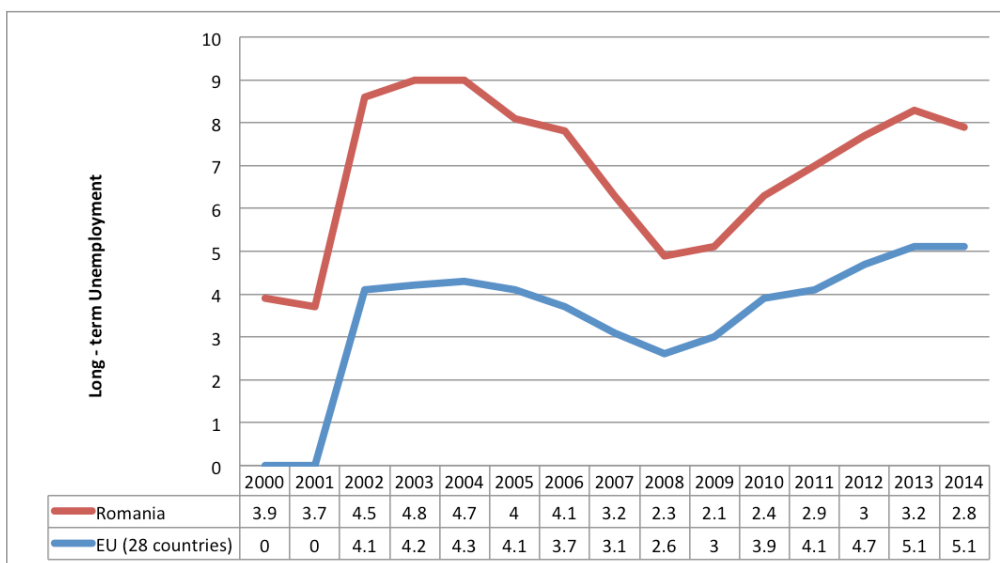
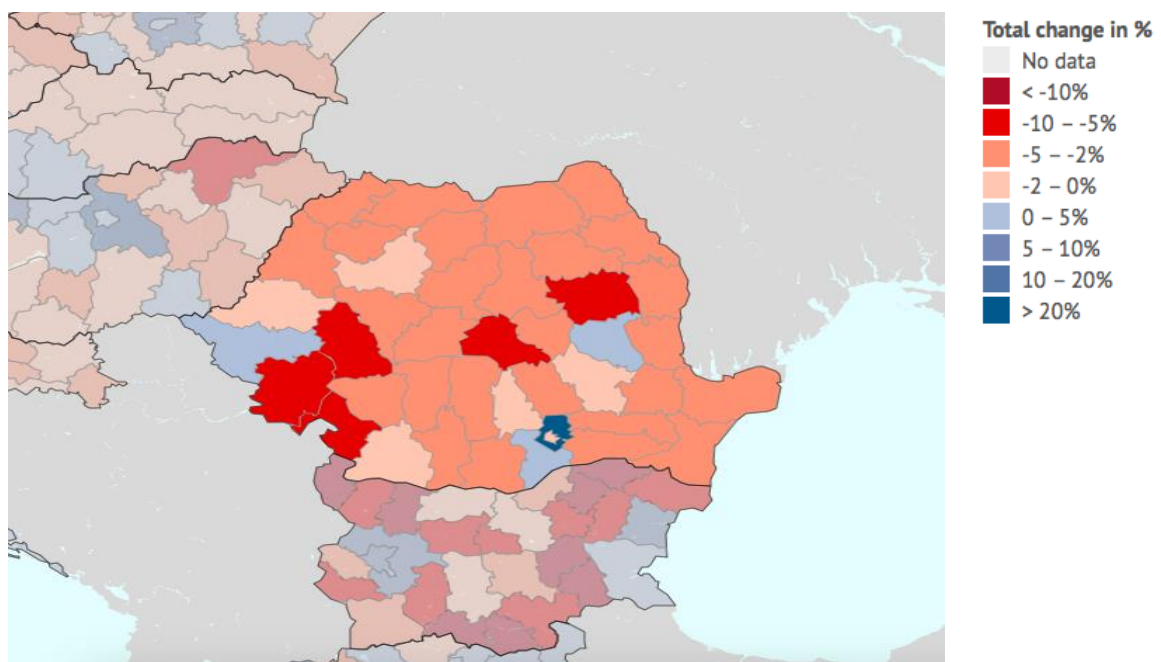


Chart 2.2 Long - term unemployment in EU-28 and Romania 2000- 2014

Source: Own adaptation, based on Eurostat long- term unemployment data.

The long-term unemployment rate imposes further challenges for the Romanian labor market. Given similar employment opportunities during a decade, the Romanian population has strong incentives to leave the country in order to achieve better remunerations, working conditions and foster their capabilities abroad.



Map 2.1 Net Migration in Romania 2001- 2011

Source: Eurostat Statistical Atlas, 2015

Net migration rate is calculated by differentiating immigrants and emigrates and dividing on 1000 inhabitants. When the value is higher and non-equal to zero people immigrate into the region; when the value is lower and non-equal to zero people emigrate from the region.

The relation between unemployment and migration may be compared to a reversed causality. While a long-term unemployment persists, people are motivated to migrate, but at the same time, while people migrate the domestic employment is at a low level. In other words, the Romanian labor market is described by a situation where the supply of labor is higher than the demand. The low demand for labor implies that the market does not create equal opportunities for people with different levels of education.

Low demand for labor implies that employers:

- are willing to recruit only extremely skilled employees;
- are not willing to pay for requalification or skill courses;
- are not willing to hire disabled or disadvantage people;
- are not willing to pay high wages etc.

The most important reasons that may influence a low demand of labor force are:

- low entrepreneurship level;
- lack of skills or education;
- dependence of territorial location etc.

2.1.1 Territorial dependence

The last reason, however is one of the most severe and may affect all the above stated reasons. The Romanian labor market is extremely diverse from region to region. For e.g. in South - East the unemployment was 10.2% in 2012, while in the North - East it indicated a number as low as 4.3% in the same year according to Eurostat. For the further comprehension of divergences in the unemployment estimate in different regions of Romania, it is mandatory to state what are the Romanian regions of interest.

Romania is divided based on the European NUTS geocode standard, which was lastly updated in 2015. The country is divided into:

- NUTS 1 level (major socio – economic regions);
- NUTS 2 level (basic regions for the application of Cohesion Policy) and
- NUTS 3 level (small regions for specific diagnoses).

At the NUTS 1 level Romania is divided into 4 macro regions:

- RO1 North -West and Center;
- RO2 North – East and South – East;
- RO3 South and Bucharest- Ilfov and
- RO4 South – West and West.

At the NUTS 2 level Romania is divided into:

- RO11 North –West;
- RO12 Center;
- RO21 North – East;
- RO22 South – East;
- RO31 South Muntenia;
- RO32 Bucharest-Ilfov;
- RO41 South - West Oltenia and
- RO42 West.

At the NUTS 3 level Romania is further divided into counties.

