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THE EVOLUTION OF SOCIAL INDICATORS DEVELOPED AT THE LEVEL OF THE EUROPEAN UNION AND THE NEED TO STIMULATE THE ACTIVITY OF SOCIAL ENTERPRISES

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***Abstract:** The current concerns related to the stimulation of the activities of social enterprises are connected with the current economic and social challenges, faced by the EU member countries. This paper presents the evolution of the social indicators developed at the level of the European Union, relative to the social objectives of the Europe 2020 Strategy.*

***Keywords:** good governance; social indicators; social enterprises.*

JEL Classification Codes: C10, E61, I32, I38

1. INTRODUCTION

Throughout the 2001-2005 period, a special approach of the social policy based on the open method of coordination was defined at the level of the European Union. This is a mechanism of coordination of the social policies of the Member States aiming at orienting them towards common European objectives (European Commission, 2001, 2003, 2004, 2005). The objectives of the open method of coordination (OMC) for the social protection and social inclusion field clearly underlines the importance of promoting good governance, transparency and the involvement of all the stakeholders in the development, implementation and monitoring of policies. Furthermore, one of the specific objectives related to social inclusion specifies that the policies in this field should be well coordinated and should involve all the relevant governmental stakeholders from the for-profit organizations, including poor persons (Lambro, 2010). One of the main achievements of the social Open Method of Coordination has been the development of EU indicators in the areas of social inclusion and social protection. EU social indicators are used in various contexts:

- monitoring the Europe 2020 target on poverty and social exclusion;
- preparing the European semester and providing evidence for assessing specific social challenges facing EU countries through the Joint Assessment Framework;
- identifying the key social trends to watch in the EU through the Social Protection Performance Monitor;
- as part of EU countries' reporting on social policies in the National Reform Programmes, National Social Reports and country-specific/thematic surveys;
- preparing the Social Protection Committee's annual report;
- for thematic reports on relevant topics such as Pensions adequacy in the EU, Child poverty and well-being;
- for EU-level analytical work in the field of social policy.

The purpose of this paper is to analyze the evolution of a representative set of social indicators in order to provide reasons for the need to stimulate the activity of social enterprises in the European Union.

Due to the fact that they proved that they can represent a solution to the social problems of the communities, social enterprises finally recorded, at the end of the twentieth century and the beginning of the twenty-first century, a rapid and significant development (Hayllar and Wettenhall, 2013). The representatives of the political, economic and social environment welcomed the emergence of a new model of organization in the non-profit entities field (Phillips and Hebb, 2010). According to estimates published by the European Commission, the social economy in Europe employed in 2010 over 14.5 million of employees (growing by approximately 8% compared to 2003), representing 6.5% of the active population in 27 countries of the Union European (European Commission, 2013). In this context, we can say that there are prerequisites for a contribution of the social economy to the achievement of some of the measurable targets of the Europe 2020 Strategy: an employment rate of the labour force of 75% among the population aged between 20 and 64 years (by creating favourable conditions for professional insertion, especially for women, young people, elderly or unskilled people and legal immigrants) and the decrease by at least 20 million of the number of people suffering or likely to suffer from poverty and social exclusion.

Successful social enterprise models are described by international networks of social enterprises (Social Firms Europe CEFEC, European Networks of Cities & Regions for the Social Economy, The European Network for Social Integration Enterprises etc) or by international research and support networks for the social economy (International Centre of Research and Information on the Public, Social and Cooperative Economy – CIRIEC, EMES network, European Research Institute on Cooperative and Social Enterprises, Theoretical, empirical and policy foundations for social innovation in Europe etc). In the study "Social economy and social entrepreneurship. Social Europe guide", published in 2013, the European Commission highlights some successful social business models:

- A. The model of the companies of community interest in the UK, designed to provide services to communities in areas such as childcare, provision of social housing, leisure facilities, local transport etc
- B. The model of the social cooperatives in Italy, for the provision of services to the general community and the social integration of individuals (type A social cooperatives provide health and social protection and education services, while type B social cooperatives perform activities for the integration of disadvantaged people into the labour market).
- C. The model of the cooperative societies of collective interest of France, producing all kinds of goods and services to satisfy the needs of collective interest in a particular community, ensuring the best mobilization of the economic and social resources of the community.

2. DEFINITIONS OF THE EU SOCIAL INDICATORS SELECTED FOR THE RESEARCH

The following social indicators representative for the research were selected with the purpose of carrying out the study:

- 1. The material deprivation rate** is an indicator in EU statistics on income and living conditions, that expresses the inability to afford some items considered by most people to be desirable or even necessary to lead an adequate life. The indicator distinguishes between individuals who cannot afford a certain good or service, and those who do not have this good or service for another reason, e.g. because they do not want or do not need it. The indicator measures the percentage of the population that cannot afford at least three of the following nine items: (1) to pay their rent, mortgage or utility bills; (2) to keep their home adequately warm; (3) to face unexpected expenses; (4) to eat meat or

proteins regularly; (5) to go on holiday; (6) a television set; (7) a washing machine; (8) a car; (9) a telephone.

2. **The severe material deprivation rate** is defined as the enforced inability to pay for at least four of the above-mentioned items.
3. **At-risk-of poverty rate** represent the share of persons aged 0+ with an equivalised disposable income below 60% of the national equivalised median income. Equivalised median income is defined as the household's total disposable income divided by its "equivalent size", to take account of the size and composition of the household, and is attributed to each household member. Equivalization is made on the basis of the OECD modified scale. This indicator does not measure wealth or poverty, but low income in comparison to other residents in that country, which does not necessarily imply a low standard of living.
4. **At-risk-of-poverty rate before social transfers** is calculated as the share of people having an equivalised disposable income before social transfers that is below the at-risk-of-poverty threshold calculated after social transfers. Pensions, such as old-age and survivors' (widows' and widowers') benefits, are counted as income (before social transfers) and not as social transfers. This indicator examines the hypothetical non-existence of social transfers.
5. **The persistent at-risk-of-poverty rate** shows the percentage of the population living in households where the equivalised disposable income was below the at-risk-of-poverty threshold for the current year and at least two out of the preceding three years. Its calculation requires a longitudinal instrument, through which the individuals are followed over four years.
6. **The relative median at-risk-of-poverty gap** is calculated as the difference between the median equivalised disposable income of people below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60 % of national median equivalised disposable income).

3. THE ANALYSIS OF THE EVOLUTION OF THE EU SOCIAL INDICATORS

In order to carry out the analysis of the evolution of EU social indicators, the member countries were grouped into socio-cultural regions, as follows: Nordic countries (Sweden, Denmark, Finland, Ireland, the UK), Western countries (Austria, Netherlands, France, Germany, Belgium Luxembourg), central-eastern European countries (Poland, Czech Republic, Slovakia, Hungary, Slovenia, Croatia) eastern countries (the Baltic States, Romania and Bulgaria) and southern countries (Portugal, Spain, Italy, Greece, Malta, Cyprus).

The period of analysis was 2007-2012 because for 2013 information was only available for some of the Member States of the European Union.

A. Analysis of the at-risk-of poverty rate indicator

In 2012, the at-risk-of poverty rates in northern states are below the average level recorded in the European Union. In the analyzed period, the indicator increased in Sweden, Finland and Denmark and slightly decreased slightly in Ireland and the UK (figure 1).

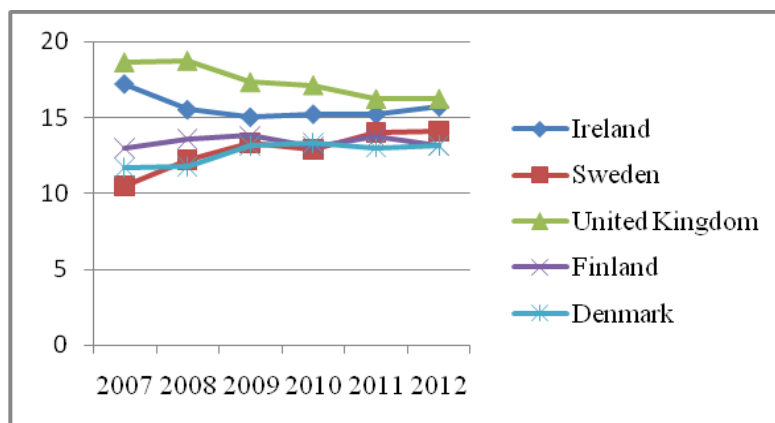


Figure 1. Evolution of at-risk-of poverty rate in the Nordic countries of the EU

With the exception of Belgium and the Netherlands, in the Western countries, the at-risk-of poverty rate increased, but remained below the average level recorded in the EU (figure 2).

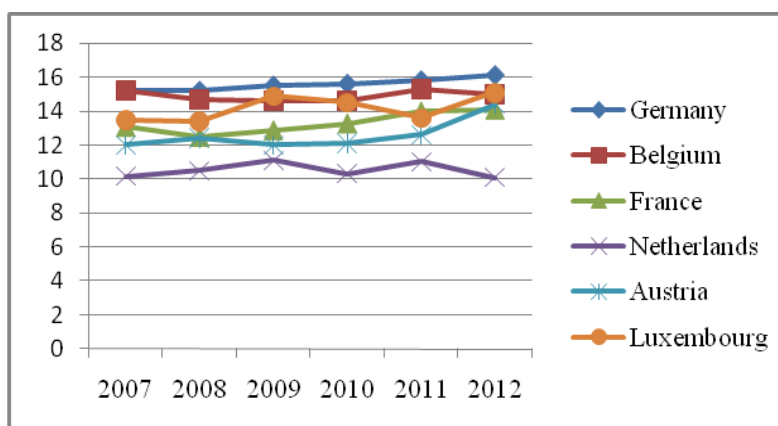


Figure 2. Evolution of at-risk-of poverty rate in the Western countries of the EU

In most Central and Eastern European countries (except Poland and Croatia), the at-risk-of poverty rate is below the average level recorded in the European Union. In these countries, the indicator had an uptrend during the analyzed period (figure 3).

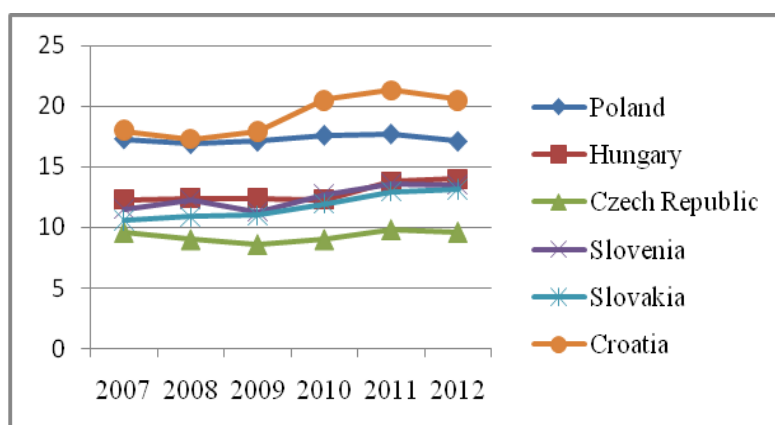


Figure 3. Evolution of at-risk-of poverty rate in the Central-Eastern countries of the EU

In all Eastern countries, the at-risk-of poverty rate has a higher value than the average level recorded in the European Union, registering, however, a decline during the analyzed period (figure 4).

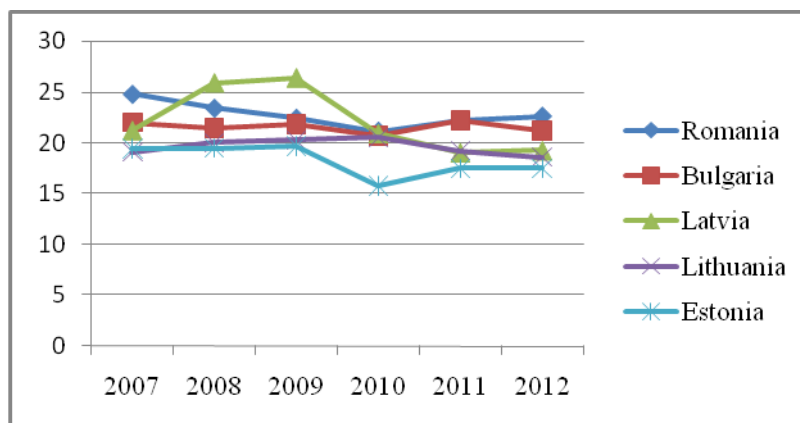


Figure 4. Evolution of at-risk-of poverty rate in the Eastern countries of the EU

With the exception of Cyprus and Malta, in the southern countries, the at-risk-of poverty rate has a higher value than the average level recorded in the European Union. In Greece and Spain, the value of the indicator increased (figure 5).

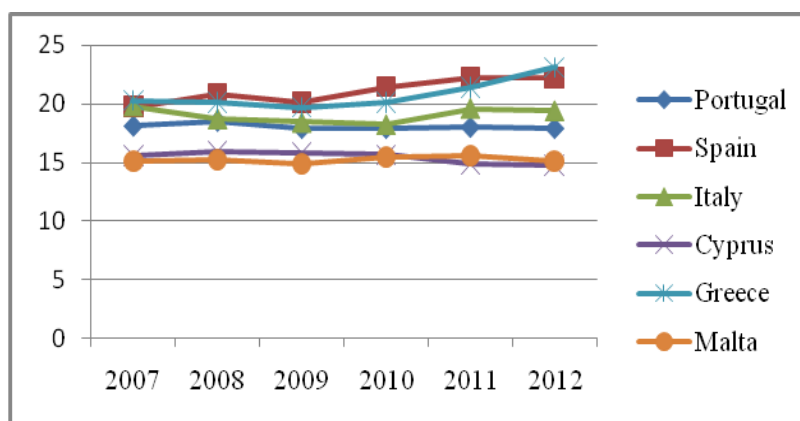


Figure 5. Evolution of at-risk-of poverty rate in the Southern countries of the EU

At EU level, the at-risk-of poverty rate increased from 16.5% in 2007 to 16.9% in 2012.

B. Analysis of the persistent at-risk-of poverty rate indicator

The data available on Eurostat do not provide information about the persistent at-risk-of poverty rates indicator in the case of Ireland, Croatia and Sweden.

At the level of the European Union, the persistent at-risk-of poverty rate rose more than at-risk-of poverty rate, from 8.6% in 2008 to 10.2% in 2012. In all EU member states except Cyprus, Luxembourg and Slovenia), the persistent at-risk-of poverty rate increased during the analysed period.

In 2012, the value of the persistent at-risk-of poverty rates ranged from the minimum value of 4.3% in the Czech Republic to a maximum value of 18.2% in Romania (figure 6).

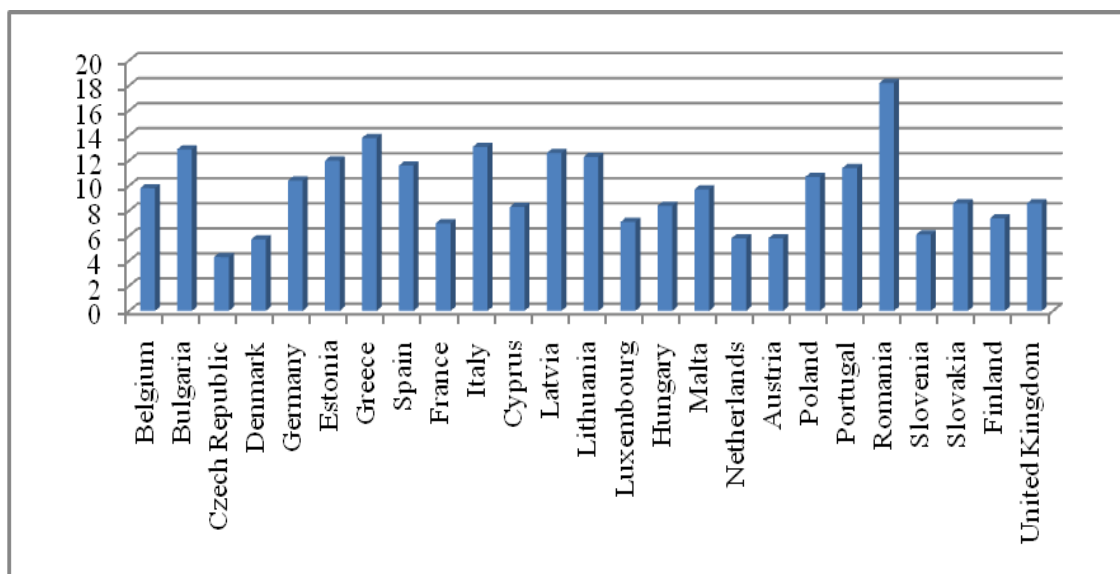


Figure 6. Persistent at-risk-of poverty rate in EU countries in 2012

The countries with the highest values of the persistent at-risk-of poverty rates are the Eastern countries (Romania, Bulgaria, Lithuania, Estonia and Latvia) and a number of countries where the economic crisis has had deep effects: Greece, Italy, and Spain.

C. Analysis of the relative median poverty risk gap indicator

In the EU Member States, the relative median poverty risk gap slightly increased, from 23.2% in 2007 to 22.4% in 2012. In 2012, the value of the persistent at-risk-of poverty rate ranged from a low of 15% in Luxembourg and Finland up to a maximum of 31.4% in Bulgaria (Figure 7).

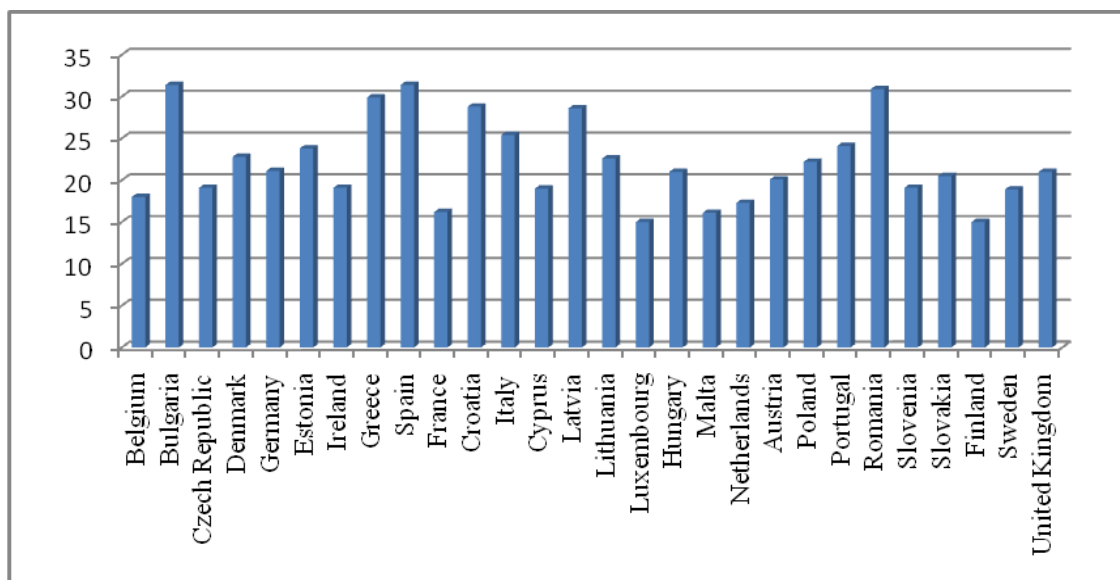


Figure 7. Relative median poverty risk gap in EU countries in 2012

D. Analysis of the at-risk-of-poverty rate before social transfers indicator

At EU level the value of the at-risk-of-poverty rate before social transfer indicators varied slightly during the years 2007-2012. The differences between the Member States in relation to the value of this indicator are much lower compared to the previous situations, which shows that social transfers significantly influence the risk of poverty in EU member countries (figure 8).