The sharp divergence in the employment estimate between Romanian macro-regions represented a number as high as 15.7% in 2013. The highest employment rate 67.4% was recorded in RO3 (Bucharest-Ilfov) and the lowest employment rate was 51.7% in RO2 (North-East and South-East). Nevertheless, the disparity in the employment rate in Romanian regions is not an outlier through EU 27, because the number of people employed strictly depends on the economic sectors in the region. In the Northeast and Southwest regions for example, the population is mostly engaged in agricultural activities. While, in the Center and West the population works mainly in the industrial or construction sectors. The wealthiest region - Bucharest Ilfov attracts its inhabitants to the services sector.

Agriculture, industry, construction and services represent the four main important sectors of Romanian economy. Agriculture employs 8.1% of the total labor, industry with construction involve 32% of population and services respectively 51.3 %, according to the National Romanian Institute of Statistics. Therefore, the highest employment rate is in Bucharest-Ilfov, because the region displays the most attractive sector of economy.

Macroregions, development regions and counties	Years										
	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Year 2010	Year 2011	Year 2012	Year 2013
	MU: Percentage										
	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
MACROREGION 1	65.1	63.6	63.7	64.6	66.3	66.3	63.4	62.5	62.8	64.7	64.9
MACROREGION 2	56.1	54.6	54.5	54.3	55.4	55.3	52.7	51.8	51.2	52.4	51.7
MACROREGION 3	61.9	61.2	63.2	65	68.2	69.9	66.3	65.2	65.6	66.9	67.4
MACROREGION 4	64	62.8	63.3	63.5	65.5	65	61.7	60.6	60.5	62.2	61.9

Table 2.1 Employment by Romanian macro regions 2003 – 2013

Source: Own adaptation based on Romanian National Institute of Statistics, 2013

However, the territorial dependence of labor may not always be a disadvantage for a region. On the one hand, there are possibilities to educate the population of a region in such a way, that the inhabitants will meet the requirements of the future employers and will not be motivated to leave a region. The population will be highly skilled and will be able to receive high labor remunerations. Although theoretically, it is possible to achieve such a situation, it is infinitely complicated to educate one country's population

absolutely differently depending on the region they live in, because such a policy may create further problems such as social exclusion or discrimination.

On the other hand, in a more realistic prospective, the territorial dependence creates irregularities and issues in the national economy, because people who are skilled in sectors of economy other than in the region they inhabit, almost always seek for better employment conditions. Also, the regional dependence imposes such problems as rigid differences in the labor remuneration or lack of labor demand as such. Take as an example, a typical household in Romanian rural and urban areas. In 2011, only 26.5% of households in rural area had a working head of the household, while in the urban area the number was as high as 62.3% (O. Otil and M. Parean, 2010).

Additionally, there is a visible disparity in the earnings between rural and urban areas. Let's assume that one, who is employed in a sector where he is best at, does not experience absolute poverty by any means. The absolute poverty therefore is considered as an indicator of unemployment or employment, but not at full potential, i.e. the person is better off under over employment condition, which however are unavailable in a certain region. Given this assumption, the analysis shows that the Romanian population in the rural area experiences absolute poverty 3.23 times more than in the urban area. The absolute poverty has a decreasing trend, however the policies implemented before 2010 were mostly focused on population in the urban area. Therefore, the differences between earnings have deepened even more between urban and rural inhabitants. The risk of poverty may increase even more in future, because of quick development of Romanian services and industrial sectors, which disregard the rural areas. The inhabitants in the rural areas simply do not have enough of labor demand, in order not to fall under the poverty level.

At this stage it is crucial to define absolute poverty for elimination of comprehension errors. Absolute poverty is usually associated with physical necessities and must not be confused with extreme poverty, a term largely used in the European Union documentation.

There are a number of rights statements in international treaties that include reference to necessities and absolute poverty. Absolute poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation

facilities, health, shelter, education and information (J. Bradshaw and E. Mayhew, 2011). It depends not only on income but also access to services.

One that is listed in absolute poverty is one that has no:

- roof or damp walls or floors or foundations or rot in the window frames;
- bath or shower;
- indoor flushing toilet for sole use of the household (J. Bradshaw and E. Mayhew, 2011).

For the sake of comparison, it must be explained who is an individual who lives in extreme poverty and how he is conceptually different from a person who experiences absolute poverty. The term extreme poverty sounds almost identical to absolute poverty; however one that is listed in extreme poverty is one who cannot afford:

- to face unexpected expenses;
- to go on one week annual holiday away from home;
- to have a meal with meat, chicken or fish every second day;
- to keep home adequately warm (J. Bradshaw and E. Mayhew, 2011).

The difference is crucial, because a great part of Regional Policy funding target people who live in extreme poverty and not absolute one, therefore the inequality grows further and further apart. The target on extreme poverty creates a situation where funding goes into a region and a lot of new job places are created, along with rise in employment conditions and remuneration. However, the population in the rural areas has to cope with the absolute poverty first, in order to be a target of the policies that aim at extreme poverty. Nevertheless, joining EU has created beneficial conditions for diminishing both absolute and extreme poverty levels and experiencing a decreasing character of income inequality. Today, Romania even if on a lower level, is still seriously challenged by the divergence of earnings between regions. Population in North - East region earns the least labor compensation and are the most sensitive to fall under the poverty level, while population in Bucharest are the least perturbed by the absolute poverty throughout the country. In 2010 7.7 % of population were experiencing an absolute poverty in

Northeast, while in Bucharest the number was only 1.1%. The big difference in earnings and the risk of falling at poverty level is also driven by difference of being industry-employed or self-employed. In the rural areas only 34.6% of population are self-employed.

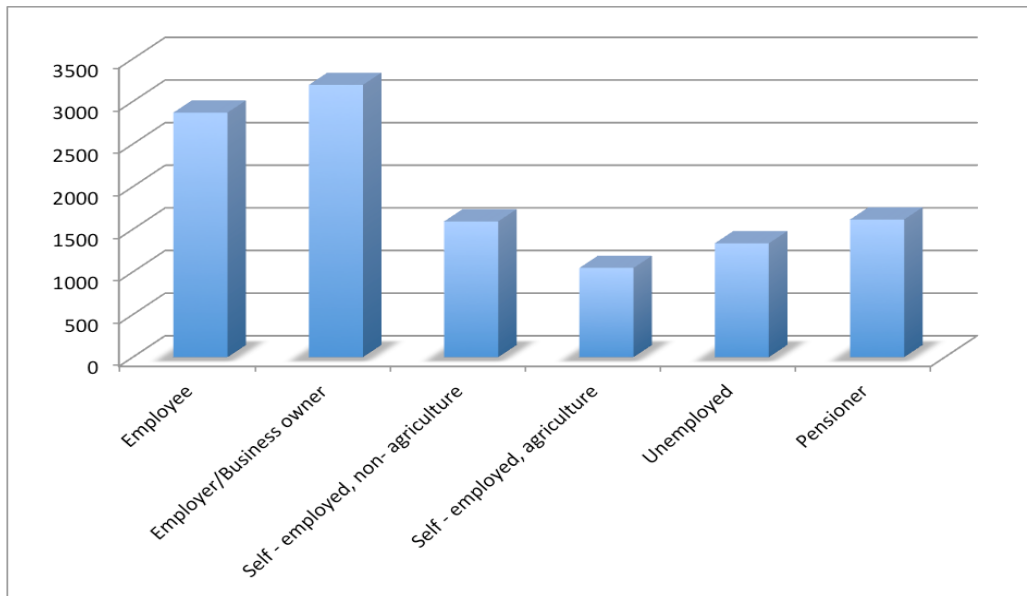


Chart 2.4 Earnings by occupational status in Romania in 2013

Source: Own adaptation based on Romanian National Institute of Statistics, 2013

2.1.2 Low entrepreneurship level

The Romanian population still needs to adapt to the structural changes that came once the country joined the European Union in 2007. One of the most important mentioned reasons - that create a low demand for labor force not only in the rural area, but is also a largely observed trend in the whole country - is the low level of entrepreneurship. Romanian population is not opened to entrepreneur activities or finds it very difficult to cope with the financial environment created for entrepreneurs. In 2013, the Romanian Entrepreneurship Barometer showed that 59% of population does not support entrepreneurship and 88% of entrepreneurs state that the process of finding funds is difficult to extremely difficult. Plus, 81% of the Romanian population sees the entrance into entrepreneurship as a future business failure. The population lacks an entrepreneurship culture, with a total of 59% of people considering that the Romanian culture does not support entrepreneurship. Similarly, a stagnated pattern as the long-

term unemployment is also visible in the perception of entrepreneurship, in 2013 35% of population considered that the perception of entrepreneurship neither improved nor worsened in comparison with the previous 3 years. The problem also lies in the lack of tolerance for business failures, a percentage as high as 86% of total population declares that they refuse to accept a person who once failed in a self-employment activity. The Romanian mentality toward success and failure demonstrates that the population is in need of being constantly informed about successful and profitable entrepreneurs. By promoting individual business activities through media for example, the trustworthiness of population is boosted and the lack of tolerance for business failures possibly slows down. At the same time, also the European Commission promotes opening a business by channeling various funds for entrepreneurs. In 2008 the Commission launched the program Regio Stars- rewarding innovations. The winner of the “smart growth” category in 2013 received 15.4 million € of funds and was not only successfully self-employed, but created 1 199 of highly qualified jobs (European Commission report, 2015).

The idea of opening a business is not very familiar for Romanian population also because of the communist historical background; a vast majority of youth still takes as an example the carrier path of their relatives, which is rarely an entrepreneur. Therefore, many of the young Romanians have blur image of what an entrepreneur is and what are his activities.

For elimination of additional errors, which are met throughout official documents or mass media, the definition of an entrepreneur is stated below. An entrepreneur must not be confused with a contractor. Romanians have the perfect linguistic platform to easily misinterpret the terms entrepreneur “*întreprinzător*” and contractor “*antreprenor*”. Even if the Romanian “contractor” has the same word root with the English “entrepreneur”, the definition of an entrepreneur (*întreprinzător*) is the same for both languages.

- An entrepreneur is a person who has the initiative and is able to set in motion a business and represents the head of business;
- A contractor is a person who performs work, under contract, in exchange for a certain sum of money (*own adaptation*).

Given the distinction, the young Romanian population also needs to be educated about

the business sphere and future earnings. In 2002, the Ministry of Education and Research from Romania, introduced at the secondary school level the subject Entrepreneurial education. However, the education system still lacks the needed attention to this type of employment. In 2008, 85% of university teachers did not know a single student, who plans to start a business after graduation (Z. Szabo, 2008). The reforms in education should be implemented from elementary school to university level. In such a case, a student is successful from early age at being independent, self-orientated and confident, so that in the later stages of education he can collect all the information available about running a business and be supported by his colleagues and family to open a company.

Generally in the country, the entrepreneurial activities can drastically change the picture of labor demand and even modify the long-term unemployment pattern. In 2012 in the EU 67% of the total jobs were provided by entrepreneurs. However, the low level of Romanian entrepreneurship in comparison with other EU countries is not a problem of cultural background only; the Romanian “potential” entrepreneurs consider a set of severe reasons that may affect their future business activity, such as:

- complicated legislative framework;
- risky business environment;
- inadequate tax rates;
- corruption;
- inability to access funds and others (G. Marchis, 2011).

The puzzled legislative framework creates barriers for new entrepreneurs, who wish to enter the business area, because of the frequent legislative changes. The Romanian political situation does imply trust to major population, i.e. inhabitants consider that once the governance changes- the legislative platform may reform, therefore it is extremely complicated to be always updated with the legislative information and to comprehend which framework must be met at a certain point in time. A perfect example of the complicated legislative framework is a discordance of laws for entrepreneurs before and after the year 1989, when the atmosphere for entrepreneurial activities did not reform, but completely switched to another economic model. Even

though, the change in 1989 has a serious historical explanation, such transformations are frequent even for today's democratic Romania.

The unstable political situation is a driving force for corruption and a risky business environment. Romania's economic freedom score was 64.4 in 2012, the score was 0.3 point worse than in 2011, reflecting deterioration in freedom from corruption, business freedom, and the management of government spending (WB report, 2014). The business situation did not drastically change in 2013; in fact 72% of population considered that the business environment has deteriorated (M. Matei, 2013).

The Romanian entrepreneurs claim that entering the business environment usually implies bribing, especially if the economic sector of interest is mostly occupied by big companies, as the technology sector. In this sense, especially young innovators prefer to test the piece of technology in Romania, but launch it in another EU or non-EU country, because they can acquire more simply a license or patent for the product and benefit from the business idea much quicker.

Another, drastic problem that mostly sets off young entrepreneurs is the difficulty of accessing funds. In 2013, 35% of entrepreneurs under 40 years old considered that accessing funds is very difficult; another 55% considered the process difficult, together making a total of 90% of the entrepreneurs that participated in the questionnaire. At the same time only 5% were certain that finding funds is easy and the other 5% did not know or had no opinion (M. Matei, 2013). The picture is on a completely different pole, if comparing with the whole EU region. In 2013, only 17% of entrepreneurs claimed that access to funds is very difficult, while 19% considered that the process is very easy, a statement that was unobserved among the Romanian answers (M. Matei, 2013).

Nonetheless, the barriers that are present in the business sphere do not solely represent issues of the entrepreneurial area. One of the most important reason that offsets population out of the Romanian labor market is the complicated taxation system, in both terms of time and fiscal costs. A businessman must spend an average of 216 hours per year to calculate taxation and must spend more than 10 days to open a business.

Even if, the Romanian taxation rate is not the highest among EU countries (16% flat tax for both employees and self-employed), the taxation process is extremely bureaucratic.

In 2013, 48% of entrepreneurs considered, that simplification of taxation regulation is far more important than reduction of the tax rates as such (M. Matei, 2013).