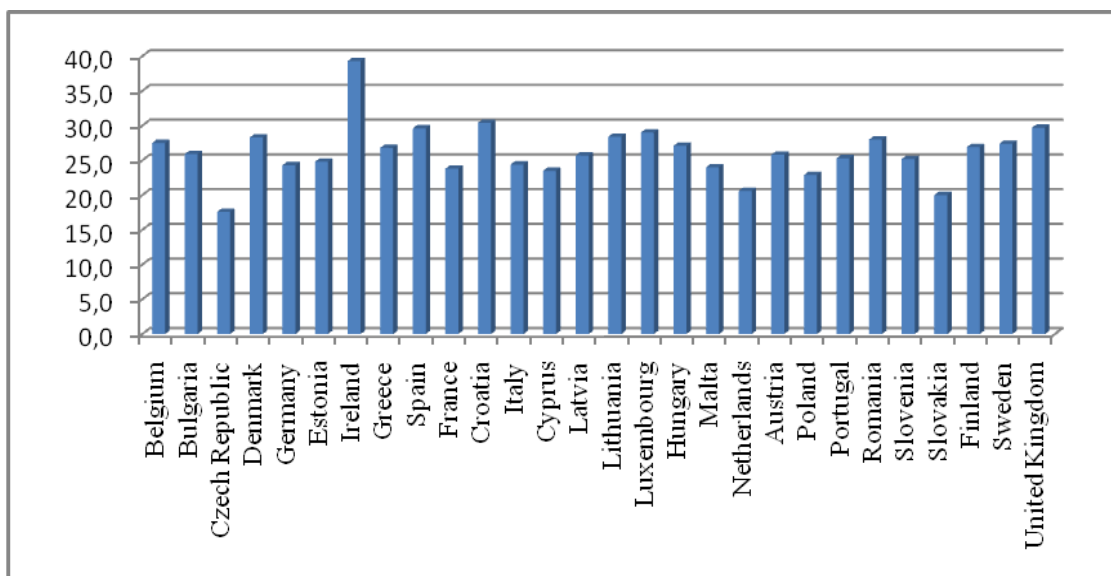


Figure 8. At-risk-of-poverty rate before social transfers in EU countries in 2012

E. Analysis of Material Deprivation rate indicator

In 20 of the EU Member States, the value of the Material Deprivation rate indicator increased in 2007-2012. The largest increases can be seen in Ireland and Greece (over 14, or 11 percentage points, respectively). In the EU Member States, Material Deprivation rate increased by 1.6 percentage points, from 18% in 2007 to 19.6% in 2012.

As seen in Figure 9, the Material Deprivation rate recorded the lowest values (below 9%) in the Nordic countries and the highest values in Bulgaria, Romania, Hungary and Latvia (40%).

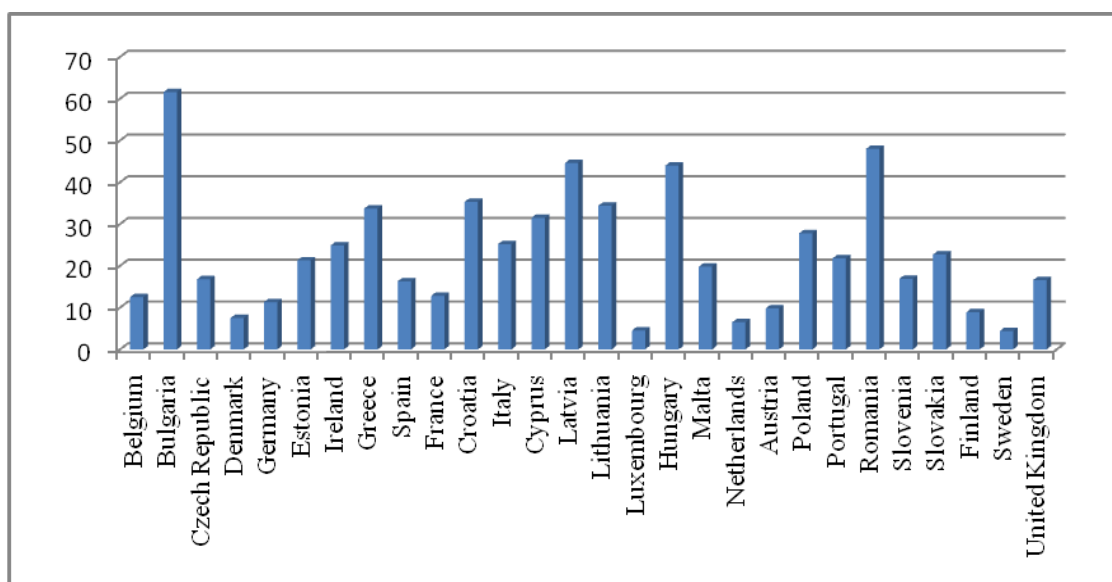


Figure 9. Material Deprivation rate in EU countries in 2012

F. Analysis of the Severe material deprivation rate indicator

At the level of the European Union, the severe material deprivation rate indicator increased slightly from 9.1% in 2007 to 9.9% in 2012. As shown in Figure 10, the values of this indicator recorded large differences (from 44.1% in Bulgaria to 1.3% in Sweden and Luxembourg).

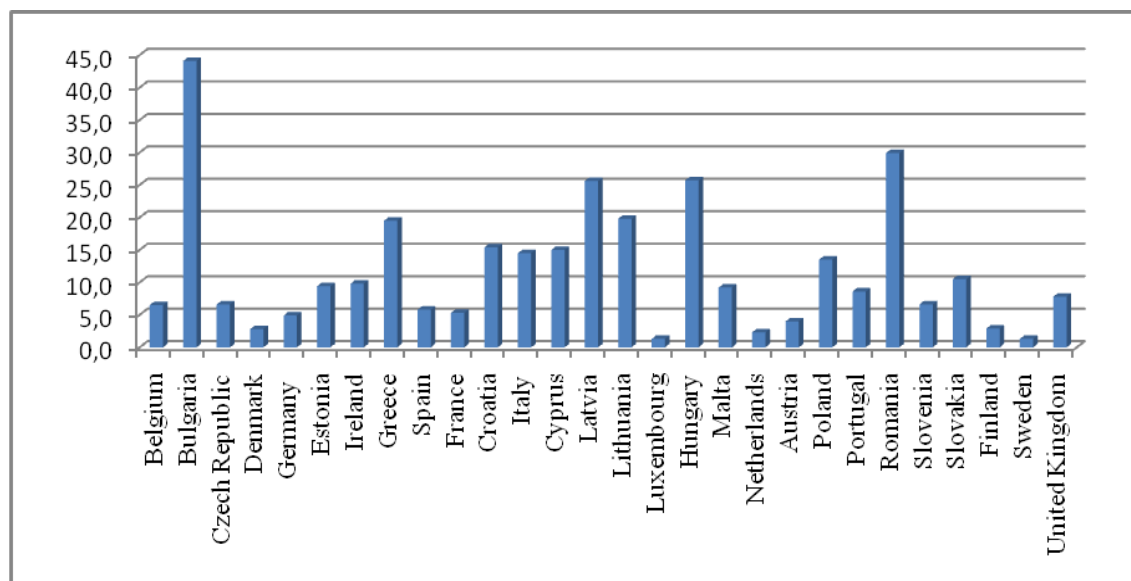


Figure 10. Severe material deprivation rate in EU countries in 2012

4. CONCLUSIONS

The development of social enterprises is a solution to solve social problems, especially those related to people in situations of distress, vulnerability and social exclusion. Taking into consideration their potential linked to the creation of new jobs, we can say that social enterprises can contribute to at least two important goals of the Europe 2020 Strategy:

- The increase to at least 75% of the employment rate among people aged between 20 and 64 years;
- The decrease by at least 20 million of the number of people at risk of poverty and social exclusion.

The need to stimulate the activity of social enterprises can be practically justified by the unfavourable evolutions of certain social indicators in recent years in the European Union. Thus, at the level of the European Union, the values of social indicators such as: the at-risk-of poverty rate, the persistent at-risk-of-poverty rate, the relative median at-risk-of-poverty gap, the material deprivation rate, the severe material deprivation rate have risen in recent years, the economic crisis that has affected all countries in different proportions. The citizens of the poorest countries in eastern European Union and of the countries that have experienced the largest decreases in the employment rate (such as Greece, Cyprus, Spain, Portugal, Ireland etc) are most at risk of suffering from poverty and social exclusion.

The need to stimulate the activity of social enterprises is also determined in the Balance of the Europe 2020 Strategy for a smart, sustainable and inclusive growth, by the evolutions according to which the EU is about to achieve or approach the goals of education or climate and energy, but the situation is different in the case of the objectives of employment, research and development or poverty reduction (European Commission, 2014).

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INNOVATION AND SUCCESS: PERCEPTIONS, ATTITUDES AND PRACTICES OF YOUNG FARMERS

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***Abstract:** The adoption of innovations in business refers to a set of practices and actions which can contribute decisively to the successful development and progression of the enterprise. According to the National Development Law 3299/2004 (GR), innovation is an applied use of knowledge in the production and marketing of new or improved products, processes and services that find immediate productive, utilitarian and commercial application. Innovative practices and operations are an integral part of the organizational culture of the enterprise, and the result of the underlying assumptions and values of the operator itself. In other words, the mentality of the entrepreneur is the one that leads to the application of innovative practices in the business, and this mentality comprises of his beliefs, values and assumptions. The antonym of innovation is “archaism and routine”, and that is why innovation is facing fierce resistance.*

In the agricultural sector, innovation is a set of practices associated with the organization, producing innovative products, innovative production practices, new technologies for the control and organization of production, and marketing innovations. The evaluation of firm performance, growth and success, linked to, financial measures as growth, profit and turnover and nonfinancial measures such as autonomy and job satisfaction. These two evaluative metrics, financial and non financial measures, are distinguished by the fact that the first relates to perfectly distinct and measurable criteria, while the second to more indistinct as it relates to quality indicators for the investigation of which requires the use of qualitative research tools. In this sense, the effective investigation of farmers' attitudes on the concept of a successful farmer can be performed using qualitative research tools. While success requires active towards innovation, agribusiness face difficulties in this, as indeed other small companies in other sectors.

In this paper, the innovative practices of young farmers are explored, and also their attitudes and perceptions toward success. For this purpose, the case of 9 young farmers, which are professionally active at the Prefecture of Kilkis (Central Macedonia, GR), is studying. The sample size retrieved from the combine of two separate researches that took place in Kilkis, at deferent periods. The first study conduced in 2009 with a structured questionnaire tool, on a sample size of 110 young farmers; its objective was to identify the innovation profile of these farmers, and the results has already been published in Koutsou and Partalidou (2012). The second research was conducted in 2012 with the tool of in-depth interview to 29 young farmers; its objective was to detect the perceptions and attitudes about the successful farmer concept, and the results have not been published yet. Content analysis was the tool that used for the interviews' study. The results designate two groups of farmers. The first group refers to these farmers who occurs success as a result of endogenous factors, such as the farmer's personality, skills, and abilities, and these farmers, according to 2009's research, are innovators or dormant. The second group, refers to those farmers who occurs success as a result of exogenous factors, such as God or weather, and combining their answers with the 2009' results, these farmers are conservational.

Keywords: Young farmers, innovation, success, practices, attitudes, perceptions, perspectives

JEL Classification Codes: O13, O31

1. INTRODUCTION

In 1995, the European Commission published a Green Paper on Innovation. In there, innovation is defined as a synonym for the successful production, assimilation and exploitation of novelty in the economic and social spheres. These novelties mentioned in facilitating communications (mobile phones, teleconferences), open access to knowledge (ICT), new marketing methods, improved working conditions, the development of environmentally friendly production methods, and to more efficient public services (European Commission, 1995:1). Today innovation is one of the most important parameters for growth, at both national economy and in terms of business, and this is put in place high priority on the policy of almost all countries.

Success, in contrast to the innovation which has a clear definition, it is not easy to clearly define and give only one definition, as it is a concept which is basically subjective and refers to individuals' feelings about their accomplishments (Gattiker and Larwood, 1986; Peluchette, 1993). In our days, businessmen are being hit by a barrage of information that is related to development and sustainability. This barrage, inter alia, relating to novel or significantly improved marketing methods, processes and organization. However, the decision to adopt or otherwise, these innovations concert to the operational culture (Schein, 2010).

Business performance affects of innovation and entrepreneurial culture (Georgellis et al. 2000). The values and attitudes of the entrepreneur, are not just part, but also forms the operational culture (Schein, 2010). The business culture provides qualitative and quantitative criteria of business and businessman success. These elements form the individual and organizational behavior in business, and give the potential to obstruct or support innovation (Schein, 2010:24).

The purpose of this paper is to combine and study the results of two separate researches that conducted in the same geographical area, in different time periods. The first survey conducted in 2009, its objective was to identify the innovation profile of the young farmers, and its results have already been published in Koutsou and Partalidou (2012). The second research was contacted in 2012, its objective was to collect perceptions about the concept of the successful farmer, and its results have not been published yet. Both surveys were taking place in Kilkis (Central Macedonia, Greece). In these two separate researches, 9 farmers are in common, and these farmers are the study population in this paper.

2. INNOVATION IN AGRICULTURE

The Greek Development Law 3299/2004 (GG 261, 2004) states that “*innovation is applied use of knowledge for the production and marketing of new or improved products, processes and services that find immediate productive, utilitarian or commercial application*”. It refers to the renew and expand the range of products and services business, the introduction of new methods of production, supply and distribution, and the introduction of changes in management, work organization, working conditions and skills of the workforce (MDCS, 2011:1). These changes are not just a test of something new, “*but integrating a new idea into a product or a process that includes technical, economic and social components*” (Davis et al., 2008:37). The antonym of innovation is “*archaism and routine*”, and that is why innovation is facing fierce resistance, but also the cause that dissemination of innovation culture of becomes crucial challenge for European societies (European Commission, 1995:1).

The culture that refers to the adoption of innovation is part both of the company's intangible assets and organizational culture. According Schein (2010:24) the basic underlying assumptions is the most important part of organizational culture. These are invisible elements which relates to norms, unwritten rules, shared assumptions, beliefs and values, which have the potential to hinder or support innovation. These basic underlying assumptions, leads to espoused beliefs and

values, i.e. conscious strategies, ideologies, philosophies and goals that are not visible or otherwise tangible, but have been realized by the entrepreneur. These artifacts are observable and occur to businessman's behavior of the entrepreneur, appearance of himself and his business, and working environment.

Based on Oslo Manual (OECD, 2005) and European Commission (2010), innovation in agribusiness can be distinguished to five areas. The first area is called product innovation, and related to novel directed production or qualitative improvement of the existing production (OECD, 2005). The market's demand for new product is the criterion to evaluate as successful a product innovation, and reflects the ability of agribusiness to interact creatively with the market. For example, superfoods is a new product with increased demand, and therefore the shifting to such products is a novelty for agribusiness. Also, the production of a significantly improved food, such as the production of organic foods, is an product innovation.

The second area relates to process innovation (OECD, 2005). This is the implementation of new or significantly improved production techniques, new organizational features with the introduction of new technologies, or the adoption of new technologies and software technologies such as precision agriculture and livestock production control. The adoption of such methods contributes to more efficient management of agricultural production.

The third area relates to innovative practices in marketing (OECD, 2005). In Greek rural areas, the promotion is mainly via third parties. The marketing innovation in the agricultural sector concerns to major changes in formulation, placement and promotion of the product which changes aimed at opening new markets or new product distribution, and are ultimately aimed at increasing the farms' sales and reach new consumers. The promotion of agricultural production with the use of ICT is also a marketing innovation.

The fourth area of innovative practices in agriculture relates to organizational innovation (OECD, 2005). These substantial changes in business practices, increase the size of the farm, management strategy, and capital replacement. Organizational innovation is also includes collaborative networks, such as producer groups.

The fifth innovative practice is ecoinnovation (European Commission, 2010). This term means any form of innovation aiming at significant and demonstrable progress towards the goal of sustainable development, through reducing impacts on the environment. It relates to the responsible use of natural resources, use of environmentally friendly production rates, and general practices that contribute to sustainable management of agricultural land.

Higher educated farmers are more likely to innovate, but also to follow a continuing education course (Weir and Knight, 2004). It could be beneficial to encourage farmers' participation to educational activities, and maybe it could increase the farmers' ability and willingness for changes in their business (Kilpatrick, 2000:105). The maintenance of a supportive educational system could be beneficial for the diffusion of innovation (Kilpatrick, 2000), since the educational level of farmers linked with it (Weir and Knight, 2003). Agribusinesses are facing difficulties to the adoption of innovations, like other micro and SMEs from other sectors (Senker and Faulkner, 2001). The farmer's personality is the one that will work as a catalyst for the final acceptance or rejection of an innovation (Knudson et al., 2004: 1333), since his personality affects the organizational culture of the firm (Schein, 2010).

3. THE MEANING OF SUCCESS

Success in agriculture requires active towards innovation (Gielen et al., 2003). But the meaning of success is not easy to clearly define and give only one definition, as it is a concept which is essentially subjective and refers to individuals' feelings about their accomplishments (Gattiker and Larwood, 1986; Peluchette, 1993). This means that there is a common and widely

accepted understanding of the meaning of success, but it depends on personal experiences and aspirations of the entrepreneur, and operational research scientists. For example, many researchers are studying only quantitative data as evaluative criteria such as the growth of the firm's profits, rate of return on investment (ROI), and volume of sales, elements that are objectively assessable and are easy to identify. Other researchers has evaluated qualitative criteria, i.e. non financial measures, such as satisfaction from the profession, and achieving goals and ambitions.

Many times in business research the meaning of success involved the concepts “*growth*” and “*performance*” (Reijonen and Komppula, 2007:689). A definition of the term success indicates that the business success is the continuation of activities, and vice versa, failure means going out of business (Simpson et al., 2004). According another definition “*the most obvious measures of success are profitability and growth*” (Hall and Fulshaw, 1993: 229) More detailed optical mentioned the efficiency, profit, market share, market value of the firm, business size, and the number of orders or contracts (Murphy et al., 1996; Virtanen, 1999; Gray, 1998 in Reijonen and Komppula, 2007:689). Business size, is another one financial measure that defines the business success based on to changes in turnover, total sum of the balance sheet or numbers of employees (Virtanen, 1999 in Reijonen and Komppula, 2007:689). A more broad perspective on business success defines success as “*the sustained satisfaction of principal stakeholder aspirations*” and argue that success can “*no longer (be) regarded as synonymous with optimal performance*” (Jennings and Beaver, 1997:68). From this point a business can be successful while failing to achieve optimal level of performance in terms of growth and business development (Simpson et al, 2012:273).