One possible solution is to introduce different taxation rates in dependence of the size and maturity of the business. The reform may serve as a strong pillar for newly opened businesses, which do not have enough resources to cover all the taxation expenses and simply have to leave the market. However, the proposed solution does not solve the complicated administrative system, which is present in the whole EU area. In 2013, ¾ of European population declared that the idea of opening a business is outbalanced by the bureaucratic work the company must go through (M. Matei, 2013).

2.1.3 Lack of skills or education

The last mentioned reason that challenges the Romanian labor market is the inability to match skills and education with working demand. Similarly as the legislative and fiscal area, the education system in Romania has experienced at least 15 colossal reforms in the last 20 years, which creates a divergence in the knowledge pack acquired by different generations. At the same time, the education also suffers a territorial dependence, as students in the rural area tend to form a higher proportion of early-leavers from school than the students in the urban area (three times more leavers in rural area than in the urban area). The primary education in Romania is free, however a student must be supported with at least 200 € per month for school tools, additional books and equipment. In this sense, consider a self-employed person who lives in the rural area and has 2 children. Assume that he is the only person who brings revenue in the household and that he works in the agriculture sector, which brings him an average revenue of 2.15 € per hour (V. Burja, 2014). He works 5 days a week for 8 hours per day, therefore the total household earnings per month represent: 344 €. Also, assume that the working head has to commute to work and bears transportation costs of 2 € per day (40 € per month), rents a one-room apartment out of center with the cost of 150 € per month, pays the basic utilities (electricity, water, heating) in the amount of 95.13€ per month. He, further spends 5.54 € per day on 3 basic consumption products (0.89 € on 1 liter of milk, 0.46€ on 1 loaf of white bread and 4.19€ on 1 kg of chicken breasts). Let's further assume that his partner doesn't spend on transport and neither do the children. Therefore, it is deducted that the total household costs per month are 416.33€ (rent, utilities and 3 product consumption). The assumed household type meets just the

basic needs and disregards the clothing expense. The average wage in the Romanian agriculture sector is 344 €, while expenses are 416.33€. Let's further assume that the family cuts out the expenses on utilities or food products to meet the budget line, however even so the household is unable to maintain 2 children in school. The problem of high costs versus low wage creates a perfect situation for an inhabitant to early leave school. He then has an opportunity employ into agriculture and raise the household budget or stay at home.

The problem of early leaving strongly affects the Roma people (twice as high as non-Roma), but at the same time disabled people, who are not being provided the adapted education conditions. In Romania the early leavers rate is one of the highest among EU member states and represented a number as high as 17.4% in 2012. At the same time, the rate is experiencing a decrease; as for example in 2000 22.9% of children were leaving school at the elementary phase (Eurostat report, 2015). The latest Cohesion Policy has a target of 10% early-leavers for the year 2020. However, at the national level the target is one per cent higher. The Cohesion policy and its funds influenced the change of the early leavers rate, as Romanian education system went through a number of serious reforms before joining EU.

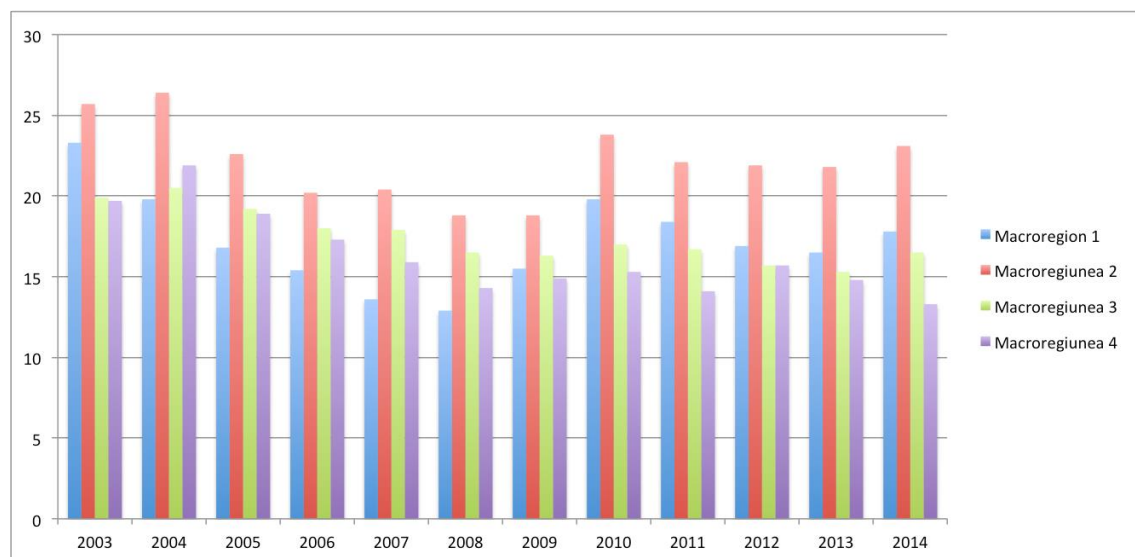


Chart 2.5 Percentage of early leavers from school by macroregions

Source: Own adaptation based on Eurostat data on early leavers, 2015

Nonetheless, the Romanian expenditure on education is the lowest among EU and represented only 3% of the total GDP in 2012 (EC report, 2015) the expenditure sharply

lowered after the recent economic crisis, as the total Romanian national budget also decreased.

A low expenditure and investment level into education offsets especially students in rural areas, with disabilities or coming from a minority. By investing such a low portion of GDP in education, a vast majority of students are automatically marked as early-leavers. Assume for example, that a student A in the rural area lives in the village X that has no school; he has to commute to school in another village Y by increasing time and financial costs of the household. Now, compare A with the same average capability student B, who has a school in the village Y, *ceteris paribus*, theoretically the student A is more likely to leave the school earlier, because the total costs of A are higher than of B. Furthermore, in the future, A may lack the skills, knowledge and experience needed to find a job place. Generally speaking, the problem of early-leavers is strongly linked with unemployment. In the EU, 40.1% of students who leave education or trainings early are later unemployed (European Commission report, 2015).

The Romanian education system constantly receives from EU country-specific recommendations not only in the area of early leavers, but also concerning other issues of education and training area that must be improved. Few of such recommendations were stated in the 2014 European Semester. The country is targeted at:

- increasing the quality and access to vocational education and training (VET), apprenticeships, tertiary education and of lifelong learning and adapt them to labor market needs;
- ensuring better access to early childhood education and care;
- increasing school attendance and reducing early school leaving (including for Roma), through a partnership approach and a robust monitoring mechanism (EC monitor of education and training, 2014).