4. RESEARCH

4.1. Methodology and sample

The purpose of this paper is to study the case of 9 farmers, which are residents of Kilkis' Prefecture (Central Macedonia, Greece), about their innovation profile and attitudes toward success. These 9 farmers derived by the combine of two separate researches that conducted in the same geographical area (Prefecture of Kilkis, Central Macedonia, Greece). In both researches, young farmers were selected as they have an important role in the competitiveness and sustainability of agriculture (according to the EU Regulation 1257/99). These 9 farmers are common in these two researches.

The first research took place in 2009 and the second in 2012. The objective of 2009' research was to identify the innovation profile of 110 young farmers, and for this purpose the tool of a structured questionnaire was used. The sample of 2009 research conducted in nine villages of the Kilkis prefecture, and these villages were selected by the use of multistage stratified random sampling from all villages within the prefecture (Koutsou and Partalidou, 2012:449). The results of the first research have been published in Koutsou and Partalidou (2012).

On the second research, that took place in 2012, in-depth interviews were conducted to 29 farmers, in order to collect perspectives about the term “*successful farmer*”. The method of proportionate stratified random sampling was used to select the municipal units in which the 29 farmers were retrieved (Botsiou and Dagdilelis, 2013). The results of the second research have not been published yet. From these 29 farmers, nine (9) are common to Koutsou and Partalidou' s (2012) survey, and constitute the study population of this paper.

In this paper, the innovative profile of each one of these 9 farmers is present, and also farmers' states about success are following. These states are analyzed, with the tool of content analysis, in order to identify farmers' energetic or pathetic attitudes towards success. The results are following.

4.2. Results

4.2.1 Description

The nine farmers that are studied in this work are all male and 5 of them are married. From the 9 farms, 5 is on vegetable production, direction, 3 on mixed (cattle, sheep, goats, vegetable), and one on a purely animal (sheep). Three of the nine farmers are primary school graduates, 4 are high school graduates, and 2 have progressed to 12 years formal education. Farmers with a high educational level are more likely to adopt innovations, but also to follow a path of continuing education (Weir and Knight, 2004). As regards to married farmers, the education level of the spouse is higher than the farmer. Two of 5 spouses have received 12 years of formal education and 3 more than 12 years. The educational level of the spouses is also an influencing factor for innovation adoption, as it is the wife that goes online and provides her husband with knowledge relevant to the farm (Koutsou and Partalidou, 2012).

The data basis of 2009 shows that regarding to the satisfaction of farmers with their level of knowledge in agriculture, 7 out of 9 states that they are not satisfied, and that they have additional education and training needs on new agricultural practices and the use of ICTs. The data from 2012 shows that in the last 3 years, 2 of these 7 farmers were familiarized with the use of ICTs, through informal education.

In 2009, 6 out of 9 studied farmers had attended a vocational training program, and they claimed that they were obliged to do so, in order to receive EU subsidies. Also, only 1 out of 9 farmers has paid for his training, a ratio that did not change in the 2012 survey.

In regard to collective actions, 7 out of 9 farmers are members of the local agricultural cooperative, and 5 out of these 7 have actual involvement. Two out of 9 farmers do participate in producers' groups (PGs), since 2009. Producer groups are organized collective actions of farmers, aimed at collective marketing of their products, collective education and general development through cooperation.

4.2.2 Innovative profile

The research of Koutsou and Partalidou (2012) revealed three types of farmers in innovation. The first type is referred as “*conventional*”, and includes those young farmers who do not foster innovations, are satisfied with the level of knowledge on agriculture, and who do not participate in PGs. The second type labeled “*dormant*”, includes those farmers that do not foster innovations, for the time being, nor participate in any PGs, they are not satisfied with their level of knowledge and seek to strengthen their skills further. The third type designated ‘*innovators*’, it includes those farmers, they are not satisfied with their knowledge level in agriculture, they articulate additional educational needs over technical matters in production, they pay for advisory services and vocational training, and they are members of PGs.

In this paper, we study the innovative profile of the nine common farmers, guided by principles of Oslo Manual (OECD, 2005) and European Commission (2010). This is relating to innovations that have been adopted by farmers on product, process, marketing, organization, and ecology. Specifically recorded innovative practices:

- Product (organic foods, super foods, tree crops)
- Process (pursing knowledge, ICT adoption)
- Marketing (vertical development, selling via the Internet, solidarity consumer groups, collective sale to local communities, selling to individuals in groups, consumer-supported agriculture)
- Organization (social innovations, participation in innovative collecting action, produces group, genetic improvement group)
- Ecoinnovation (precision agriculture).

In Table 1 are presenting the innovative practices of the 9 farmers, information that retrieved from the data basis of the 2009 survey, and also the type of each farmer innovation profile according to Koutsou and Partalidou (2012). In the first column of Table 1 there is a code name for each farmer, which code name subsequently will used for the presentation of the farmers' statements that reveal their attitudes about success.

Table 1. Adopted innovation by farmer and classification according to 2009 data basis

Farmer's code name	Product	Process	Marketing	Organization	Ecoinnovation	Classification
C.D.	Organic, super foods	Pursing knowledge, ICT		PG, member of genetic improvement group	IT monitoring estrus	Innovator
E.F.		ICT				Dormant
G.H.						Conventional
O.P.	Super foods, tree corps	Pursing knowledge				Dormant
P.S.		Pursing knowledge, ICT				Dormant
E.M.						Conventional
S.V.						Conventional
K.K.	Super foods, tree crops			PG		Dormant
S.B.						Conventional

Concerning the innovative profile of the farmers, and based on the innovations that each one have adopted, four persons out of 9 are belong to dormant category, four are belonging to the conventional category, and one is innovating.

Farmers classified as conventional (code names G.H., E.M., S.V., S.B.) are those who produce traditional crops, do not adopt any innovative process, not familiar with the use of ICT, not participating in seminars or training programs, not members of PG. Three out of these four farmers, are members of farm cooperatives in their area.

Farmers classified as dormant (E.F., O.P., P.S., K.K.) are those who have adopted a number of innovations for their business. The number and type of such innovations differ in each farmer. Fragmentary every farmer of this profile have adopted at least two innovations to the business. These innovations relate to the use of ICT, innovative products, participation in PG, and pursuing knowledge (seminars, etc.).

One farmer is an innovator (C.D.). This farmer is ICT user, produces innovative products, he is a lifelong learner, member of PGs, his farm is included in genetic improvement programs, he also is using precision agriculture. He is not participating in the agricultural cooperative of his village.

4.2.3 Attitudes on success

The next step of this study was to identify the farmers' attitudes on success. Specifically, farmers were interviewed about the features that they believe that surrounding the “*successful farmer*” concept, i.e. those elements that make a farmer successful or unsuccessful. This question aimed to study the beliefment of farmers about the influence that they can give on business success through their skills and attitudes, and so on to reveal the energetic attitude that

they believe that is required by the farmer in order to be successful. Using the method of content analysis, two groups were identified on answers given. The first one is the proactive group, which occurs on endogenous factors of success and includes 4 answers, and the second one is the passive group which occurs on exogenous factors and includes 5 answers.

4.2.3.1. Endogenous factors

This group of answers refers to those responses that indicate the existence of endogenous characteristics, i.e. factors that related to farmer's attitudes, skills and abilities.

“It’s not just a matter of knowledge, not a matter of school and university degrees. The successful farmer is the one who has the spirit of business. He must revs, should be brilliant, maneuvering in some cases, to grap the opportunity. He must also be able to do the financial management, not to bilk some stuff, because of that overlook he pays dearly. This is my opinion, that the farmers should have entrepreneurship ability. Basically, there are many farmers, but very few of them are entrepreneurs. Most of them are based on grants. A smart farmer can make awesome and rapid investments, and some other farmer look at him with the think “Wow, how he is doing all these stuffs?” Everything can be done; there is nothing that is not. For me, I can say that I am a successful farmer” (C.D.). The farmer which his code name is C.D. considers that the successful farmer is the one that his skills and attitudes regard to the administration and financial management of a farm. He features his own holding as successful, and he says that success is not associated with the typical educational level of the farmer. According to Table 1, C.D. farmer is an innovator, as he has adopted a lot of product, process, organizational, and ecological innovations. Specifically, he is organic and super food producer, pursuing knowledge, ICT user, member of PG and member of genetic improvement group, and he has adopted precision agriculture (IT monitoring estrus).

“In my opinion, the successful farmer is the one who produces a qualitative and a good product, but also can promote it in order to get the price that this product deserves. This moment, above all, is the computer. Without computers you cannot dig to find to sell your products, and so your products exploited by middlemen. The last two years my cousin helps me with his knowledge on computers, and I promote my products through internet. I can tell you that I doubled and tripled my gain due to computer” (O.P.). The farmer with the code name O.P. states that the quality product and self selling via internet are a key factor for success. According to Table 1, O.P. is dormant on innovation.

“The successful farmer is the one who can move comfortably in the market and wants to learn something every day of his life. There are many farmers who are leaving from the village for a few days, in order to go to Athens for retrieving information. I give my compliments to these farmers, because they are not only successful, but constantly evolving. I can not go to Athens, but I use information that I retrieve from the internet I have also had called some agronomist to inform me and some other farmers; it was something like a seminar. The Union cannot support us in the way that we need, so we forced to call some agronomist to inform us” (P.S.). Pursing knowledge amounts as endogenous factor, because declares proactive for success. According to Table 1, P.S. is dormant in innovation.

“You have to be very careful with pesticides, in order to produce qualitative products. Also, the successful farmer is the one who sells his productivity by himself straight to the consumer, without broker” (K.K.). This farmer is classified as dormant on innovation (Table 1). The solely promotion (without brokers) that he mentions as a factor for success, declares on farmer action and demands proactive and energetic attitudes.

4.2.3.2. Exogenous factors

The second category is defined as passive and includes responses from 5 farmers. These responses were included in this category because they refer extrinsic characteristics as success

factors, i.e. factors that are independent of the abilities of the farmer, and in some responses indicated the luck.

“The location is important, and also to owns big size farmland. Also the water is an important element, to have a lot of water in the field. Actually, it's a matter of luck” (E.F.). This farmer does not occur any element about self responsibility for success, but only exogenous factors, even on luck. As we can see in Table 1, this farmer is conventional on innovation’s adoption.

“In order to be successful, the farmer must not be owning money in mills and banks, and should reduce production costs in order to remain money for him” (G.H.). The farmer did not mention any characteristic that relates to skills and abilities. According to Table 1, he is conventional on innovation’s adoption.

“Successful is the one who works alone, without partners. Because, if you have workers or partners you must pay them, and then no money left for you” (E.M). In this answer do not mention any farmer's skill or ability. According to Table 1, he is conventional.

“Success is the very good income that a farmer can have, but in nowadays success does not exist because the prices of fertilizers and medicines have increased. Today the cost is great and the farmers do not have much profit” (S.V.). The farmer with the code name S.V. defined as successful, the farmer who has a high income. He also correlates high income with the cost of production factors, rather than farmers’ attitudes, skills, and abilities. According to Table 1, this farmer classified as conventional.

“In order to become someone a successful farmer, the raw materials should be cheaper. Seeds and fertilizers are expensive, while our product is sold in low price. All that stuff does not leave us to live in dignity. We did not want to make big money, just not to be charged to the bank and agronomist every March. So, how can be successful a farmer with low inputs?” (S.B.). This farmer states that success is linked to the prices that farm's products are sold, production factor cost, and do not mention anything about farmers’ skills and abilities influence on success. According Table 1, S.B. is a conventional adopter farmer on innovation.

4.3. Discussion

Focusing on farmers’ perspectives and attitudes about the concept of the successful farmer, two main groups were detecting. The first group includes these farmers who define success as a product of endogenous factors. The farmers of this group describe as important success factors, the ability of perception of market needs from the perspective of the farmer, the ability to understand business needs, the entrepreneurial spirit that possessed the farmer, knowledge on rural economics and management, the ability to integrate the farmer in an information network, and adaptability of the holding to market requirements. This categorization reflects the personal responsibility of the farmer on the course of business, but also his dynamic as an entrepreneur. The responders constitute, in most cases, a complex model of the characteristic that defines the successful farmer.

The second group comprises of those responds which occur success as a non self responsibility outcome; as a product of exogenous factors. These responses referred to the weather, on the sales price of the products, even luck or God. These farmers are conservatism, because they define success as something that does not rely to the personality of the farmer, but on external factors that are not controlled by him.

Relating the answers that occurs success as a product of endogenous factors with the innovative profile of the responders that is presented in Table 1 (according to 2009 data basis, the result of which have been already published on Koutsou and Partalidou (2012) paper), it is established that the states of the first group (which occurs endogenous factors on success) were given by innovator and dormant farmers. According to the same data basis, the responders of the second group, which occurs exogenous factors on success, are classified as conservatism.

5. CONCLUSION

Innovation is related to the renewal and expansion, of business products' range and services, and it is one of the most important parameters for development. In the agricultural sector, the adoption of innovations relates to product, process, marketing, organization changes and also ecoinnovation. The success of a company or businessman is related to innovation, both financial and non financial parameters.

The purpose of this paper was to study the cases of 9 farmers, about their innovation profile and attitudes toward success. These 9 farmers derived by the combine of two separate studies that conducted in the same geographical area (Kilkis, Central Macedonia, GR) in different time periods. The objective of the first study was to identify young farmer's innovation profile with the use of structured questionnaire, and the results have already been published in Koutsou and Partalidou (2012). The second study was aimed to collect young farmers' perceptions about the concept of the successful farmer via in-depth interviews, and the results have not been published yet. The 9 farmers that are studying in this paper are common between these two researches.

The results establish two main farmers' group of perspectives and attitudes about the concept of the successful farmer, and these groups related to the innovative profile's classification of each farmer (data basis of 2009, Koutsou and Partalidou, 2012). The first group includes the answers that occurs endogenous factors of success, i.e. abilities and skills of the farmer. The farmers of the first group have been classified as innovators or dormant. The second group includes the responses that occur exogenous factors, such as luck or God, and weather. Some of the second group responders occur the income as an important success factor, but without involve farmers' skills or abilities for this. According to 2009 data basis (Koutsou and Partalidou, 2012) the farmers of the second group are classified as conservation.

The advantage of this paper is that describes two main attitudes on success. The first one is about farmer's activity and relates to farmer's skills, abilities, and personality, i.e. endogenous factors. The second one is the passive, and relates to exogenous factors, such as weather, God or luck. As a result, the farmer who is conservation in innovation adoption rely exogenous success factors.

The researchers did not use any statistical tool or method, due to small sample size. Also, due to sample size, the results cannot be generalized. The results of this survey could be referred in subsequent studies.

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TRANSFER OF TECHNOLOGY – MECHANISM OF MODERN UNIVERSITY WITH COMMUNITY CONNECTION

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Abstract: *This study presents, starting from the third mission of the university, a modern mechanism – technology transfer, by which the university can effectively contribute to local and regional socio-economic development and may provide additional sources of income for the research and development work in terms of substantially reducing the financial support by the state. The study emphasizes the role of the office of technology transfer as a means of connection of the university with the business environment able to arrange joint efforts of both sides in economic development. The method used was that of thematic analysis of the content of data published on the websites of the best performing TTO`s on technology transfer and the literature referring to the third mission of the university. The study develops a methodology with the procedural approach and the steps that should followed so that the university could become more competitive with the help of TTO. The conclusion is that, in the current conditions of higher education market, the entrepreneurial spirit of the university valued through TTO brings important benefits to society.*

Keywords: *technology, technology transfer, office of technology transfer, the third mission of the university, the entrepreneurial approach in the university.*

JEL Classification Codes: I23, I25, M14

1. WHAT IS THE TECHNOLOGY TRANSFER?

Generally, the technology is the combination of resources, knowledge and know-how used to obtain goods / services. It is a set of information used in order to accomplish certain tasks as well as the useful enforcement action of knowledge and expertise in a particular operation. Technology can be considered a product which makes the subject of trade, since it is a very useful tool for providing economic development to achieve strategic competitive advantage by actors in the competitive market. In the process of obtaining and exploiting in market of this product are involved innovative firms, intellectual property issue consultants, business consultants, brokers in technology, research and educational institutions, private industrial enterprises, financial institutions, NGOs (organizations non-governmental), governments. For the technology to have purpose, namely to add value to all stakeholders in this complex process, resources, knowledge and know-how used to obtain goods / services must be accompanied by the ability to develop the respective technology. This is the motivation for supporting the importance of technology transfer.

Technology transfer is defined as all activities that transmit information about the physical processes, equipment and facilities, analytical and operational techniques, terminology etc.

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associated with technology and lead to the adoption of a new product or a new procedure by a group of users. It involves the interaction between a new technology seller and users and results in real innovation (Webster's Online Dictionary, 2009). Generally, patents, manufacturing technologies, product technology, process technology, management techniques (design and management), service delivery methods, etc. can make the object of this type of transfer. The content of technology transfer can be really varied and can include the following components: skills, knowledge, technologies, methods of manufacturing, materials and components that are incorporated into the finished product, technical designs, secret formulas of manufacturing, production equipment, documentation and procedures for design and manufacturing, production equipment, documentation and procedures for design and manufacturing, instructions for use of equipment, transmission of information by direct instruction staff, video demonstrations, workplace training, unpatented technical assistance known as know-how, engineering, franchising, hardware and software, etc. This transfer takes place between governments and universities or research units, on the one hand, and the units of production or service, on the other hand, to facilitate the availability of a wide range of users in scientific and technological developments in the exploitation of new technologies in order to develop. Technology transfer should be understood as a process through which scientific and technological discoveries are incorporated into goods and services capitalized on the market and contributing to the economic development of an area. It involves the transfer of intellectual property through legal means in the license agreements, know-how, franchise, engineering. The benefits of technology transfer processes consist in improving the products, manufacturing processes, development of new products and services required by the market.

In essence, technology transfer is the activity through which the results of basic and applied research from the research-development units (universities, research institutes) arrive in private organizations or other structures of society and contribute to their development. Technology transfer is achieved through the following mechanisms, namely those operations that ensure the dissemination of certain technologies from supplier to recipient: - agreement based on product subcontracting established between the beneficiary and a specialized design firm able to achieve the product based on the specifications of the project; this activity may be accompanied by staff training to ensure the transfer of skills and abilities among the transfer participants; - cooperation in the development of research programs for the introduction of new types of products and services; - patenting and licensing the results of technological development process in an organization to be operated by another organization; - transferring documents such as schemes of technological flows, sketches, documents in the contract of know-how; - selling, purchasing and importing means of production required to obtain new products; - cooperation between two partners in fundamental research for skills training and skills needed to develop products; - cooperation in applied research that are done between new organizations like start-ups and universities; - cooperation in product development as an activity carried out mainly by industrial enterprises; - dissemination of information through conferences, scientific articles published in professional journals, technical reports.

Technology transfer is the activity through which the results of certain structures funded by the state, namely the universities and research institutes that come in productive units that have the capability to produce and sell them in the market. A technology that does not reach finality in the productive environment has no value. Therefore the transfer of technology is the connection that ensures capitalization of scientific research performance in the social and economic benefit.

The decision of a business partner to invest in the development of a technology or a commercial product based on the results of academic research is influenced by their protection, namely the existence of intellectual property.

The intellectual property is a set of rights related to inventions and other creations and mainly includes patents, copyrights and trademarks. The patent is a document issued by an authority that gives the holder the exclusive right to use, sell, import or offer to sell an invention for a fixed period of time. The patent owner may give permission to another party to use the patented invention through licensing agreements. The patent can also be sold. For an invention to be patented is necessary to cover a step conducted several months and to cover some costs in the form of tax. The copyright is intended to protect and promote the literary and artistic creativity for a limited time.

A trademark is a distinctive sign which is intended to protect the product and service names. May consist of a combination of letters or words, an image, a logo, a 3D form or sound.

Protecting intellectual property rights is performed using the license. A license is a contract whereby the licensor grants under certain conditions, the right to use a patent in order to develop and commercialize products and services based on such patents. License agreements are long-term relationships. The license can be exclusive if is granted exploitation or non-exclusive monopoly when the licensor reserves the right to license also other relevant organizations. In the case of exclusive licenses, is important that the licensee to exploit the technology and to develop it. For the universities the technology transfer is a way to increase revenue for investment and research.

2. CURRENT ROLE OF UNIVERSITY IN SOCIAL AND ECONOMIC ENVIRONMENT - THE THIRD MISSION

According to experts, now the university is the institution that creates and disseminates knowledge, new ideas that can form the basis of innovation and source of knowledge for technology development with industry support to ensure local and regional economic development. Traditionally the university has three responsibilities: teaching, research and providing services to society. These responsibilities have occurred in time due to changes in economic and social environment of which the university had to take into account and in terms of which has adapted. In time, the university has crossed two academic revolution (Etzkowitz 2003): the first revolution of the late 19th century which involved the introduction of research as the core activity alongside teaching and more recently, the second academic revolution consisting in the obligation of the university contribution through its actions to economic development by supply of services for the benefit of socio-economic development. The third responsibility of the university, whose appearance was determined by the transition to the society based on knowledge, involves contributing to social and economic development through increased interaction with business environment. According to British researchers Molas-Gallart et al (2002) the main activities that correspond to the third mission of the university are: the commercialization of technology, entrepreneurship activities, advisory councils, marketing facilities, research on contract, non-academic collaboration in scientific research, mobility of teaching staff and from industry, placements of students and other links with the labor market, non-traditional education and training activities, aligning curricula to social needs, dissemination of research results in nonacademic environments. In European vision, the university-business environment cooperation should be oriented mainly towards innovation, creating start-ups, transfer and dissemination of knowledge (Șerbănică, C.M, 2011, p.432).

To successfully fulfill these responsibilities is necessary for universities to make changes in terms of culture, governance and management and to adopt entrepreneurial approach as a

strategy. (Box, 1999; Caruana et al, 2002; Mentoor and Friedrich, 2007; Morris and Jones, 1999; O'Shea and all., 2005, 2007). Entrepreneurial approach is described as a set of actions by which there are identified innovative solutions to many problems faced by public sector organizations (William Todorovic et al, 2011, .p.129). According to researchers Etzkowitz, Webster, Gebhardt, Terra (2000) universities that develop activities which are specific to the third mission are entrepreneurial universities with an important role in innovation and economic growth processes.

Given that the number of universities is increasing and financial support from the state is in decline, entrepreneurial approach mainly related to scientific research responsibilities and contribution to economic development are build in the successful approach for modern universities. Van Burg et al. (2008, p.121) recommend that universities “shape a university culture that reinforces academic entrepreneurship by creating norms and exemplars that motivate entrepreneurial behavior”. “The entrepreneurial response” has become a growing necessity for all those universities that want to be a viable, competitive part of the rapidly emerging international world of learning (Clark,2001, p.11). ”The entrepreneurial university becomes an organizational version of civic society, one that mediates between state and market rather than be dominated by either.” (Clark,2001, p.23). Adopting the entrepreneurial orientation of the university should begin with its implementation at departmental and faculty level to create from bottom to top an innovative entrepreneurial environment. William Todorovic et al. (2011, p.134) has devised a scale for measuring the entrepreneurial orientation of university departments for spin-off and certification. Its components are: - the ability to raise knowledge and their application to individual, group or community level; - identifying new opportunities for scientific research to be useful for stakeholders; - connecting teachers from the structure of the department, faculty and students with the industry to increase their performance in research; - perceiving the university policies and encouraging the entrepreneurial orientation at department level so as to harmonize the university policies with the objectives of the department. Allen Gibb (2005, p.29) in his work named "Towards the Entrepreneurial University Entrepreneurship, Education as a lever for change", presents an integration of entrepreneurship model in higher education with the following structure: - introduction of the entrepreneurship in the university curricula; - creating a technology transfer office; - creating an innovative pedagogical support for each department; - lifelong learning approach in all departments; - establishing research themes in all departments; - cultivating professional status for excellent research and development; - allocation of time for researchers who wish to engage in intellectual property marketing; - organizing meetings with entrepreneurs to identify new ideas for research; - social integration of entrepreneurs and offering appropriate status; - collaboration in the practice of teachers through working visits; - management of academic activities in partnership with external stakeholders; - motivating material research and development activities in all departments; - the participation of stakeholders in joint ventures; - open approach to intellectual property and investment in university associations; - the training of academic staff to develop and offer entrepreneurship courses.

A viable way today through which universities can contribute to increasing social and economic benefits is commercializing research results. The first forms of trading approached by the universities were special consultancy to which were added later patenting and licensing of research results, business incubators, start-ups, university spin-off activity. In the research on the interaction between university and industry through trading of scientific research was found that there are different tools for regional technology transfer (Hussler al., 2010), and a variety of business models available to transfer an innovation from the academic world in the public domain. Some researchers, Prodan and Drnovšek (2010) talk about academic inventor with

strategic role in the flexible transfer of academic research results to the private productive environment. Recent studies conducted at the level of major universities in the United States with regard to technology transfer and commercialization of research results (Breznitz et al, 2008) have shown that success in the science and technology policy which allows the transfer of knowledge and innovation is related to the institutional and procedural approach.

Technology transfer from universities to industrial environment is a useful tool with which new technologies and products reach the market causing economic and social development. Universities receive copyright of allowing economic units to use scientific discoveries into products that address to market in important areas like medicine (imaging), tests for medical diagnosis and treatment, pharmaceutical, automobile production, IT, etc. Universities can use the revenue generated from the results of scientific research to develop scientific research infrastructure and to motivate the teacher researchers.

For industry, technology transfer is the best way to acquire basic technological research results, given that the research activity is very low or non-existent in small and medium enterprises. The research activity carried out through the industry – university collaboration may be also considered an important tool for identifying scientific talent, whereas research projects funded by economic agents are made with students who, after graduation, they go to work for former sponsors or investors. With the transfer of technology, the university helps accelerate innovation activities and to support the process of obtaining competitive advantage for both industrial and academic environment by cooperating with the industry. Technology transfer from universities can boost global economic growth and regional economic development.

3. OFFICE OF TECHNOLOGY TRANSFER - INSTRUMENT OF MODERN UNIVERSITY ENTREPRENEURIAL ORIENTATION

For a new technology to be exploited in the industrial environment is necessary for it to be sold in the market. Most often the organization that develops technology as the one that uses technology is different from the one that sells it since it doesn't always have resources and logistics necessary for capitalizing properly this product on the market. Thus arises the need for a structure to facilitate networking of research teams with industrial partners interested in the results of scientific research conducted in universities. According to the experience found in the market, this structure often called office or center, office of technology transfer is being developed either as an university internal environment part, either as an independent structure detached from the academic ecosystem.

TTO technology-transfer office or center is „an essential intermediary between research teams, industry partners and other components of ecosystem innovation”. His role is to go through additional steps separating knowledge of industrial technology laboratory. It must be a professional service (as a functional structure), bringing added value in evaluating inventions, patentability, economic value, defining intelligent patent strategy, cost optimization, marketing and negotiation"(Catană A,Căbuz A.I.,2013, p.315,317). The central mission of Transfer Offices is to increase the chances that university discoveries and research results be turned into useful products and services so that the public shall benefit. (Capart G, Sandelin J,2004, p.2).

Transfer centers or offices mission is less adequately understood by all parties involved in the process of intellectual property or universities, researchers, industry, governments and the public in general, although there is an increase in their number, especially in the USA, but and in Europe. The philosophy of operating a TTO should be based on the needs, interests of the parties involved in the transfer of technology respectively inventor, university, industrial partners, government. TTO manages all activities that relate to using in the industry the industrial property

rights belonging to the university or the state in case the results of scientific research have been funded from government sources.

TTO's role as an instrument of connecting the university with the industry can be described as:

- promote efficient usage of scientific research results in increasing competitiveness of the university;
- increasing the attractiveness of the university as a research – development partner for industry;
- encouraging entrepreneurial spirit in university to exploit intellectual property rights in the socio-economic environment;
- create useful products and services for society as a result of exploitation scientific of research results;
- job creation through the establishment of spin-off companies and collaboration with other institutions;
- providing additional financial resources for the development research activities in universities.

The activities performed by TTO are:

a) *management activities of scientific research*, respectively

- identification of research and development results;
- evaluating the inventions;
- the initiation of the approach to intellectual property protection;
- patent administration of the portfolio;
- transferring material and knowledge agreements;
- signing research contracts;
- sale of intellectual property rights and the management of conflicts of interest.

b) *typical activities of technology transfer*

- counseling in technology transfer area;
- counseling in the allocation of intellectual property;
- counseling in granting of licenses;
- counseling in the management of spin-off companies;
- innovation marketing activities;
- establishing systematic links with the industry activities.

c) *complementary activities*- marketing communication on research and innovation activities in universities, teaching and training activities of professionals to work in the TTO.

A study made by Jay P. Kesan A. (2009) on the annual reports of the 94 institutions in the United States, AUTM-Association of University Technology Managers members, on the licensing process in conjunction with fiscal partners established that the universities, through TTO, are not engaged in a wide range of activities that would lead to technology transfer with beneficial implications in the industry. The author suggests universities to use alternative methods of technology transfer such as (Kesan ,2009, p.2207): open collaborations, free participant use agreements, increased focus on commercialization activities, and royalty free licensing- that would result in university innovations being adopted and disseminated throughout society.

4. THE METHODOLOGICAL TRANSFORMATION FRAMEWORK OF THE TECHNOLOGY TRANSFER OFFICE IN WORKING TOOL OF MODERN UNIVERSITY

To fulfill the mission assumed, the TTO technology transfer office should consider the following **strategic objectives**:

- supporting the dissemination of scientific results;
- supporting the absorption on scientific research results;
- stimulating the development of scientific research in relation with the requirements of private actors in the production of goods and services area.

Hypothesis of the methodological framework on the use of the office of technology transfer as a means of connecting the university with the economic and social environment

To develop the methodological framework of *using the office or technology transfer center as an instrument of connecting the university with the economic and social environment* we have started several assumptions:

- increasing the role of the university in the current European context through the use of technology transfer as a means of connection with the economic environment. This is a project of change that will lead to institutional responsibility and staff regarding the use and appreciation of scientific research results through empowering the industrial environment. The ultimate goal of this work is providing financial resources necessary for the development of the logistics of research activity and proper motivation of the researchers.
- implementing entrepreneurial orientation in universities using as an instrument the technology transfer through TTO by considering this concept as a strategic issue. In this respect, is necessary to create the organizational framework (technology transfer office), to transform the teacher – researcher into an inventor-entrepreneur one, who is properly motivated and counseled and establishes an appropriate strategy to meet a flexible business model.

The strategic activities necessary in the process that makes the technology transfer office or center the binder between interested stakeholders are:

- activities to disseminate the results of university research to aware economic actors of the existence of scientific result and sustainability, the competitiveness of the university and their clients
- activities to improve the absorption capacity of the economic actors of scientific research results
- monitoring activities of scientific research results and information to the functional structures of research of the university on the needs of the private sector
- implementation activities of university marketing orientation and entrepreneurial orientation in university as an integrated system given the need of the university to meet its new missions in the present educational market conditions
- adaptation activities of the university's global product for accomplishing the third function by developing attractive commercial relationships with the business environment from optimal exploitation of scientific research results and existing research resources in university.

The stages of implementing the concept of technology transfer office as a means of connecting the university with the economic and social environment:

1. Analysis of university resources on research and innovation, development and identifying opportunities to exploit the scientific research results;

2. Establishing appropriate strategic and operational objectives that would lead to the commercial exploitation of scientific research valuing excellence, success identified in university respectively:
 - the identification of the scientific that can be traded with industry;
 - identifying the needs of the private sector on innovation and development;
 - establishing ways in which you can scroll through cooperation with industry on research-innovation-development line;
 - motivating and empowering teachers in terms of their own resource use of research-innovation-development to meet the need of economic agents interest and to contribute to local and regional economic development.
3. Creating functional structure of technology transfer – office or center of technology transfer which will ensure effective collaboration and correspondence of academic and business environment in terms of research, innovation and development
4. Procedural system organization, designing system and operational procedures by considering information on its own possibilities of developing the research-innovation activity related to business environment needs.

5. CONCLUSIONS

Technology transfer and commercialization of university research can be important elements of the industrial development strategy of a country with a positive impact on increasing the number of jobs with high added value. With the support of technology transfer office, the university can become a major player in regional development because it will determine the content of technology transfer from the university to the business environment through a careful assessment of the region in which the university operates and the conditions for economic development.

The success of the technology transfer from the university environment to the business one is secured by real change of the organizational culture of the university with the focus on developing the entrepreneurial spirit at the level of department and a strong connection with the industry in the region where the university is through TTO.

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ACCOUNTING FRAUD AND CHARACTERISTICS OF COMPANY EXECUTIVES: AN EMPIRICAL INVESTIGATION

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Abstract: This study examines accounting fraud in relation to the characteristics of company executives. The study portrays the degree to which company as well as personal motives could urge an executive to commit fraud. Subsequently, we attempt to identify the degree to which certain socio-economic factors and the existence of strong internal audit mechanisms act as deterrence agents.

Furthermore, we investigate the personal financial gain in relation to annual income as a motivator to commit fraud. Finally, we examine the optimal imprisonment duration as a deterrent and the overall probability to commit fraud.

The research method was based in the distribution of a questionnaire and took place in the city of Thessaloniki and the region of West Macedonia and Thessaly. The participants were executives in the banking, financial and insurance sector.

Our findings show that it is mostly personal factors that motivate an executive to commit fraud, but the fear of immediate legal sanctions and the existence of strong internal audit mechanisms are effective deterrence agents.

Keywords: accounting fraud, company executives, incentives of fraud, imprisonment.

JEL Classification Codes: M42

1. INTRODUCTION

This paper examines accounting fraud and the characteristics of the company executives that commit them. Accounting fraud is a global phenomenon with severe socio-economic impact. Numerous surveys are conducted periodically, attempting to estimate the economic and social cost of fraud, however the estimation of the qualitative factors limit the validity of the estimates. The safest conclusion is that fraud is a practice found in almost all companies and in many cases it is committed by top level management driven by greed. We intend to investigate the degree to which different incentives urge executives to commit fraud and also the effectiveness of strong internal control mechanisms as well as other socio-economic factors as a deterrent to fraud.

The primary research method applied was a questionnaire designed to accommodate the afore-mentioned objectives. The questionnaire was sent via e-mail to banking branch executives, company consultants, executives in local institutions and delivered by hand to insurance companies' executives during a daily event in Thessaloniki. The geographic area covered by the survey includes Central and West Macedonia and Thessaly. The 70 participants who completed the questionnaire include executive and non-executive employees in the banking, financial and insurance sector. The questionnaire consists of 21 questions derived from the current theories of internal audit and accounting fraud and was designed to ensure the anonymity of the participants.

The findings of the research show the degree to which seven incentives motivate executives to commit fraud and the size of the fraud in relation to the annual income of the executive. We identified five deterrence factors and the consequent analysis showed that the length of imprisonment as a penalty for committing fraud is the strongest deterrent.

2. ACCOUNTING FRAUD

2.1 DEFINITION OF ACCOUNTING FRAUD

In current literature fraud has various definitions. SAS 99 defines fraud as an intentional act that results in a material misstatement in financial statements. Furthermore, it specifies two types of misstatement: misstatements arising from fraudulent financial reporting and misstatements arising from misappropriation of funds.

Rubin (2007) suggests a broad definition for fraud as “an intentional act to gain an unfair or unlawful advantage or gain”. Brink and Witt (1982) suggest that fraud is an ever present threat to the effective utilization of resources and it will always be an important concern of management. Wells (2009) emphasizes that there is no accidental fraud and that the following four elements exist in any case of fraud: a material false statement, knowledge of the falsity of the statement, reliance on false statement by the victim and damages as a result. Indeed the definitions of fraud vary from very narrow to very broad and it is useful to consider the case that MacDonald (1993) makes that distinction exists between fraud and error based on the psychological intent. He also specifies fraud as a legal term used only when intent can be proven in court.

2.2 WHO COMMITS FRAUD

Fraud is an act driven by intentions and it is therefore important for the researcher to understand the economic factors that motive the fraudster and the psychological mechanisms that form his behavior. Ratley (2011) emphasizes the fact that contrary to common belief, people who commit fraud are very much like everyone else. In most cases fraudsters have never been arrested before, they have similar lifestyles, education, family and hobbies like people who do not commit fraud. Indeed, it is rather hard to identify a fraudster simply by appearance or some trait. In most cases of fraud (Balaciu & Cosmina, 2008), the main factor that seems to drive the participants is a conflict of interest. For example, top level executives want to pay less taxes and dividends, shareholders want to receive more dividends, employees want higher salaries and bonuses, government officials want to receive more taxes and so on.

A person or a group of people may be induced to commit fraud by a number of motives. Both the current literature and a number of surveys identify the need to achieve higher goals as the most common motivator for financial reporting misstatements. However, greed or fear of failure are not the only driving forces behind such behavior. Inherent in accounting is a complex decision making process. Top level executives, like chief executive officers, play a crucial role in these processes and their narcissism influences and impels their decision making (Olsen, et al., 2013). As the frequency of fraud continues to rise, the study of the behavioral patterns of fraudsters rises in importance also in relation to both fraud detection as well as fraud deterrence.