The first recommendation - boosting vocational training education does not represent increasing the rate of upper secondary students involved in vocational activities itself. The target is on the quality of such education, because VET students have the lowest passing scores of the graduating school exam baccalaureate - 38.1% (C. Biavaschi, 2013). Even though, the involvement in vocational and training education is among the highest rates in EU - 61.9% (C. Biavaschi, 2013), it doesn't bring as much extra

benefits during the education period as the simple upper-education. A high proportion of the VET students (5.3% in 2012) tend to end the studies earlier in comparison with students from general upper-education (2.1% in 2012) (C. Biavaschi, 2013). The VET education is not attractive to students, because of the overload of theory and lack of practical applications. The VET program is based on the principle of linking studies with a future job place, however in Romania, there is a lack of companies that have interest in VET and its students. The inability to find a job place and the difficulty of the VET program demotivates students, therefore the high rate of early leavers. In this sense, the European Commission constantly targets the Romanian education system at increasing the equal availability of education for unfavorable citizens. In 2013, the Romanian government implemented a new law concerning the VET education, which gives the opportunity to continue the studies after the 9th and 10th grade and acquire the diploma of high school after successfully passing the exams of baccalaureate. Nonetheless, even if the rate of students who graduate from VET is quite small, it must be comprehended that by implementing new policies that target business to involve students from various educational backgrounds, the rate may potentially grow. Romania will implement such a policy - the 2014-15 Youth Guarantee, which will provide young people with a reasonable variety of opportunities to find a job or to benefit from better job placement services via the introduction of a mandatory component of guidance in line with the Council Recommendation of 22 April 2013 (EC monitor of training and education, 2014). Also, if the competition of the Romanian labor market will continue to grow, the labor demand will also rise, creating more opportunities for all types of students.

The first target also includes the condition of increasing the level of life long studies. Romania is heavily lagging behind at involvement of adults into studies. The life long studies rate is characterized by a stagnated evolvement (1.1% in 2003, 1.5% in 2014). In 2013, the rate represented a number as low as 1.8%, which is approximately 8% different from the EU average (10.4%) of the same year. Additionally, the Romanian population divides into women and men involved into long life studies. The rate experiences a brusque delta between women and men, as almost no women from rural areas are willing to participate in such an education program. The long life students are also discouraged by the future lack of the labor demand, hence the partnership between LLL and World Bank. In 2014, the earlier mentioned cooperation adopted a project,

which is focused on boosting the partnership of LLL's stakeholders, to link the LLL's student to accessible job opportunities.

The second challenge- improving early childhood care and education participation has experienced an increasing trend from 72.3% in 2002 to 85.5% in 2012 (Eurostat, 2015). However, the government investment into childhood education has sharply decreased, which puts the target under risk. Romania invests one of the lowest amounts of money per a single child. Along with Czech Republic, Turkey, Bulgaria and Slovakia, Romania spends PPS 3 000 or less per year on ISCED 0 education per child. The ECEC education requires both public and private investment, which may together or separately be focused on younger or older children and the authorities responsible for the funds may be at local, regional or central level. In Romania the local authorities are responsible for both younger and older children.

By 2020 Romania must achieve 95% of early childhood participation in education. The population targeted in this program is children between 3 years old and (usually) 7 years old in Romania. The country lacks equal opportunities for all children to enter the early education, as by the year 2014 Romanian educational system was unable to provide an early place in education for every single child between 3 - 7 years old. The lack of ability to involve every child in the early education creates divergence in the knowledge and skills. Compare a child A, who attends the early study programs with the same age and family background child B who is not involved in early education. The European Statistical office found that on average A is 35 points more prepared than B, thus A has approximately one more year of school studies. Also, A is better at reading and has higher chances at succeeding in primary school. The benefits of the early education come in a knowledge form, however also in a financial manner, as Romania is one of the 3 EU member states, which offers free of charge early childhood education, officially the parents have to pay just for the food provided. The children who come from an immigration family or ethnic minority are also helped to participate into the early education programs, as they are provided various language and culture courses. However, the inability of attending early education is also driven by the fact that nearly every second child is at risk of social exclusion or poverty. Even if, the early education is free, the financial background plays a major role, as the household should provide the child with the basic equipment and materials for the education. In 2014, approximately

48% of children between the age of 0-5 years were at risk at poverty. The rate was only higher in Bulgaria (51%), while the other EU countries experienced a rate of 40% and lower, according to Eurostat. The risk of poverty slightly increases the possibility of not being involved in the early studying process, however from 2014 all the children who are 5 years old have the legal attainment to ECEC (legal entitlement to ECEC refers to a statutory duty on ECEC providers to secure publicly subsidized ECEC provision for all children living in a catchment area whose parents, regardless of their employment, socio-economic or family status, require a place for their child). Nevertheless, the attendance of early childhood education is not the lowest in Romania and it brings infinitely high advantages to kids who attend it, disregarding the family background. In Romania, children who attend at least one year of ECEC and have parents with not tertiary education score 74 points achievement at reading skills (highest in the EU) comparing to kids who never attend ECEC, *ceteris paribus*. However, the difference is not robust on a higher stage of education, as in most of the European countries there exists no seeable difference between mathematical score of those attending ECEC coming from a unprivileged background and those coming from wealthier families but not attending ECEC. The choice of engaging the child in the pre school studies heavily relies on parents in Romania, however the general question of involvement children in ECEC continues to be an important target of the European Union programs.

The last area on which Romania is recommended to focus is the school attendance and decrease of early school leaving, which was previously discussed at the beginning of the section.

2.2 Population groups most affected by unemployment targeted at national and EU levels

All in all, education and skills, entrepreneurship level and territorial dependence are few of the most important elements that correlate with Romanian unemployment. The basic areas that are most affected by the Romanian labor market challenges are:

- youth unemployment;
- gender divergence of unemployment; and
- unemployment of vulnerable population.

The three categories of unemployment are discussed separately under the sections 2.2.1 2.2.2 and 2.2.3.

2.2.1 Youth Unemployment

The youth unemployment is a largely discussed topic through the Romanian population, as a vast majority of citizens consider that the youth unemployment directly describes the unfavorable situation of the Romanian labor market and its disability to pair skills and education with demand for human capital. However, it must be stated that the rate of youth unemployment does not only reflect the number of people under 25 who are currently seeking, but cannot find a job. Hence, the considerable difference between young and adult unemployment. The youth unemployment rate is usually 2 times higher than the adult unemployment, because the target is on people between the age of 15 and 24, who are actively involved in studies. Therefore, when the total youth unemployment represents 25%, it is not necessary that $\frac{1}{4}$ of young population are unable to find a job, assuming most of the young population is involved in studying and further assuming that studying offsets the activity of seeking a job place. In this sense, Eurostat provides a clear difference between population between 15 and 24, who do not participate in education, training or who are not employed (NEETs) and population of the same age category who are studying or training. In 2014, the number of NEETs was as high as 7.5 million in the whole EU area. Generally, the youth unemployment has considerably increased in EU 28 from 2010 to 2014. The increase of the youth unemployment was also driven by the recent financial crisis, as many companies cut down the number of the employers and stick with highly skilled individuals. The Romanian young population was heavily affected by the crisis, as the youth unemployment represented 17.6% in 2008 and an increase to 22.1% in 2012. Nevertheless, the youth unemployment rate is on approximately stagnated platform (around 20%), which may be referred to as long-term youth unemployment. In 2003, for example, when Romania was not part of the EU, the unemployment among young population was 18.5%.