Even though, behavioral scientists have failed to identify a well-defined characteristic or set of characteristics that may pinpoint a fraud perpetrator, they do recognize that fluctuations in business cycles and the criminogenic culture are correlated with fluctuations in the rate of fraud (Ramamoorti, 2008). Feng et al. (2011) suggest that CFOs are likely to manipulate financial data not so much for personal gain as because they succumb to pressures by the CEO. Their research shows that powerful CEOs with high equity incentives exert so much pressure on the company's

hierarchy that they will manipulate accounting data with or without the help of the CFO. They suggest that steps must be taken to ensure the independence of the role of CFO. Dechow et al. (1996) arrive at similar conclusions and further suggest the need to raise capital at lower cost as an important motive to manipulate accounts. A recent survey by KPMG (2011) pinpoints the fact that it is statistically more likely for someone with access to sensitive information and the ability to override controls to commit fraud. Women have the least participation in fraud and in general do not assume a leading role in the scheme (Steffensmeier, et al., 2013). In most cases women participate in fraud schemes either because of personal relationships with one of the participants or because they hold a key role in the company's hierarchy that renders them necessary for the successful attempt. Steffensmeier et al (2013) recognize the fact that the rate of participation of women in fraud is proportionate to the percentage of women employees in corresponding industries. In banking specifically, it was found that women misappropriated funds almost as much as men. It is implied, therefore, that women are just as likely to commit fraud as men, as long as the participation of others is not necessary.

In many instances the founder of the company plays a key role in accounting fraud as is evident in the cases of Adelphia Communications Corporation, Tyco International Ltd, ImClone Systems, Bernard L. Madoff Investment Securities LLC, Satyam Computer Services. The founder's sense of ownership probably provides them with moral justification to manage the company's affairs as they see fit without any need to gain permission. We could say that the founders have difficulty to accept that their spiritual "child" has out-grown them and they remain over-protective and despotic. This special relationship between founder and company provides them with the illusion that all their actions are justified in the pursuit of growth and/ or profits and it is therefore ok to "window dress" the figures or to take now an advance of the future "sure-thing" profits. It is obvious in these cases that the founders perceive no moral obligation towards the shareholders, employees and other stakeholders. Greed and lack of proportion are evident in all the afore-mentioned cases.

The chairman of the Association of Certified Fraud Examiners in Austin, Texas (Wells, 2012) points out that a common characteristic of all criminals is over-confidence. Criminals of all categories believe that they will not be caught and it is this misconception that makes them careless which results in the mistakes that bring about their detection and apprehension.

2.3 CONSEQUENCES OF ACCOUNTING FRAUD

The menace of accounting fraud is spread world-wide. ACFE's (2012) global research shows that in 1.388 cases of occupational fraud only 8% were cases of financial reporting misstatement but caused a median loss of \$1 million. Accounting fraud has social consequences, apart from legal and financial, for the perpetrators. Fich and Shivdasani (2007) looked into the reputational impact to outside directors of firms that are facing lawsuits for financial fraud. Their findings show that the reputation of executives declines significantly even if they are not involved in the fraud case and that there is usually a decline in the number of board memberships they hold after the filing of the lawsuit.

The social impact and the financial and legal sanctions that come as a result of the detection of financial fraud usually lead to the loss of employment. Karpoff et al (2008) looked at the careers of 2.206 individuals that were involved in 788 cases of financial misrepresentations filed by the SEC and the Department of Justice from 1978 until 2006. Of those accused, 93.6% lost their jobs and 92.4% of those were executives. A further sanction imposed was the ban from holding executive positions in publicly traded companies.

2.4 RESEARCH METHODOLOGY

As we mentioned in the introduction, our empirical research was based on a questionnaire consisting of 21 questions. The questions were formulated according to current theories on auditing and financial fraud. The questionnaire was sent via e-mail and handed out in person during a daily event in Thessaloniki. 70 individuals responded in time and they are mostly employed in banking and the insurance industry. Out of the 21 questions, 1 was open-ended, 5 were closed-ended and 15 were likert scale. No personal or company data were recorded so as to ensure the anonymity of the participants. The data were processed and analyzed with the use of a statistical program. The variables were tested for normality and consequently were tested for correlation with the use of χ^2 test. The descriptive statistics are presented in the next sections graphically.

2.5 RESEARCH FINDINGS

Our sample consists mostly of individuals in the age group 31 – 50 (88.6%) and with university or postgraduate education (80%). 63% of participants come from the finance/ banking industry and the rest of the sample comes from the insurance and services industries. 68.6% are managers or supervisors that have had these positions for 5 to 10 years. 71.4% are men and 28.6% are women.

2.5.1 The motives that drive fraud

The participants were asked to rank a number of motives according to the likeliness that these might urge an executive to commit fraud on a scale ranging from 1 (not likely) to 5 (very likely). Since likely and very likely have a very similar result for the purpose of this study, by summing the two ranks we find that the strongest motive is the achievement of goals, next comes personal financial gain and then the reduction of company taxes. However, if we consider the average score of the rankings, personal financial gain becomes the strongest motive. The belief that fraud will serve the greater good scored the least while the preservation of the current job status and the belief that the fraud will not be detected in the short-term only mildly motivate, according to the participants. The data are shown in the following table.

Table 1: Ranking of fraud motives

	Very unlikely	Unlikely	Neutral	Likely	Very likely	Aver.
Greater good	35,7%	37,1%	15,7%	10,0%	1,4%	2,04
Reduction of company taxes	10,0%	14,3%	20,0%	35,7%	20,0%	3,41
Raise capital	2,9%	17,1%	37,1%	24,3%	18,6%	3,39
Achieve goals	2,9%	18,6%	18,6%	45,7%	14,3%	3,50
Preservation of job status	7,1%	18,6%	30,0%	24,3%	20,0%	3,31
No detection in short-term	8,6%	11,4%	38,6%	30,0%	11,4%	3,24
Personal financial gain	5,7%	12,9%	24,3%	27,1%	30,0%	3,63

It becomes apparent from the above rankings that personal needs and ambition motivate a person to commit fraud. Personal financial gain, achievement of goals and the job status are related since the achievement of goals usually leads to higher income through bonuses and/or a

promotion. In the following figure we show the average responses ranked also according to sex. It is interesting to point out that women place higher importance to the 3 motives mentioned above that we group as personal.

The next question asked the participants to specify the amount of personal financial gain in relation to the annual income.

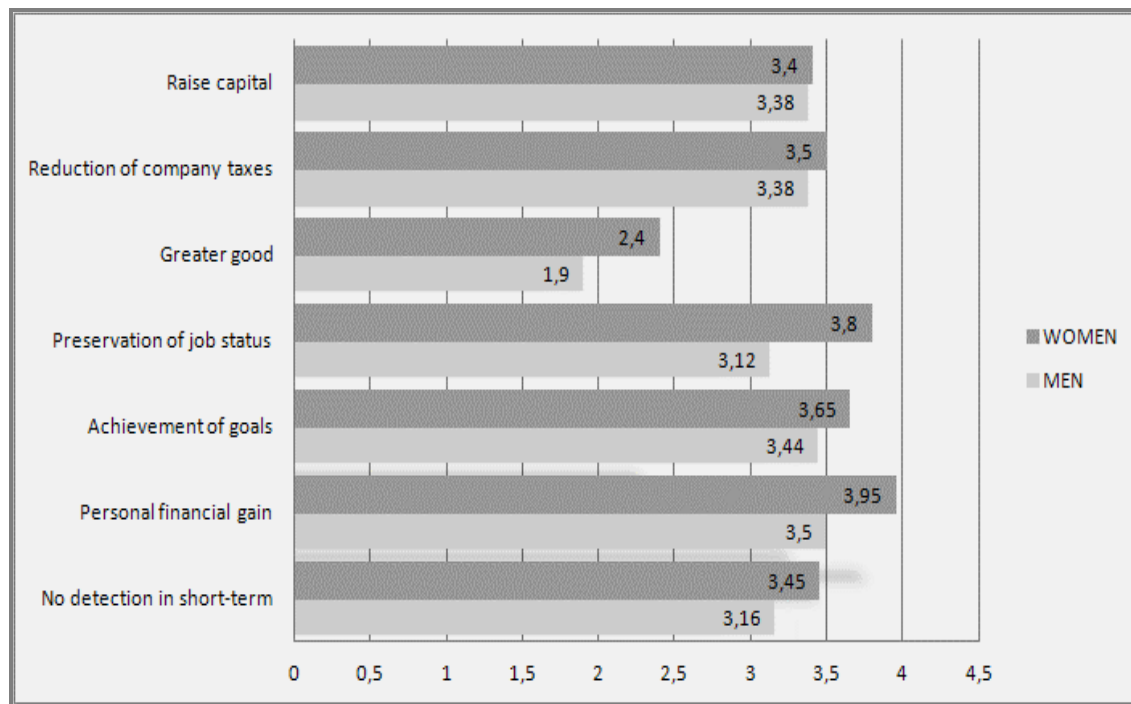


Figure 1: Average rankings of fraud motives for men and women participants.

The available answers ranged from 1 “less than” annual income, 2 “equal to” annual income, 3 “double” the annual income and 4 “ multiple” times the annual income. 51,43% of the respondents believe it would take multiple times the annual income for an executive to commit fraud.

At this point it is necessary to test whether the executives answered differently than regular employees in the ranking of fraud motives. We tested all our variables for normality and none of them follow the normal distribution, hence we used the χ^2 test. We set the null hypothesis that executive position is independent from any of the motives. The test statistics are displayed in Table 2 and we see that the p value is less than 0.05 only the case for the greater good, which has the least rank as a motive as we showed in Table 1.

Table 2: Independence testing for executive position and fraud motives.

Executive Position	Value (x2)	Asump.sig p
Greater good	10,612	0,031
Reduction of company taxes	2,797	0,592
Raise Capital	0,916	0,922
Achievement of goals	2,513	0,642
Preservation of job status	1,636	0,802
No detection in short-term	1,371	0,849
Personal financial gain	5,276	0,260

Therefore we can accept the null hypothesis, which means that the participants’ answers were not influenced by their job status. We do not imply that the experience accumulated by a branch manager, for example, does not alter his perception compared to a bank teller, but that sort of analysis could not be derived from the questionnaire we distributed.

2.5.2 Fraud deterrence factors

The participants were also asked to rank a number of factors as possible deterrents to fraud using the same likert scale as before.

The majority of the respondents ranked the strong internal control mechanisms as an effective deterrent to fraud. The sum of the answers 4 “likely” and 5 “very likely” is 84,3% . Since a significant number of participants were executives with managerial positions, we tested the variables executive position and the strong internal control mechanisms for independence using the χ^2 test and the resulting statistic (Pearson Chi-Square) had a value of 0,353. The null hypothesis is that the two variables are independent and we accept it because the statistic is higher than 0,05 . Numerous papers and surveys in current literature suggest that internal control mechanisms can be circumvented by managers. This suggestion is justified by the corporate power held by managers and also by the experience and knowledge one usually has when appointed to such a position. However, our findings do not show a significant difference to the answer between executives and non-executives and we cannot support the afore-mentioned suggestion.

Consequently we ran the independence test between sex and strong internal control mechanisms. Again the null hypothesis is that the two variables were independent. The test statistic was 0,031 and it is smaller than 0,05, therefore we reject the null hypothesis and accept the suggestion that internal control mechanisms affect men and women differently as a deterrent to fraud. It is important to note that the participation of women to this survey was low (28,6%) and it might be useful to test this with more complex statistical tests, but this is out of the scope of the current study.

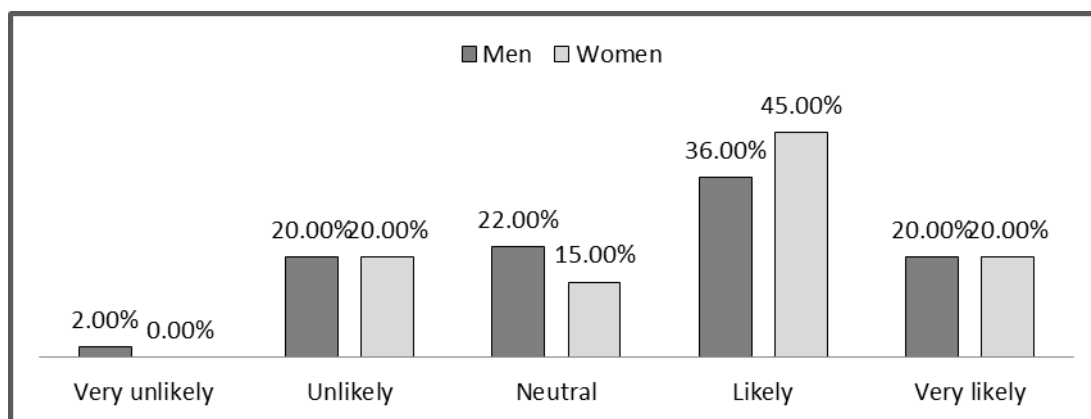


Figure 2: Comparison of the rankings of strong internal control mechanisms as a deterrent between men and women

The participants next ranked their answers from very unlikely to very likely as to their perceived effectiveness of the social impact and the loss of face as a deterrent to fraud. Only 58,6% of the respondents ranked this deterrent as likely and very likely (4 and 5 respectively). The corresponding independence test between executive position and social impact produced a test statistic of 0,427 which is higher than 0,05 and we therefore accept the null hypothesis that the two variables are independent.

The next deterrent we examined was the reduced employment capability after the detection and exposure of the fraud. 62,85% of the respondents consider this factor to be an effective deterrent (sum of 4 and 5 answers) and the independence test between reduced employment capability and executive position showed that the two variables are independent (test statistic $0,544 > 0,05$).

The fourth deterrent was the imposition of economic sanctions after the detection of the fraud. In the following figure we graphically show the responses recorded. It is evident from the figure below that almost 70% of the respondents consider this deterrent to be effective. The independence test between economic sanctions and executive position confirms that the two variables are independent (test statistic $0,588 > 0,05$). This means that all employees, both executive and non-executive, are equally affected by the economic sanctions.

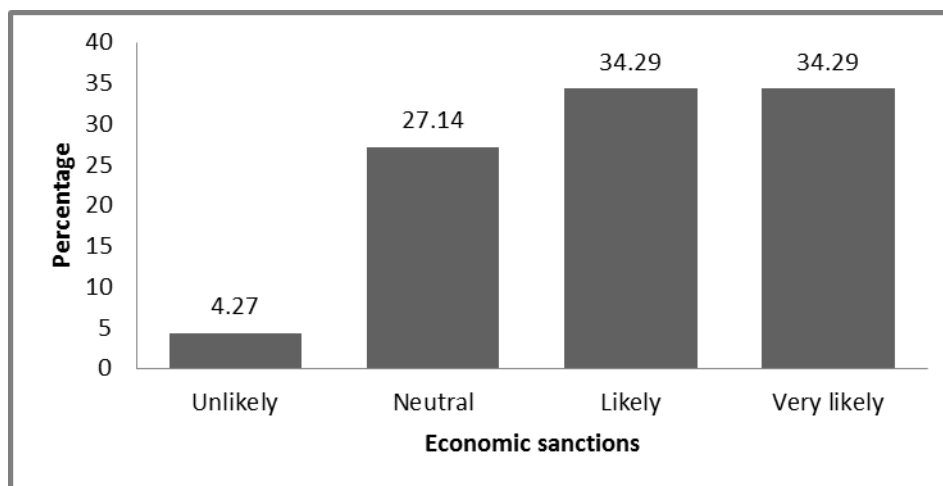


Figure 3: Economic sanctions as a deterrent to fraud

The last deterrent we examined was the effectiveness of immediate imprisonment and the participants were asked to rank their answers from 1 very unlikely to 5 very likely. Taking the sum of answers 4 and 5, which for the purpose of this study are considered almost identical, we see that 92,86% of the respondents perceive this measure to be effective as a deterrent. Indeed, this factor is the most effective of the five deterrents and in essence incloses partly some of the other factors as well. When a person is imprisoned, they immediately lose income hence the economic sanctions, they are stigmatized socially hence the social impact and loss of face (Polinsky & Shavell, 1999) and they have extremely reduced future employment capabilities. The responses are shown graphically in Figure 4 that follows.

Consequently we tested for independence between imprisonment and executive position as well as imprisonment and sex. The null hypothesis in each case is that the two variables are independent and test statistic in the first test was 0,21 which higher than 0,05 and we therefore accept that imprisonment and executive position are independent. In the second test the statistic was 0,366 and again we accept the null hypothesis that imprisonment and sex are independent. This means that imprisonment acts as an effective deterrent to men and women equally regardless of the position they hold in the company.

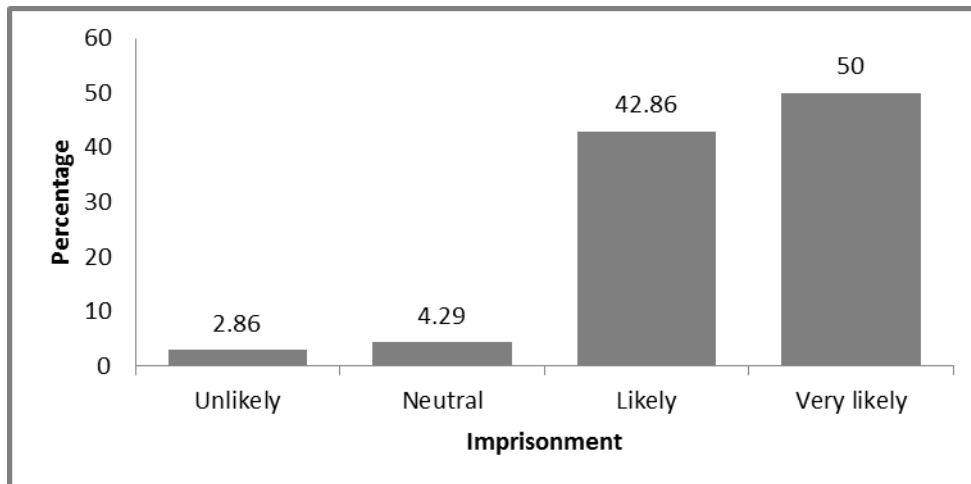


Figure 4: Imprisonment as a deterrent to fraud.

The participants were also asked to specify the length of imprisonment in years they consider to be an effective deterrent to fraud using the following time intervals: less than two years (<2), two to five years (2-5), six to ten years (6-10), eleven to twenty years (11-20) and more than twenty years (20>). The results are shown in Figure 5 that follows. Almost 80% of the respondents believe that imprisonment for fraud should more than 5 years. Following this question the participants were able to record further comments regarding imprisonment and it was noted that since the efficiency of the judicial system is low and the final decision is expected to come after several years, taking into account the reduction in sentence because of the previously blank criminal record, the initial sentence should be longer. Also the respondents noted that the sentence should be proportionate to the magnitude of the fraud, the position that the perpetrator held and who was affected by the fraud.

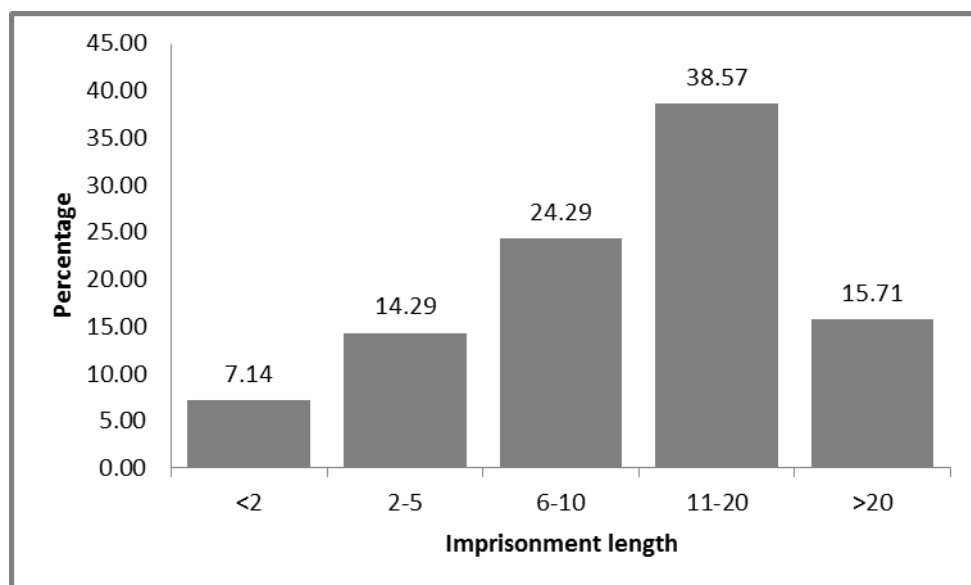


Figure 5: Length of imprisonment

Another interesting point from the above graph is that there is a gradual increase from less than 2 years up to 20 years of imprisonment and a dramatic decrease for a sentence of more than 20 years. In a similar study (Ugrin & Odom, 2010), it was shown that the length of imprisonment rises in effectiveness as a deterrent when raised from 1 year to 10 years but drops significantly when the length is raised from 10 to 20 years. It seems the marginal effectiveness of raising the length of imprisonment has a decreasing rate. Utilizing the study by Polinsky and Shavell (1999)

we note that the secondary effects of imprisonment such social stigmatization and the reduced future employment capabilities are not affected by the length of the sentence and they are incorporated to the beliefs of potential perpetrators.

Lastly the participants were asked to rank the probability of an executive to commit fraud in their own work environment. The answers were ranked from very unlikely to very likely. The following pie chart shows the responses. It seems that only 13% of the participants believe it probable for fraud to be committed in their work environment. Since the formulation of the question specifies that the fraud might be committed only by an executive, it is interesting to see whether the answers were biased by the position held. The null hypothesis is that the variables executive position and fraud probability are independent and the Pearson Chi-Square statistic is 0,192 which is higher than 0,05 and we ,therefore, accept the null hypothesis.

The percentage of respondents that consider fraud as improbable is 60% and it is initially comforting to consider, however taking into consideration the rather large portion of participants that have ranked this probability as medium (27%), it is alarming as this category could swing either way. If the 27% are marginally towards the unlikely region then approximately 90% would be considering fraud as improbable. This certainly would show that the combination of deterrents and possibly the lack of motivation are effective enough to create a safe and ethical work environment. On the other hand, if the neutral respondents are marginally closer to the likely region then the resulting situation is alarming since the “almost” likely part would reach 40%. Obviously, the current data cannot produce more detailed results in this question and this is perhaps a valid suggestion for further research.

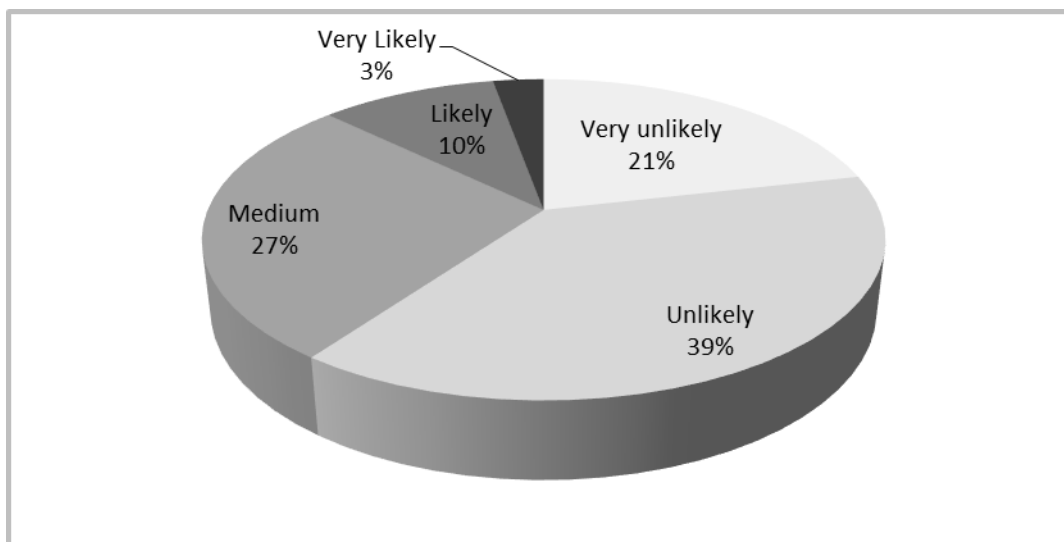


Figure 6: Probability of an executive to commit fraud in the respondent's work environment

3. CONCLUSIONS

As we mentioned in the introduction, the purpose of this study is to identify and rank the motives, either linked to personal ambition or the corporate environment, which might drive an executive to commit fraud. We also looked into factors that act as deterrents to fraud. Our findings indicate that the most effective motive for fraud is the personal financial gain and the expected outcome should be multiple times the annual income of the perpetrator. Furthermore, the most efficient deterrent is the possibility of immediate imprisonment of the perpetrator once the fraud is detected and the length of imprisonment should more than 5 years.

The research was carried out via the distribution of a questionnaire to executives and non-executives working in banking, insurance and the service industries in Thessaloniki and the regions of Central and Western Macedonia and Thessaly. The questionnaire was answered by 70 participants. The questionnaire was comprised by 21 questions that covered demographic data, factors that act as motives to commit fraud and factors that act as deterrents to fraud and were formulated using current theories in auditing and accounting fraud.

Out of the seven factors categorized as motives, the most effective was the personal financial gain as a result of fraud. It held the highest average score in the rankings of the respondents. The second ranking motive was the achievement of goals, through which it is expected that employees will retain or advance their position and probably achieve higher earnings. The next motives were the reduction of company taxes and the ability to raise capital with low cost. The preservation of the current job status and the possibility of the fraud not to be detected in the short term were the fifth and sixth ranking motives respectively. The notion that the fraud is committed for the greater good ranked the lowest as a motive and the resulting average score was considerably lower than the other six motives. It was also the only motive that seems to have some correlation to the position held in the company.

The categorization of the respondents according to sex showed that the ranking of motives changes only slightly. Women seem to rank the preservation of job status as the second higher ranking motive. Also women showed a significantly higher average score for personal financial gain and the preservation of job status than men. This suggests that these two motives are significantly more efficient motives for women than they are for men. It is also important to point out that the majority of the respondents (51,43%) believe that the personal financial gain as a result of fraud must be a multiple of the annual income of the perpetrator.

The ranking of the five suggested deterrents to fraud showed that the most efficient deterrent, by far (92,86%), is the immediate imprisonment of the perpetrator following the detection of the fraud. Specifically, the participants indicated that the length of imprisonment must be upwards of 5 years for this to be an efficient deterrent. The next deterrent was the existence of strong internal control mechanisms which seem to convince 84,3% of the respondents. The economic sanctions imposed as part of the penalty to fraud are an efficient deterrent for 68,58% of the respondents. The reduced employment capabilities and the social impact are the last deterrents and were ranked as efficient by 62,85% and 58,6% respectively. The consequent independence tests showed that only the strong internal control mechanisms seem to be correlated to the sex of the respondent.

An important finding is that the majority of the respondents consider it unlikely for an executive in their work environment to commit fraud. However, there is a significant portion of the participants (27%) that believe that the probability of such an event is medium. The questionnaire we used does not allow us to infer whether this portion of the responses is closer to likely or unlikely and adding it to either possible outcome alters the balance significantly. In one case we could have aggregately 87% of the participants believing that fraud is unlikely and on the other case we could have aggregately 40% of the participants believing that fraud is likely. Therefore, our questionnaire in this case does not allow for further analysis and produced an ambiguous result.

An important limitation to our study was the relatively small sample size. Moreover, the composition of the sample is not balanced in regards of the sex of the participants as well as the position held. Specifically, there were more executives than non-executive employees and the executives positions held were restricted to a medium level in the hierarchies of the respective companies. The responses from top level management (c-level) might be different and would

produce different averages. This follows from the fact that a medium level executive is usually not involved in raising capital for the company and cannot significantly influence the amount of taxes the company pays.

Another limitation has to do with industries in which the participants are employed. Banking, in general, has a very strict set of internal control mechanisms and their perceived efficiency is incorporated into the mindset of any probable fraudster. Furthermore, since our research was not limited to one industry only it might be more useful for the sample to contain participants from all the industries that are active in the Greek economy with the same respective percentages in its composition.

A general limitation that any such study will have is that the distribution of a questionnaire regarding fraud is met with reluctance, especially if the participant knows the researcher. Even though, such a questionnaire is traditionally followed by an anonymity clause, the participant might not be convinced that the clause will be held. Therefore the answers might not be completely truthful or might not portray the full extent of the participant's beliefs.

Furthermore, the fraud literature suggests that the society's views towards committing fraud and its consequences differ from period to period according to current events. It would be useful to conduct a similar analysis where the same participants answer the questionnaire periodically. Alternatively the participants could answer the questionnaire during a "neutral" period and answer it again immediately after the revelation of a large scale fraud.

ACKNOWLEDGEMENT

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RECRUITMENT OF PEOPLE WITH DISABILITIES, BETWEEN FEARS AND BENEFITS

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***Abstract:** People with disabilities are often not considered as potential labour members, and they face over time, barriers related to their access on the labour market. Despite the legal provisions forbidding discrimination at the employment of this category of people, prejudices, fear and myths keep limiting the understanding and acceptance of disability for jobs everywhere. Employers are reluctant when it comes to recruit people with disabilities, their main concerns being related to the fact that people with disabilities are unable to work and that the costs associated with such employees would exceed the benefits. However, studies prove that employees with disabilities do not need high costs to adjust to their workplace; they are hardworking and trustworthy. Our paper aims at presenting an image of the situation of people with disabilities on the labour market, identifying the difficulties faced by them as well as a number of good practices of some companies, which successfully prove that, with a little bit of adjustment, the community of people with disabilities can offer talented and motivated employees.*

***Keywords:** disability, discrimination, reasonable adjustment, social inclusion, employment.*

JEL Classification Codes: J21, J71

1. INTRODUCTION

The Convention on the Rights of Persons of Disabilities of the United Nations, signed on 30 March 2007, recognizes “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 labour market and work environment that is open, inclusive and accessible to persons with disabilities”.³

If an appropriate environment is provided for them, most persons with disabilities can be productive, however, as revealed by many studies, in most countries, either developed or developing, persons with disabilities at working age face significantly lower employment rates and higher unemployment rates than those of persons without disabilities.⁴

When we focus on the social, professional and economic situation of persons with disabilities, we have to notice that the statistics and the indicators concerning this category of persons are not detailed; they are not updated and are highly variable from one country to another. Beyond these problems of reliability and lack of data, the available figures are however, eloquent and show the difference between the intentions stated and the reality faced by the persons with disabilities. The

³ United Nations Organisation, “Convention on the Rights of Persons with Disabilities”, art. 27, <http://www.crj.ro/userfiles/editor/files/Conventia%20privind%20Drepturile%20Persoanelor%20cu%20Dizabilitati.pdf>

⁴ World Health Organization, “World report on disability”, Bucharest, 2013, p. 249.

social and economic situation of persons with disabilities worldwide is delicate in all countries and undergoes few and slow changes.

The International Labour Organization estimated that in July 2011, there were worldwide approximately 600 million persons classified as having disabilities. Countries worldwide act to give these persons a better chance in finding and keeping a workplace, sufficient to have a decent life. However, due to disadvantages invoked and to stereotypical attitudes related to what employees with disabilities can or cannot do, qualified workers are kept far from a comfortable workplace or work environment. Mark Bagshaw, Managing Director of Innov8 Consulting Group, shows that "A person with a disability brings with them something that a lot of other people don't have – they're able to manage a very difficult life." They couldn't manage ordinary life without developing excellent problem solving skills, which made them an asset, he said. "Businesses are realizing that it's reality, not a theory."⁵

2. METHODOLOGY OF RESEARCH

In order to prepare our paper, to be able to have an overall image of everything that is implied by disability, we accessed the websites of various international bodies (ILO, UN, World Bank, WHO, DPI), identifying a number of documents referring to this field. At the same time, in the attempt to have a picture as realistic as possible of the statistical situation of persons with disabilities, in general, and especially of those at working age, we accessed many statistical and data bases made available by various bodies and institutions (ILO, WHO, EUROSTAT, WORLD BANK, INSSE, THE MINISTRY OF LABOUR, FAMILY, SOCIAL PROTECTION AND ELDERLY, FOUNDATION MOTIVATION). We also studied a number of articles and studies representative in this field, present in scientific databases (SpringerLink, Emerald, ScienceDirect), searchable via search engines Google and Google Scholar. Due to the large volume of information, we identified an adequate search strategy, by using key words, such as: persons with disabilities, employment, reasonable adjustments, discrimination and other synonyms of these words, using as inclusion criteria:

- written in Romanian, English, French or Italian;
- availability of the abstract or of the whole article;
- description of the person with disabilities at working age, as a person aged 15 and above, who has a deficiency that might restrain his/her full and effective participation into the society, on equal basis;
- inclusion of factors that might favour/disfavour the employment of persons with disabilities.

3. DISABILITY AS VIEWED BY THE MAIN INTERNATIONAL BODIES

Disability has various meanings for various persons, being a continuously evolving word, to which it is difficult to attach a generally valid "label".

According to Disabled Peoples' International (DPI), disability is defined as being "as the outcome of the interaction between a person with an impairment and the environmental and attitudinal barriers he/she may face".⁶

The World Health Organization proposes the following definition of disability: "Disability: Any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being".⁷

⁵ Mark Bagshaw, "Ignoring Disability a Wasted Opportunity", mai 2006, <http://www.neon.org.nz/newsarchive/bagshawplusfour/>

⁶ Disabled People International. (2005) "DPI Position Paper on the Definition of Disability", http://sid.usal.es/idoocs/F8/FDO7029/position_paper.pdf

The United Nations Organization (UNO), based on the Convention on the Rights of Persons of Disabilities of the United Nations, uses the following definition: " The term persons with disabilities is used to apply to all persons with disabilities including those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various attitudinal and environmental barriers, hinders their full and effective participation in society on an equal basis with others."⁸

4. PERSONS WITH DISABILITIES AND THE LABOUR MARKET

4.1 PERCEPTIONS ON THE POSITION OF THE PERSONS WITH DISABILITIES ON THE EUROPEAN LABOUR MARKET

According to the Special Eurobarometer no. 393 – “Discrimination the EU in 2012”, 40% of the European citizens deem that disability is the essential factor that puts job applicants at disadvantage, this being on the third place in the top of the disfavoured factors, after the job applicant’s advanced age (more than 55 years old) and how he/she dresses and presents himself/herself.

In relation to Romanians’ opinion, 33% of them believe that disability will put job applicants at disadvantage, when the employing company will have to choose between two job applicants with the same skills and qualifications.

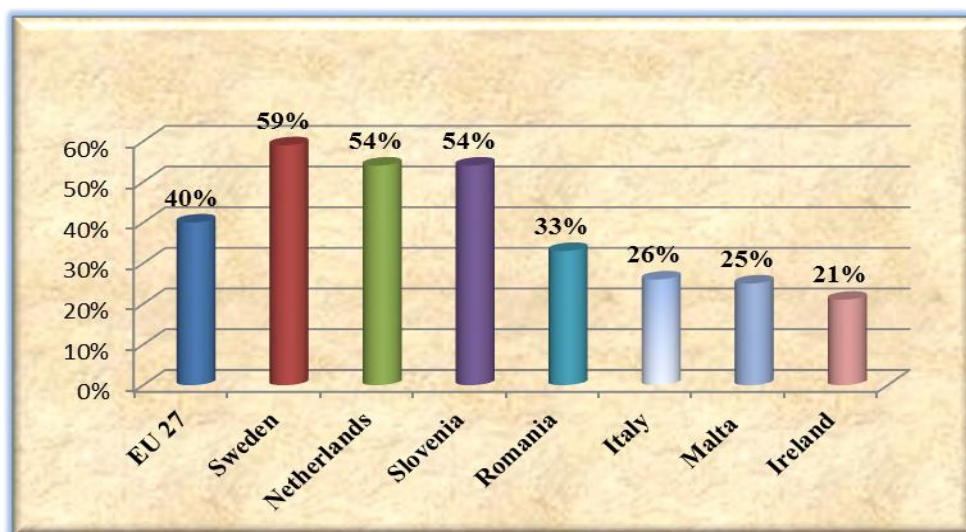


Figure no. 1 Share of European citizens who believe that disability is a disfavoured factor at employment

“Special Eurobarometer 393. Discrimination in the EU in 2012”,

http://ec.europa.eu/public_opinion/archives/ebs/ebs_393_en.pdf, accessed on 20.08.2014

The economic crisis is also viewed by European citizens as increasing discrimination on the labour market, in general, as well as, and especially discrimination based on disability criteria, (53%), 47% of the Romanian citizens supporting this idea.

⁷ World Health Organization, „International Classification of Impairments, Disabilities, and Handicaps”, Geneva: World Health Organization, 1980, p.28.