The young population is most commonly involved into sectors of economy, which do not acquire high demanding skills, education or long-time experience. In 2012, the Romanian young population was actively employed in hotels and restaurants (13.5%), followed by activities in the cultural life (9.9%) and agriculture (9.8%) (Romanian national Institute of Statistics report, 2012). The areas that employed the least young

population were real estate (1.3%), followed by production of energy, gas and warm water (1.9%) in the same year (Romanian national Institute of Statistics report, 2012). The statuses of employment of youth varied between employers to contributing family members. The vast majority of employed young people were contributing family members (19.1%), followed by employees (5.7%) in 2012 (Romanian national Institute of Statistics report, 2012). The least number of youth were self-employed (3.9%) or represented an employer (1.5%) in the same year (Romanian national Institute of Statistics report, 2012). At the same time, the young unemployed people were the most privileged in terms of unemployment benefits. In 2012, 33900 of the young people under 25 years old received unemployment benefits out of the total 87694 people, who were provided indemnity (Romanian national Institute of Statistics report, 2012). The strong provision of unemployment benefits encouraging young people (under 25) is also visible if comparing to the age group 25-29. In 2012, only 4047 people between 25-29 years benefited of unemployment indemnity (Romanian national Institute of Statistics report, 2012), a number 8.37 times smaller than people between 15-24.

Most of the cases registering youth unemployment in Romania were of long-term and represented a period of over 27 months. Both at the national and international level, the Romanian youth unemployment period is a frequent target. In the period 2014-2020 EU addresses youth unemployment through the Youth Guarantee: investing in youth. The Youth Guarantee approach is to achieve full-employment of all young European population and to shorten the period of unemployment or inactivity up to 4 months, almost 7 times shorter period than the average Romanian youth unemployment period. The Youth Guarantee is a relatively new program, which was officially agreed upon in 2013, however it represents one of the most important structural change that all EU member states must implement. The program requires reforms that assure a balance between short-term transformations and long-term structural changes, therefore the most colossal challenge is on the national level, regarding the constraints of the local budget. The Youth Guarantee is a cost to the local budget, as it was estimated to represent a median of 0.22% of the GDP. However, the benefits of the project are estimated to bring much higher financial and social remunerations. The results of the program are not yet visible, because of its new character. The costs and benefits of the Youth Guarantee will be observable during the period 2014-2020, until then all the EU members submit implementation plans and are focused on the short and long-term

reforms needed for the program. Additionally, the Youth Unemployment Initiative partly finances The Youth Guarantee. However, The Youth Unemployment Initiative is focused mostly on NEETs. The member state has the legal right to target NEETs under 25 or 30 years old, if the inactivity level is drastic in the particular region at the age category 25-30 years old. Additionally, a big majority of the EU financial instruments support the Youth Guarantee, one of which is the European Social Fund (one of the 3 funds of the Regional Policy). A big part of the ESF (68%) is focused on young population, as over 25 million of people under 25 years old benefited from trainings and education during the period 2007-2013. The ESF projects however are more limited at the direct decrease of the youth unemployment rate, as the finances try to diminish the initial causes of the low employment estimates: skills, education, and trainings. Strategically, the ESF and YG create a perfect path for decrease of the youth inactivity and unemployment, because the programs target not only the unemployment, but also the possible causes of low involvement of youth into employment.

2.2.2 Gender divergence of unemployment

The unemployment gender gap is considerably lower in Romania than in another countries in transition, however the divergence of men and women employed is not an unobserved situation in the labor market. Surprisingly, on the one hand the Romanian women employment (52.0% in 2011) is under the EU average (58.5% in the same year), but on the other hand, the unemployment rate is lower for women than for men at all age categories, excluding 15-24 years old. The unemployment rate of men maintains a constant level of approximately 7-8% over the last 10 years, while women are 1-2% below. Nonetheless, a big kick of the unemployment estimate was visible for both the male and female population. In 2008, the women unemployed represented a number as low as 4.4% in comparison with 5.2% in 2007 or 6.0% in 2006 (D. Andrean and T. Andrean, 2007). In the same manner, the number of men unemployed decreased in 2008, but by a slower rate, from 7.2% in 2007 to 6.5% in 2008. The diminishing rate of the unemployed however, did not maintain and after the crisis of 2008-2009 the number of males and females without a job went back to the long-term indicators.

The puzzled case of a higher male employment level, but at the same time lower female unemployment rate has as a possible explanation the fact that a share of female population prefer to work in the informal economy. The activity in the informal

economy is harder to estimate and to predict without any statistical errors, as the exact number of population employed in this sector is usually unknown.

The attractiveness of being employed in the informal sector of economy for women is higher because it is driven by gender wage gap and because employees assume a higher probability of future maternal leave for women than for men. In the financial sense, the difference is easily explained. Assume A is a woman and B is a man with the same skills and knowledge. A is offered a lower wage for the same amount and time at the workplace, because the employer initially assumes A will leave for childcare, and the employer takes into consideration the future costs of employing A. The employer know that only 3.0% of the population working full-time is willing to pay for childcare for children under 3 years old and he assumes that the vast majority of women takes a parental leave for a period of at least 3 years. The employer then, includes the future costs of a female employed (parental leave and requalification courses) and divides the costs into potential years employed, therefore the difference of wages for men and women.

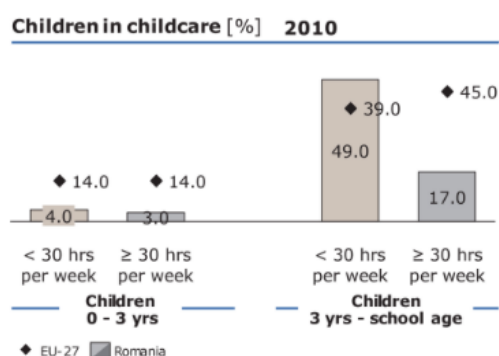


Chart 2.5 Percentage of children in childcare in Romania and EU-27 in 2010

Source: European Commission et al., 2014

In 2010, a Romanian woman employed earned 12.5% less than a Romanian man. Notably, the wage gap in Romania was lower than the EU 27 average (16.4%) during the same year; but in fact has drastically increased since the merge to the Union. The increase of the gender difference in labor remuneration is not in the line with the European law, particularly the previously mentioned official ACT Directive 2006/54/EC of the European Parliament and the Council on of equal opportunities and

equal treatment of men and women in matters of employment and occupation (Official Journal, 2006). The EU 27 is different in the sense of decreasing the gender salary gap from Romania, as the region has experienced a decrease of 1.4% in 2010 comparing to the year 2006 (Eurostat, 2015). Nevertheless, the Romanian gender gap in labor market is not the worst among the EU members. Thanks to the soviet economic past, Romanian sectors of economy that employ men and women do not significantly differ. Both male and female population is mostly employed 3 sectors of economy:

- agriculture, forestry and fishing
- manufacturing
- wholesale and retail.