⁸ <http://www.un.org/esa/socdev/enable/faqs.htm>

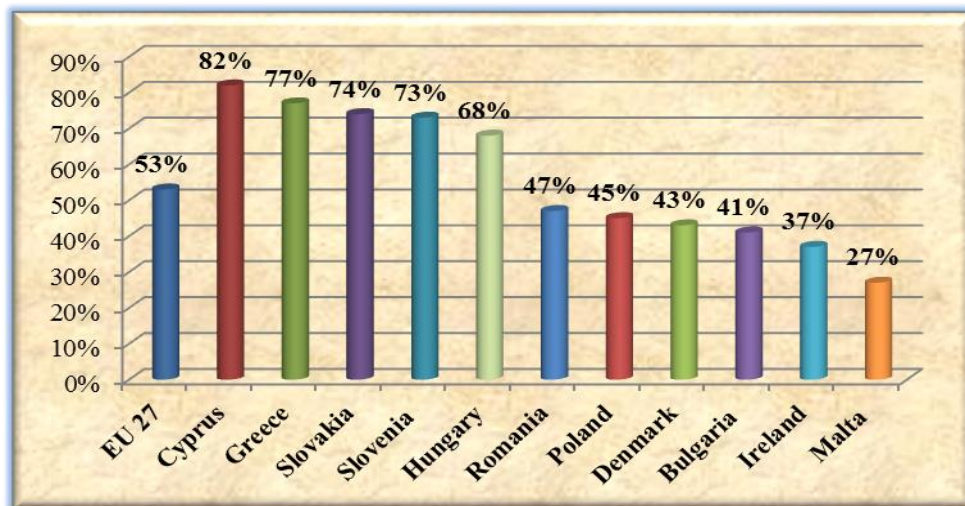


Figure no. 2 Share of European citizens who believe that the economic crisis contributes to the increase in discrimination on disability criteria on the labour market

„Special Eurobarometer 393. Discrimination in the EU in 2012”,
http://ec.europa.eu/public_opinion/archives/ebs/ebs_393_en.pdf, accessed on 20.08.2014

When it comes to promoting diversity at the workplace, there are three measures that are the most supported by the European citizens, i.e.⁹:

- Training in matters of diversity among employees and employers (a measure supported by 79% of the European citizens);
- Monitoring recruitment procedures, in order to guarantee to the job applicants in the groups with risk of discrimination chances equal to those of the other job applicants with similar skills and qualifications (76%);
- Monitoring the composition of the labour force, in order to assess the representativeness of the groups at risk of discrimination (69%).

In Romania, the rank of the European tendencies is maintained, the percentages being slightly different.

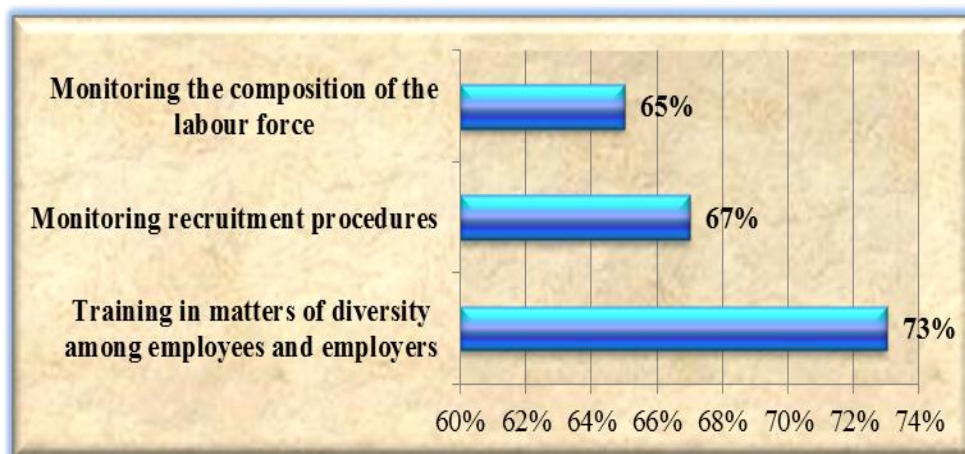


Figure no. 3 The extent to which the Romanian citizens agree to the measures taken for promoting diversity at the workplace

„Special Eurobarometer 393. Discrimination in the EU in 2012”,
http://ec.europa.eu/public_opinion/archives/ebs/ebs_393_en.pdf, accessed on 20.08.2014

⁹ „Special Eurobarometer 393. Discrimination in the EU in 2012”, http://ec.europa.eu/public_opinion/archives/ebs/ebs_393_en.pdf

Besides the measures agreed by the European citizens, other studies also propose a number of other strategies meant to guarantee the improvement of the employment of persons with disabilities. On top of the list of these strategies there is a better training of the staff, followed by a source of expertise, at the level of the organization, on problems of reasonable adjustments, which are followed by written guides for solving issues related to disability and adjustment as well as a system for solving requests for special fit-outs.

External specialized help concerning disability and reasonable adjustment issues, as well as a diversity specialist within the organization, who should be in charge with disability issues can be equally useful. A centralized fund that should pay for workplace fitting-out is a useful measure, along with the existence of a written non-discrimination policy that should include the disability status.¹⁰



Figure no. 4 Organizational strategies for improving the employment of people with disabilities

Source: H. Stephen Kaye, Lita H. Jans, Erica C. Jones, „Why Don't Employers Hire and Retain Workers with Disabilities?“, *Journal of Occupational Rehabilitation*, 2011, 21, p. 532

In addition to these strategies related to the organization, we can also identify a number of proposals of strategies depending on public bodies, such as subsidies or full payments by governmental agencies of the accommodations, free external help to solve problems related to disability and special fit-outs, tax exemptions for the employment and retention of employees with disabilities.

¹⁰ H. Stephen Kaye, Lita H. Jans, Erica C. Jones, „Why Don't Employers Hire and Retain Workers with Disabilities?“, *Journal of Occupational Rehabilitation*, 2011, 21, p. 531.

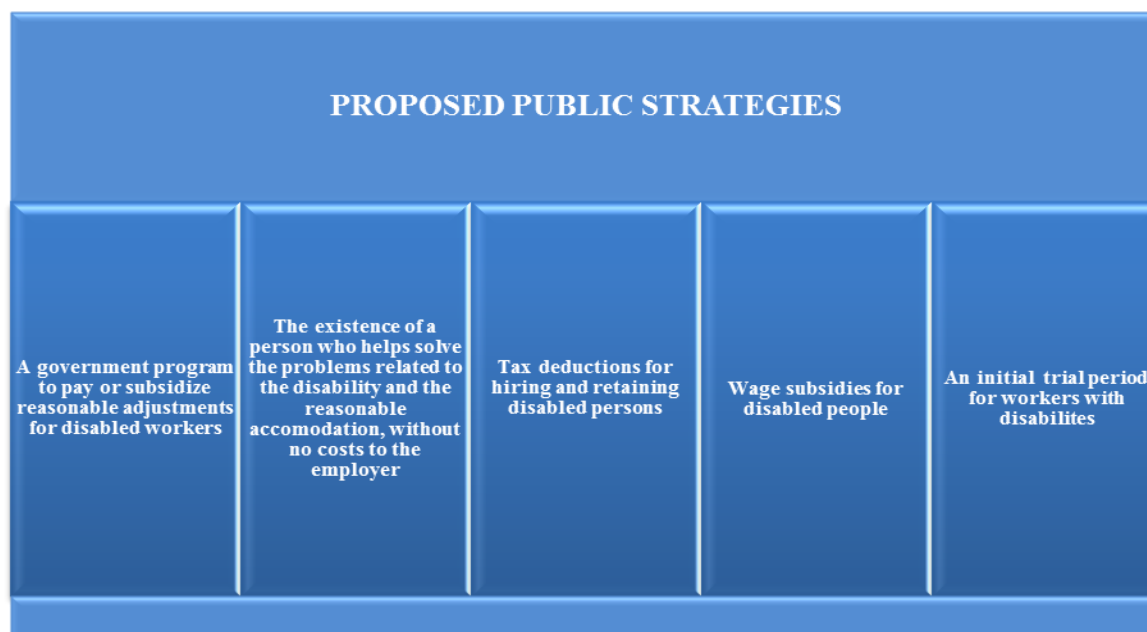


Figure no. 5 Public strategies for the improvement of the employment of people with disabilities

Source: H. Stephen Kaye, Lita H. Jans, Erica C. Jones, „Why Don't Employers Hire and Retain Workers with Disabilities?“, *Journal of Occupational Rehabilitation*, 2011, 21, p. 532

A percentage of 45% of the European employees deem that in order to promote diversity, in relation to people with disabilities, quite a lot of things have been achieved in the companies where they work, while at the opposite side, 43% believe there have not been provided sufficient improvements. Romanian and Polish employees are the least convinced that sufficient improvements have been provided in relation to the promotion of diversity in terms of disability at the workplace.

Table no. 1 Share of European employees who believe that sufficient improvements have been provided concerning the diversity at the workplace in terms of disability

Country	Percentage of positive answers
EU27	45%
Great Britain	65%
Denmark	56%
Finland	54%
Romania	25%
Poland	25%

Source: “Special Eurobarometer 393. Discrimination in the EU in 2012”, http://ec.europa.eu/public_opinion/archives/ebs/ebs_393_en.pdf, accessed on 20.08.2014

4.2 PARTICIPATION OF PERSONS WITH DISABILITIES ON THE LABOUR MARKET – RECORDED FIGURES

In our country, the number of persons with disabilities has continuously evolved, the total number of persons with disabilities reaching, on 31 March, 2014, 715,201 persons, out of them, 97.6 % being non-institutionalized, 2.4 % being in residential public social assistance institutions for adults with disabilities. From the total number of persons with disabilities, 60,798 are

children, and 654,403 are adults. The percentage of persons with disabilities in the total population was 3.55%.¹¹



Figure no. 6 The evolution of the number of persons with disabilities in Romania, in the 2007-2014 period

Source: <http://www.mmuncii.ro/j33/index.php/ro/protectie-sociala/ppd>, accessed on 20.08.2014

From international studies we can notice that, in the European Union, persons with disabilities have a lower employment rate than persons without disabilities, and that there are large variations from one country to another. Thus, in 2011, in Bulgaria approx. 30.7% of the persons with difficulties in performing certain tasks in the everyday life were employed, while in Hungary the percentage was 23.7%. The employment rate of these persons reached, in 2011, in Switzerland, 69%, in Sweden 66.2%, in France 56.2%, in Germany 51.5% and in Great Britain 47.6%.¹² In Romania, in 2011, the employment rate of persons with difficulties in performing certain tasks in the everyday life was assessed at 31.8%, and those with limitations at work due to a long-term health condition or with difficulties in performing tasks in everyday life was 23.9%, which figures are below the employment rate of this category of persons in the European countries or the employment rate of the general population.

Table no.2 Employment rate on types of incapacity of people aged 15-64, in 2011

Country	Difficulties in performing certain everyday tasks	No difficulty in performing everyday tasks	Limitations at work due to a long-term health condition or a difficulty in performing everyday tasks	No limitation at work due to a long-term health condition or a difficulty in performing everyday tasks
Bulgaria	30,7	61,8	17,8	62,1
Germany	51,5	72,1	35,8	72,4
Spain	44,3	60,5	33,8	62,0
France	56,2	66,1	59,6	68,0

¹¹ The Ministry of Labour, Family, Social Protection and Elderly, Directorate for the Protection of Persons with Disabilities, "Date Statistice - 31 Martie 2014" (Statistical data - 31 march 2014), <http://www.mmuncii.ro/j33/index.php/ro/protectie-sociala/ppd>

¹² Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_dlm010&lang=fr

Italy	45,6	58,9	37,0	59,4
Hungary	23,7	61,1	18,1	60,9
Romania	31,8	63,5	23,9	64,8
Sweden	66,2	75,7	61,5	76,6
Great Britain	47,6	75,4	36,0	76,0
Switzerland	69,0	81,6	65,0	82,5

Source: Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_dlm010&lang=fr, accessed on 20.08.2014

In most countries, the unemployment rate for persons with disabilities is higher than the employment rate for the remaining population. Moreover, the persons with disabilities who do not work have a higher likelihood of being inactive than in search of a job.

Table no.3 Unemployment rate on types of incapacity of people aged 15-64, in 2011

Country	Difficulties in performing certain everyday tasks	No difficulty in performing everyday tasks	Limitations at work due to a lung-term health condition or a difficulty in performing everyday tasks	No limitation at work due to a lung-term health condition or a difficulty in performing everyday tasks
Bulgaria	14,3	11,2	21,7	11,1
Germany	12,2	6,4	21,7	6,1
Spain	23,3	21,9	28,2	21,6
France	12,3	8,7	20,1	7,9
Italy	8,1	8,0	11,4	7,8
Hungary	19,4	10,3	25,0	10,2
Romania	8,1	7,5	9,1	7,4
Sweden	9,6	7,3	11,4	7,0
Great Britain	10,6	7,9	15,0	7,6
Switzerland	6,1	3,8	6,0	3,7

Source: Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_dlm010&lang=fr, accessed on 20.08.2014

According to the data provided by the Ministry of Labour, Family, Social Protection and Elderly, in March 2014, the number of persons with disabilities employed was a percentage of approx. 4.75% of the total adults with disabilities between 15 and 64 years old, non-institutionalized. Although this percentage continues to be modest, the number of persons with disabilities employed has increased over time, from 21,906 persons, in 2007 to 29,842, as on 30 December 2013 and 30,269 in March, 2014.

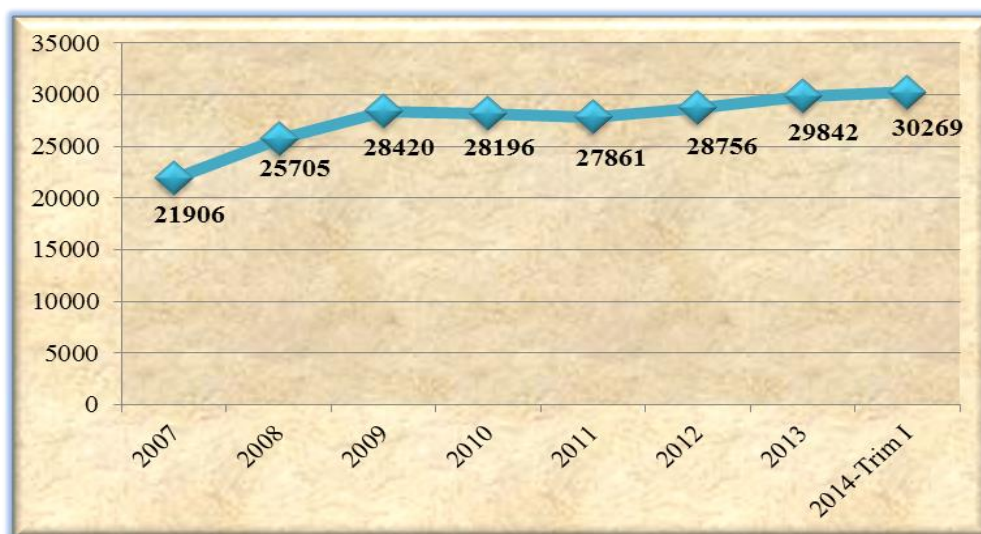


Figure no. 7 The evolution of the number of persons with disabilities employed in Romania, in the 2007-2014 period

Source: <http://www.mmuncii.ro/j33/index.php/ro/protectie-sociala/ppd>, accessed on 20.08.2014

The persons who were the most disadvantaged at employment turned out to be, both in 2013 as well as in 2014, mentally handicapped persons (only 0.82%, and 0.80% respectively of them being employed in 2013 and in the first quarter of 2014) and psychically handicapped persons (1.66% of psychically handicapped adults were employed in 2013, while in 2014 their percentage decreased to 1.62%)

Table no. 4 The number of persons with handicap employed, as on 31 march, 2014, compared to 31 December 2013

Total	Physic	Somatic	Hearing	Visual	Mental	Psychical	Associated	HIV / AIDS	Rare diseases	Deafblindness	
31.03. 2014	30.269 4,75%	7.800 5,64%	12.071 8,95%	3.431 15,81%	2.929 2,75%	775 0,80%	1.228 1,62%	1.472 2,70%	316 5,05%	226 6,58%	21 21,21%
31.12. 2013	29.842 4,77%	7.623 5,61%	11.950 9,01%	3.388 15,73%	2.881 2,72%	762 0,82%	1.245 1,66%	1.421 2,73%	315 5,20%	236 6,29%	21 1%

Source: <http://www.mmuncii.ro/j33/index.php/ro/protectie-sociala/ppd>, accessed on 20.08.2014 and the calculations of the authors

In addition to the main reason represented by medical issues, there are also other aspects that do not allow persons with disabilities to be active on the labour market, i.e.: architectural barriers that generate movement difficulties, the negative perception of these opportunities on the labour market (many persons with disabilities were discouraged by previous experiences, they either do not have information about jobs, or the proposed salary is insufficient, etc.).

5. EMPLOYEES WITH DISABILITIES, AT THE CROSSROAD BETWEEN COMPANIES' FEARS AND THE AWARENESS OF BENEFITS

Statistics everywhere show that persons with disabilities are underrepresented on the labour market. Starting from these figures, there are two questions that usually arise:

1. What are the reasons that determine employers to be reluctant when it comes to employing persons with disabilities?

2. Why should the provision of social inclusion of this category of persons be important for the company?

A number of studies we accessed helped us envisage an answer to the first question. One of the reasons of concern, when it comes to employ persons with disabilities, which is most frequently invoked, refers to the costs of adapting workplaces. Despite the fact that it was proved that reasonable adjustments are not that costly, and, moreover, they “pay themselves”, because they lead to the increase in productivity and the possibility to keep an experienced employee, employers often view their obligation to provide reasonable adjustments at the workplace as a significant financial burden, being afraid that they would have to make the whole working space accessible, which would imply much higher costs.

Another reason refers to the lack of information on how they should handle people with disabilities and their needs, which can become an additional burden for managers and for the human resources staff, who need to learn about the legal responsibilities of the employer, to identify the reasonable adjustments required, to assess costs and their benefits and to handle any problems that might occur. If the employers have not had staff with disabilities before, to see if they can manage and they do not have knowledge of any success stories of other colleagues in the industry, they can be tempted to rely on stereotypes according to which persons with disabilities are poor performers at the workplace, often absent from work, and an uncomfortable atmosphere will be created around such employees.

The fear to keep an employee with low performance, who cannot be disciplined or dismissed due to the possibility of a trial is another reason to hesitate in employing persons with disabilities.

A number of other reasons consist of the difficulty of assessing the job applicant’s ability to fulfill the job specific tasks, invoking additional monitoring time, as well as the fear that the person with disabilities would not work to the same standards as his/her fellow workers without disabilities.¹³

Due to all these reasons, employers discriminate job applicants with disabilities.

After seeing employers’ concerns, when it comes to employing a person with disabilities, another question arises: “Why the provision of the social inclusion of this category of persons should be important for companies?”

A macroeconomic advantage is highlighted by Mark Bagshaw, who, talking about the costs caused by the social support of persons with disabilities, asks the following question: “What if these people could work and did work, and paid taxes and bought cars?”¹⁴

The answer most companies invoke is that they have to observe the laws in force, providing that, in the case of companies with minimum 50 employees, the percentage of employees with disabilities should be at least 4%¹⁵.