The Romanian employment in agriculture, manufacturing and retail has potential to decrease, because the services sector is rapidly growing. At the same time, Romania employs a large majority of women in the scientific field. In 2010, 52.8% of women were employed in science, math and computing (D. Andrean and T. Andrean, 2007) in comparison with only 37.6% in all the other EU member states (D. Andrean and T. Andrean, 2007). At the same time, Romanian labor market employs more women than men in the teaching and training field - 93.3% in the same year (D. Andrean and T. Andrean, 2007).

Altogether, the gender gap in Romania is not the most critical problem of the labor market, especially if comparing with the female unemployment rate in the whole EU area.

2.2.3 Unemployment of vulnerable population

The vulnerable Romanian population faces colossal challenges in the labor market. Assume that under the section 2.2.3, the term vulnerable population includes exclusively disabled and Roma people. The European Statistical Office additionally specifies the term “disabled person”. One is considered disabled if one:

- has a basic activity difficulty (such as sight, hearing, walking, communicating);
- has limitation in work because of a longstanding health problem and/or a basic activity difficulty (LHPAD) (Eurostat report, 2015).

On the other hand, the Roma people are not linked (only) with health problems, but represent the most disadvantaged minority in Romania. The population consists the second minority and reaches 3.3 % of the total Romanian population, however the number is predicted to be higher, because a vast majority of Roma people are not officially registered in the National Bureau, have no identity or birth card. Given the research assumptions and definitions, it must be demonstrated in what sense the above stated two groups of population form the Romanian vulnerable society.

Generally, The UN Convention on the Rights of People with Disabilities recognizes in Article 27 “the right of persons with disabilities to work, on an equal basis with others; this includes the right to the opportunity to gain a living by work freely chosen or accepted in a labor market and work environment that is open, inclusive and accessible to persons with disability. However, even if legally respecting the EU law, the Romanian labor market lacks the required demand for 36% of the total population, i.e. disabled people with LHPAD or basic activity difficulty. The Romanian employers tend to refuse to hire a disabled person. In the case of refusal, the company must pay a fine, which however is not high enough (Romanian minimum wage) to motivate employers to accept the disabled candidature. Not only, does the labor market outline the disabled people, but also the education system does not create special conditions for training or educating people with health problems. The low involvement into vocational study and training does not prepare a skilled disabled population and creates a perfect environment for an employer, who is unwilling to employ one with health problems, hence the second highest number at inactivity level of disabled people in Romania among EU 28. In 2012, 65% of people having basic activity difficulty and 75% of inhabitants defined by LHPAD were economically inactive, according to Eurostat. Additionally, a short-run employment statistics, and a high proportion of job dropouts describe the disabled population.

Generally, the unemployment of disabled people is significantly higher than the unemployment of non-disabled people not only in Romania, but also in the whole EU area. Therefore, in the same manner as targeting youth unemployment or gender unemployment gap, the European Funds finance projects, which are focused at diminishing the unemployment estimate of people with disabilities. One of such projects is the European Disability Strategy 2010 - 2020. The Strategy aims at reducing

the unemployment disparities of handicapped people, focuses a special attention on young disabled people who are in transit from education to employment, addresses the employment condition and equal job remuneration for population with health problems etc. At the same time the Strategy aims at a reform at both national and European level. The European Commission is entitled by the right to recommend the local authorities to pay exceptional attention at unemployment situation of disabled people, at the same time decreasing the social discrimination. Through the strategy of ESF of 2010 - 2020 the disabled people will possibly gain the possibility of not only being employed, but also being actively employed in entrepreneurial activities (European Commission et al., 2010).

On another pole, stands the Roma population, who are mostly unemployed not driven by the psychological or physical disabilities. One of the most severe reasons of a high unemployment rate for the Roma minority is the low education level. More than ½ of the Roma people who live in Romania have not graduated the compulsory education along with a number as high as 8.9% who have never been enrolled in the education system. At the same time, the Roma people represent the most early-leavers from school, 6.9% of the population interrupts education at the primary level. Exceptionally, the proportion of women and men involved into education largely differ, as Roma girls tend to be young mothers and leave school earlier than boys.

The low educational level offsets Roma people out of the Romanian labor market. In 2011, 28% of Roma people were unemployed, a number 2 times higher than for the non-Roma population. Roma minority also considers that an important reason that leaves the population out of the market is the social discrimination. In 2011, 27% of Roma people above 16 years old stated that they were victims of discrimination in the last 5 years and were unable to find a job place, because of discrimination. Nonetheless, in Romania the rate of discrimination is the lowest in the EU 28; with the next 32% lowest rate in Estonia, followed by 35% in Bulgaria in the same year. In the same manner as all vulnerable groups are targets of EU, the Roma people are also not dropped out of the interest. The ESF and the European Commission 2014 – 2020 aim at diminishing social exclusion and discrimination, increasing the education involvement of Roma people (at least 15% of students of Roma origin in schools) and decrease the early-leavers, by that creating equal job opportunities for both Roma and non – Roma

population. At the same time, the local authorities must implement projects that bring to the equal employment of all minorities who live in Romania by the year 2020.

Altogether, the Romanian unemployment and Cohesion Policy are hypothetically correlated, because the different types of unemployment represent a frequent target of the European funds. However, for the final answer on the main research question, the analysis builds an econometric model.

2.3 Unemployment rate before and after joining EU

Statistically speaking however, the unemployment rate has not experienced a drastic change after Romania joined the European Union in 2007. If comparing the two distinct time horizons 2000 - 2007 before EU and 2007 - 2013 after EU, the macroeconomic indicator of unemployment is at a rather sticky level and provides suggestions that the Cohesion Policy may not have a strong effect on number of people unemployed.

2.4 Empirical Analysis

The analysis of the effectiveness of Cohesion Policy and a hypothetical correlation with unemployment rate is strongly restricted by the availability of data. The complete data for the Cohesion Policy 2007 - 2013 is awaited to be accessible at the end of 2015; therefore it is infinitely hard to estimate with precision the correlation of the Cohesion Policy and unemployment rate. The accuracy of data also represents an issue for the empirical test, because the absorption rate of Cohesion policy is measured differently depending on author's model.

At the same time, it is crucial to mention that the effect of Cohesion Policy is rather complicated to be measured alone, and usually can include effects of national policies or the effects of other EU policies. Additionally, the empirical research is strongly based on previous studies conducted by Gheorghe Zamanu and George Georgescu "Structural and Cohesion Funds Absorption in Romania: Balance Of the 2007-2013 Financial Exercise and Lessons for the Current Period" and by Tomova et al. "EU governance and EU funds - testing the effectiveness of EU funds in a sound macroeconomic framework". The inability to separate the cohesion policy, the lack of data and its inaccuracy were also stressed in the above-mentioned empirical papers.

Further on, the analysis demands an explanation of the absorption rate of the Cohesion Policy and how it may influence the strength of the correlation. During the period of 2007-2013, Romania received 20 billion EUR from the funds of Cohesion Policy. At the same time, at the operational level of human resources development Romania submitted 14982 projects, from which 20.6% were accepted. The total amount of funds for the 3084 accepted projects represented 1190 thousand EUR. Nonetheless, at the final stage of 2007-2013 Cohesion Policy not all the allocated funds were perfectly absorbed. The human resources development had an absorption rate calculated as a ratio of EU reimbursements to EU allocations of only 27.27%, comparing with 40.06% at the administrative capacity development. Generally, Romania had the lowest average absorption rate (26.5%) if comparing to Bulgaria, Czech Republic, Hungary, Poland and Slovakia, where the absorption was at least 40% and reached 58%. Given such a low absorption estimate, the tested correlation may lose its importance, if comparing to a hypothetical situation where the funds are at least 2 times better absorbed.

All in all, given the data restrictions, the low Romanian absorption rate at the tested period 2007-2014 and the inexistence of a standard indicator used for the Cohesion Policy measurements, the analysis is only a rough estimation of the possible correlation.

The economic model proposed is that cohesion policy is a good predictor of unemployment rate, i.e. cohesion policy correlates with unemployment rate.

Consider, an econometric model of this type:

$$\text{unemployment rate} = \beta_0 + \beta_1 \text{ cohesion policy} + \beta_2 \text{ tertiary education} + \varepsilon$$

where ε - error term, β_1, β_2 – intercepts of variables in order.

The model is simplified and does not include variables such as territorial dependence or does not differentiate between vulnerable and non - vulnerable population, as it considers the total unemployment takes into account total population and such a specification is double counting.

The data used for this analysis is taken from Eurostat and focuses on a period before and after Romania was part of the EU. The analysis is a cross-sectional analysis and compares two periods 2003 – 2007 and 2007 – 2010. It must be stressed that the

analysis does not take into account the whole period of 2007- 2013 of the Cohesion Policy as data on Romanian unemployment by levels of education is available only from 2003 and the comparison with different lengths of time is considered to be inappropriate. The specifications of the model define 3 categories of people with different levels of education:

- less than primary, primary, and lower – secondary education;
- upper secondary and post – secondary non – tertiary education;
- tertiary education.

The dummy variable created is equal to 1 in case the person has tertiary education and 0, otherwise. At the same time, the Cohesion Policy is also stated as a dummy variable, if allocated and received – equal to 1 and 0 otherwise.

The results of the tested regression are as hypothetically expected; there's a negative correlation between Cohesion Policy and unemployment rate, which means that if the Cohesion Policy funds are monetized, the total unemployment rate is expected to fall. The simple regression analysis explains a high amount of variation (0.88), which is a good sign, because the model does not include a wide variety of variables, but still explain 88% of variation. At the same time, the model is found to be statistically significant, however the economic significance looks rather low. Nonetheless, it must be stressed that the economic significance is a subjective valuable and there's no definition as such of an economically significant result; the closer the coefficient of a variable to 1. In the case, of such a simplified test, even a -0.3 coefficient may be assumed to be economically significant. Further on, the results are robust, after running an F - test.

Source	SS	df	MS	Number of obs = 24		
Model	63.1033354	2	31.5516677	F(2, 21) = 79.54		
Residual	8.32999886	21	.396666612	Prob > F = 0.0000		
				R-squared = 0.8834		
				Adj R-squared = 0.8723		
Total	71.4333343	23	3.10579714	Root MSE = .62981		

unemployment	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
education	-3.425	.2727178	-12.56	0.000	-3.992148	-2.857852
cohesion	-.3	.2571208	-1.17	0.256	-.834712	.234712
_cons	6.375	.2032718	31.36	0.000	5.952273	6.797727

Conclusion

The topic of this paper is highly significant, as the effectiveness of EU policies and funds are always a matter of question. The specific analysis is important due to the fact that, unemployment is one of the macroeconomics indicators of national economy that directly affects the population. The subject of the research paper is proven to be crucial, firstly because it provides an explanation of unemployment rate in Romania before joining EU, secondly because it shows the estimate changes due to Cohesion Policy and regional policy at the national level, and thirdly because the conducted regression analysis indicates suggestions for future empirical analysis and a strong need of elaboration of a classic estimator of Cohesion Policy in EU.

The theoretical part of the paper considers two basic theories of convergence and divergence. As suggested in the partial conclusion the Cohesion policy has strong implications from the convergence theorem, as it tries to diminish the economic differences between EU member states. The author of the paper strongly agrees with Solow - Swan model and considers that under correctly tailored policies, the EU countries may reach a similar level of the economic development. At the same time, however the author also partially agrees with the divergent point of view, particularly the AK model. The most crucial implication of the AK model is focused on human capital, rather than the technological progress as in the Solow- Swan model. The author agrees in the sense that by largely investing in human capital, the output may be more than doubled (increasing returns to scale). At the same time, the AK model suggests an important feature about output and unemployment. The author of the paper considers, that if the companies at the national level in Romania realize that the human capital may more than double their output and also potential revenues; then they are more willing to invest into education and trainings and are increasing the demand for labor. In such a case, the unemployment rate has potential to experience a sharp decrease, because the behavior of firms at the national level changes, and by that also the Cohesion policy has a higher probability to achieve its aims.

The practical part of the paper is an elaborate analysis of the Romanian labor market as such, and especially unemployment. The author considers, that the deep analysis of the labor market is essential for the full comprehension of the tested relation between unemployment and Cohesion Policy.

The paper finds the reasons that bring to a low demand for labor and suggests solutions for each issue in particular. The author considers that through correct targets of the EU policies and the effort of local authorities the education, entrepreneurship and territorial dependence slowly change. The paper has many findings concerning education, but one of the most crucial is that the percentage of early leavers decreased from 22.9% to 17.4% from 2000 to 2012, according to Eurostat. The visible decrease of percentage of early leavers is very important, because 40% of population who leave school early is later on unemployed. At the same time, the paper addresses its attention to Romanian entrepreneurs from who 72% consider that the fiscal environment has deteriorated from 2012 to 2013 and 35% consider access to funds very hard. The solution to a boost of entrepreneurship activities is considered to lie at a social policy on the national level, because the Romanian population lacks the entrepreneurship culture. Also, the paper finds big divergence in the labor remunerations depending on region, however considers the problem a natural factor, as the unemployment mostly depends on the sector of economy most visible in a region.

All in all, the value - added of this paper is that it does not only test the correlation, but also analyses the reasons that bring to such a correlation. The regression analysis tested is found to be as awaited and shows a negative relation between Cohesion Policy and unemployment rate. The author concludes that the results are robust, economically and statistically significant, even the tested model does not include a vast majority of variables. The empirical work shows that Cohesion Policy together with regional policy at the national level has an effect on decrease of unemployment rate.

The initially defined scope of the thesis is fulfilled, however the paper also provides reasons that may decrease the importance of the found negative correlation, such a the lack of a classic estimator for measuring the effectiveness and absorption of Cohesion policy funds.

The paper extended the content of the initial assignment, for the purpose of a non – automatic regression analysis, but a complete understanding of the unemployment rate. The thesis is considered to be useful for future researches, because they may directly address to European Commission for a creation of a universal method of measuring the effect of Cohesion Policy and therefore receive a better and more precise estimate.

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