¹³ H. Stephen Kaye, Lita H. Jans, Erica C. Jones, „*Why Don’t Employers Hire and Retain Workers with Disabilities?*”, *Journal of Occupational Rehabilitation*, 2011, 21, pp. 530-531

¹⁴Mark Bagshaw, “*Ignoring Disability a Wasted Opportunity*”, May 2006, <http://www.neon.org.nz/newsarchive/bagshawplusfour/>

¹⁵ *Law no. 448/2006 on the protection and promotion of the rights of persons with disabilities*, art. 78, para. 2, <http://lege5.ro/Gratuit/geytinrsgi/legea-nr-448-2006-privind-protectia-si-promovarea-drepturilor-persoanelor-cu-handicap>

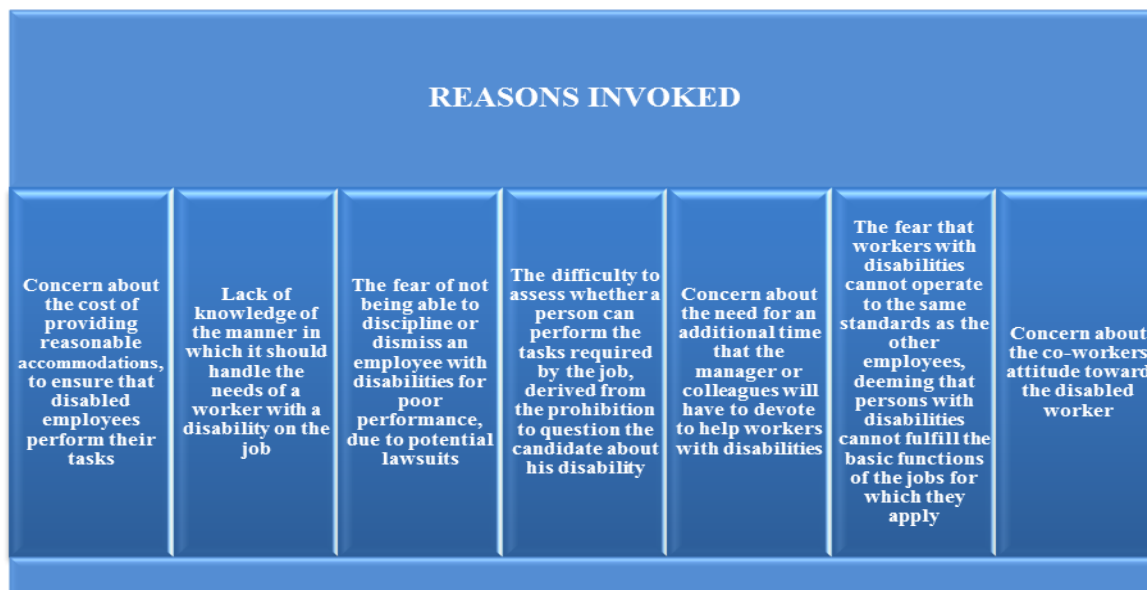


Figure no. 8 Reasons invoked by employers to the detriment of employing persons with disabilities

Source: H. Stephen Kaye, Lita H. Jans, Erica C. Jones, „Why Don't Employers Hire and Retain Workers with Disabilities?“, *Journal of Occupational Rehabilitation*, 2011, 21, p. 529

In addition to this reason, it is necessary to create a job that is more favourable to their inclusion, because the benefits of working in a diverse group of people – including persons with disabilities - can be substantiated in:¹⁶

- The possibility to answer to the future deficit of talents. Since we have been noticing a population ageing process, the talents market is decreasing, workers are ageing and there are few skilled persons to fill jobs that become available. Thus, in order to find the persons required to fill such positions, companies have to look for talents in each part of the community, and persons with disabilities are part of this market, and such persons have many capacities, at various level;

- The possibility of the company to build a strong reputation and to reflect its market. Since clients are increasingly heterogeneous, companies should reflect their markets, thus proving to their customers that they cherish and embrace diversity. As proved by numerous studies, heterogeneous teams promote creativity, innovation and a better decision-making process, and employees with disabilities come with various experiences and perspectives for solving work problems – they are often “serial innovators” as a result of the fact that they face an inaccessible world¹⁷.

Statistics show that persons with disabilities can also bring other attributes that can turn them into valuable employees:

- persons with disabilities fulfil their tasks as well as, or better than, co-workers without disabilities;

- persons with disabilities report an average or better presence;

- Staff retention is higher among persons with disabilities. The General Manager of Wollongong said that “Having got a job, they want to maintain it probably more than any other job seeker because it probably took them three times as much effort to get there.”¹⁸

¹⁶ Deloitte, “The road to inclusion. Integrating people with disabilities into the workplace” - White paper, July 2010, http://www.deloitte.com/assets/Dcom-Canada/Local%20Assets/Documents/About%20us/Diversity/ca_en_dialogue_on_diversity_v2_080710.pdf

¹⁷ <http://www.workbridge.co.nz/?page=1331>

¹⁸ <http://www.un.org/disabilities/documents/toolaction/employmentfs.pdf>

6. REASONABLE ADJUSTMENTS IN THE WORKPLACE

Reasonable adjustments in the workplace can be defined as all the changes made by the employer to facilitate the full exercise of the right to work of a person with a certain limitation; these adjustments can take various forms, such as the change in the work schedule, purchasing assistive equipment, devices and technologies, and other similar measures.¹⁹

These adjustments can be viewed as ways of changing the workplace so that²⁰:

- Employees with disabilities can use their abilities efficiently;
- Job applicants with a disability can compete, based on their capacities, and can rightfully win a job.

Adjustments are a form of equal chances, and can include:

- Reorganizing the workplace;
- Changing the working area or the workplace;
- Buying or changing equipment;
- Providing flexible work schedules.

Adjustments are applied in all Human Resources fields, including:

- In recruitment, selection and appointment;
- In career development;
- In training;
- In promotion, transfer or any other labour benefit.

7. PRACTICES OF CERTAIN COMPANIES RELATED TO THE MANAGEMENT OF PERSONS WITH DISABILITIES AT THE WORKPLACE

A number of successful multinational corporations that have inclusion policies recognize the positive effects of the inclusion of persons with disabilities in their labour force. A 2005 study carried out in the USA showed that 42% of the first 100 companies on the 2003 Fortune 500 list had disability included as a component of their labour force diversity policy.²¹

Worldwide, there are many companies who set as a main objective, and successfully promoted the right to work of persons with disabilities, providing within their departments the successful integration of this category of persons.

All studied companies commit to give equal employment chances for all employees and skilled job applicants, having a policy of equal employment chances that forbids illegal discrimination on any criteria, including disability, in any staff-related practice, including recruitment, employment, training and discipline.²²

In 1999, Carrefour signed the first “Mission Handicap” Agreement, a national initiative in France that encourages private companies to recruit persons with disabilities and promote their inclusion into their labour force under the best conditions. Since then, Carrefour adopted a proactive approach of employing persons with disabilities, between 2005 and 2007, Carrefour hypermarket recruiting more than 930 persons with special needs, and they currently have 9,709 employees with disabilities, worldwide²³ and 5,000 of such employees in France²⁴.

¹⁹ Law no. 448/2006 on the protection and promotion of the rights of persons with disabilities, art. 5, para. 4, <http://lege5.ro/Gratuit/geytinrsgi/legea-nr-448-2006-privind-protectia-si-promovarea-drepturilor-persoanelor-cu-handicap>

²⁰ <https://www.det.nsw.edu.au/swdn/workpl1.htm>

²¹ “Employing people with disabilities: It’s right and smart” http://www.businessanddisability.org/index.php?option=com_content&view=article&id=180:right-and-smart&catid=45:archive&Itemid=225&lang=en

²² <http://recrute.carrefour.fr/diversite>, <http://www.ibm.com/ibm/responsibility/policy11.shtml>

²³ <http://www.carrefour.com/content/human-resources-indicators>

Carrefour markets worldwide also worked to expand the creation of opportunities at the workplace for persons with disabilities. In Brazil, Carrefour developed the “Eu pratico a inclusao” programme, which led to doubling the number of persons with disabilities recruited in 2013, compared to 2012. In Poland, Carrefour encourages the contracts with the Ekon association, which led to the recruitment of 150 persons with mental disabilities.²⁵



Figure no. 9 Evolution of the percentage of employees with disabilities within Carrefour Group

Source: <http://www.carrefour.com/content/human-resources-indicators>, accessed on 20.08.2014

Carrefour aims not only at increasing the number of employees with disabilities, but also at keeping and promoting them in their work field, and for this purpose, the company has developed a number of measures to facilitate the everyday work of the employees with disabilities, helping them to become fully integrated professionally. For example, financial assistance is granted to purchase assistive devices or equipment, in order to promote accessibility. Moreover, each hypermarket has at least one disability specialist among its staff, who is in charge with recruiting and assisting new employees with disabilities to adjust to their workplace.²⁶

The commitment of IBM towards persons with disabilities started 76 years before the Americans with Disabilities Act, in 1914, when the company hired its first employee with disabilities, while in the 1940s they recruited war invalids, during World War II.²⁷ Since then, IBM introduced several various programs meant to create an inclusive labour force.

The IBM global employment standards state that "Business activities such as hiring, training, compensation, promotions, transfers, terminations and IBM-sponsored social and recreational activities are conducted without discrimination based on race, color, genetics, religion, gender, gender identity or expression, sexual orientation, national origin, disability, age or status as a special disabled veteran"²⁸. Moreover, in its labour force diversity policy, IBM underlines that the company will make reasonable adjustments in the workplace in order to provide a high performance on the job for skilled persons with disabilities. In this respect, IBM

²⁴ http://www.carrefour.com/sites/default/files/CP_Carrefour_Handi2day_en.pdf

²⁵ http://www.carrefour.com/sites/default/files/RA_VGB_OK_BD.pdf

²⁶ ILO, “Working Paper no. 3. Disability in the Workplace: Company Practices”, Geneva, 2010, p.8, http://www.ilo.org/public/english/dialogue/actemp/downloads/publications/working_paper_n3.pdf

²⁷ http://www-03.ibm.com/able/product_accessibility/ibmcommitment.html

²⁸ http://www-03.ibm.com/employment/us/diverse/equal_opportunity.shtml

provides a wide range of assistive and reasonable adjustment devices for employees with disabilities, among which²⁹:

- Building ramps, electric doors, parking facilities and other adjustments, in order to provide access for the persons with an impaired;
- Subtitled videotapes and the provisions of sign language interpreters, as well as persons to take notes at meetings for deaf employees;
- Recording the publications of the company on audio cassettes for employees with visual impairment;
- Providing adjustment services, in order to allow persons with disabilities to use the equipment in the workplace;
- Granting travelling assistance for mobility impaired employees.

In order to implement this policy, IBM established a central fund for reasonable adjustments in order to cover the costs of adjustment equipment that is not part of the standard workplace or to provide other adjustments, such as transport or interpretation services. Thus, IBM managers can employ staff based on merits and skills, without having the impediment of paying these adjustment costs from the budgets of their own departments.³⁰

Proactive recruitment of the job seekers with disabilities is made via the relationship IBM has with various training and employment organizations. In 1997, IBM started to cooperate with the American Association for the Advancement of Science (AAAS), launching the Entry Point program that provides internship opportunities to students and graduates with disabilities pursuing a career in science, technology, engineering or mathematics. Trainees are assigned experienced IBM mentors and are provided with the assistance technology to facilitate their work. Started in 1999, in the United States, the IBM ABLE project aims at increasing the representation of employees with disabilities. Thus, 84 high school students and 139 professionals with disabilities were employed via this programme, which has a network of 30 voluntary “line champions” who meet job applicants and support them to the recruiting managers, and help both managers and job applicants to prepare for interviews.³¹

In order to make sure that IBM successfully recruits and keeps employees with disabilities, the IBM recruitment specialists, the managers and the employees benefit from training in order to become aware of disabilities.

Microsoft commits to provide equal employment chances for all skilled employees and job applicants, having an equal employment chance policy, and a long history of recruiting, employing and keeping persons with disabilities, believing that the employment of various categories, including those with disabilities, will lead to the improvement in its products, as well as in the work environment. Among the methods used by the corporation to prepare for the recruitment of persons with disabilities there is the provision of training courses for new recruiters (New Recruiter Orientation Training). During this training modules are presented which show the general “etiquette” concerning disability (what should be done and what should not be done during the interview), the main purpose of this training being to make sure that the interviewing process highlights the person’s strengths and skills for the job for which he/she applies, not the disability.³² A job applicant who applies for Microsoft can identify himself/herself as a person with disabilities, in which case the Inclusion Program Manager for persons with disabilities is announced, in order to solve the potential issues related to certain adjustments required in the workplace.

²⁹ http://www-03.ibm.com/able/access_ibm/execbrief.html

³⁰ <http://www.disability-marketing.com/profiles/ibm.php4>

³¹ <http://www.workforce.com/articles/hiring-without-limits>

³² “Preparing Recruiters To Interview Job Candidates With Disabilities”, <http://askearn.org/success-Microsoft.cfm>

The funds for the assistive technology and for the reasonable adjustments required come from a centralized budget for reasonable adjustment expenses, and by using this approach, no individual team budget is negatively affected.³³ The adjustments for the employees with disabilities can include sign language interpretation, subtitling services, screen readers, refreshable Braille display, orientation and mobility training, for those moving into new buildings or campuses, hearing assistance devices, ergonomic office furniture, and many others.³⁴

The Cross Disability (XD) Employee Resource Group (ERG), established in 2009, in Microsoft, with persons belonging to 10 different networks of employees with special conditions, vision impairments, mobility handicap and dyslexia, concludes partnerships with associations, non-profit organizations and special interest groups, nationwide, with the declared purpose of increasing awareness concerning disability and enables Microsoft employees to reach maximal potential, by inclusion, representation and access to the required adjustments, thus making this company the favorite employer for persons with disabilities worldwide.³⁵

8. CONCLUSIONS, LIMITATIONS AND PERSPECTIVES OF THE RESEARCH

Worldwide, a number of successful multinational corporations have begun to recognize the beneficial effects that can be provided by the inclusion of persons with disabilities into their labour force, preparing certain effective inclusion policies.

The legislation is the factor that determines companies to become more inclusive, as in many countries there is a rate system, in relation to employing persons with disabilities.

Nevertheless, besides the compliance with the law, a much more important factor can be discerned, which advocates the inclusion of persons with disabilities, namely Corporate Social Responsibility, due to the fact that consumers tend to favour companies that employ persons with disabilities. The assessments made are more eloquent: in 2013, 1.3 billion people with disabilities worldwide, plus 2.2 billion, representing families and friends, control more than 8,000 billion dollars of the global annual income.³⁶

We can notice, from the presented examples, that over time, employers come to realize that the employment of persons with disabilities is not just charity, and that employees with disabilities can have major contributions to the profitability of the company too, turning it into a “good to do” or “smart to do” thing. “Companies do not have to hire a person with a disability. They have to hire someone with the appropriate skills to perform a given job. If that person happens to have a disability, so be it, but disability is not the point”.³⁷

A limitation of this study is the fact that, unfortunately, when we focused on the economic and professional situation of persons with disabilities, we noticed that the statistics and indicators related to them are not very detailed, and that there are no updated data from reliable sources. Beyond this issue of the lack of data, the available figures are however eloquent and show the difference that, worldwide, the social and economic situation of persons with disabilities is delicate in all countries, this category of persons representing a rather large segment that is

³³Robitaille Suzanne “*Microsoft’s Tips for Accessible Recruiting*”, <http://www.thinkbeyondthelabel.com/Blog/post/Microsofte28099s-Tips-for-Accessible-Recruiting.aspx>

³⁴ „*Microsoft Recruits, Hires and Accommodates People with Disabilities*”, <http://www.microsoft.com/en-us/news/features/2000/jul00/07-19disabilityemployer.aspx>

³⁵ <http://www.microsoft.com/en-us/diversity/programs/ergen/xd.aspx>

³⁶ Donovan Rich, “*Sustainable Value Creation through Disability. The Global Economics of Disability-Annual Report*”, April 3, 2013 <http://returnondisability.com/wp-content/uploads/2012/09/The%20Global%20Economics%20of%20Disability%20-%202013%20Annual%20Report.pdf>

³⁷“*Employing people with disabilities: It’s right and smart*”http://www.businessanddisability.org/index.php?option=com_content&view=article&id=180:right-and-smart&catid=45:archive&Itemid=225&lang=en

mostly overlooked on the labour market, the fear of the unknown, the fact that the reasonable adjustment expenses will be higher than the benefits, and the negative attitudes of the co-workers continue to be an everyday issue, even when employers start looking for abilities rather than disabilities.³⁸

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CONSIDERATIONS CONCERNING PUBLIC PENSION SYSTEM

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Abstract: The article addresses a topical theme at national and European level, approaching the social security scope in the context of the economic development of the globalization of the phenomena and processes on the labour market, as well as the demographic perspectives correlated to the other influencing factors. Today, in the budgets of all European countries, the pension spending is a burdening chapter, increasingly difficult to support.

Keywords: social security budget, pension systems, public reforms.

JEL Classification Codes: H55, J11, J68.

INTRODUCTION

One of the main components of social welfare model was and still is the public pension system. The maximum efficiency of the pension systems (sustainable from the fiscal point of view) was recorded in the 1970s when most European countries had succeeded in solving to a reasonable extent the issue of reducing poverty among the elderly population, without making, however, excessive expenses for the pensions. Nevertheless, today, from the macroeconomic perspective, in the budgets of all European countries, the pension spending is a burdening chapter, increasingly difficult to support, and this situation is due to the reduction of the labour, for demographic and cultural reasons, the increase of the number of retirees, on the backdrop of the population ageing, expressed by a dependency rate (the ratio between the people aged 65 and more and the persons 15-64 years old); the increase of the pension amount; the increase in the average payment term of a pension; the low contribution of the private pension system to the reduction of the pension expenses, because in most countries the system is voluntary, and in the countries where it is mandatory it has only been implemented recently; the maturity of the pension systems.

1. THE PUBLIC PENSION BUDGET DEFICIT

The reforms made at welfare level and especially at the pension system level were present in most countries (the gradual increase of the retirement age in the long term, and the limited access to early retirement, on the background of granting incentives for the extension of the working life), and were strongly influenced by demographic and political factors; however, there was a certain level of inconsistency between the adopted measures, the efficiency and persistence of their implementation, and the evolutions recorded on the labour market, and due to these inconsistencies, reforms were, in fact, insufficient (Anita M. Schwarz, Omar S. Arias, 2014).

The pension systems are built based on a simple principle: those who can earn incomes by working (taxpayers) pay for the establishment of the pensions of those who are no longer able to work (the beneficiaries), but also have a contribution history entitling them to receive a pension. Over time, the taxpayer category has widened: while initially it included only employees

working in specific sectors, nowadays this category has expanded by all employees, irrespective of their field of activity and by the increasing participation of women to the labour market. In the case of the beneficiaries, incomes were supplemented/completed for the persons in the system who, without completely ceasing work, could no longer generate a sufficient income due to the reduction of their capacity to work, however the pension has completely replaced the incomes from work, not from the moment when the capacity to work was lost, but from an age deemed reasonable for leaving the working life. The only factor that was used to regulate the level of the taxpayers and that of the beneficiaries was the demographic factor, but its action gradually decreased as the retirement age was reduced, and people's longevity increased. Thus the number of taxpayers started to decrease, while that of the beneficiaries began to grow, but the prosperity brought to the system by the increased productivity in the labour market prevented the long-term effects of this phenomenon to be perceived in all their severity.

The situation became visibly worrying when the number of employees began to decrease in a sharp pace, due to the decrease in the number of young generations, the migration and the expansion of the study years to the detriment of the participation of the young people to the labour market.

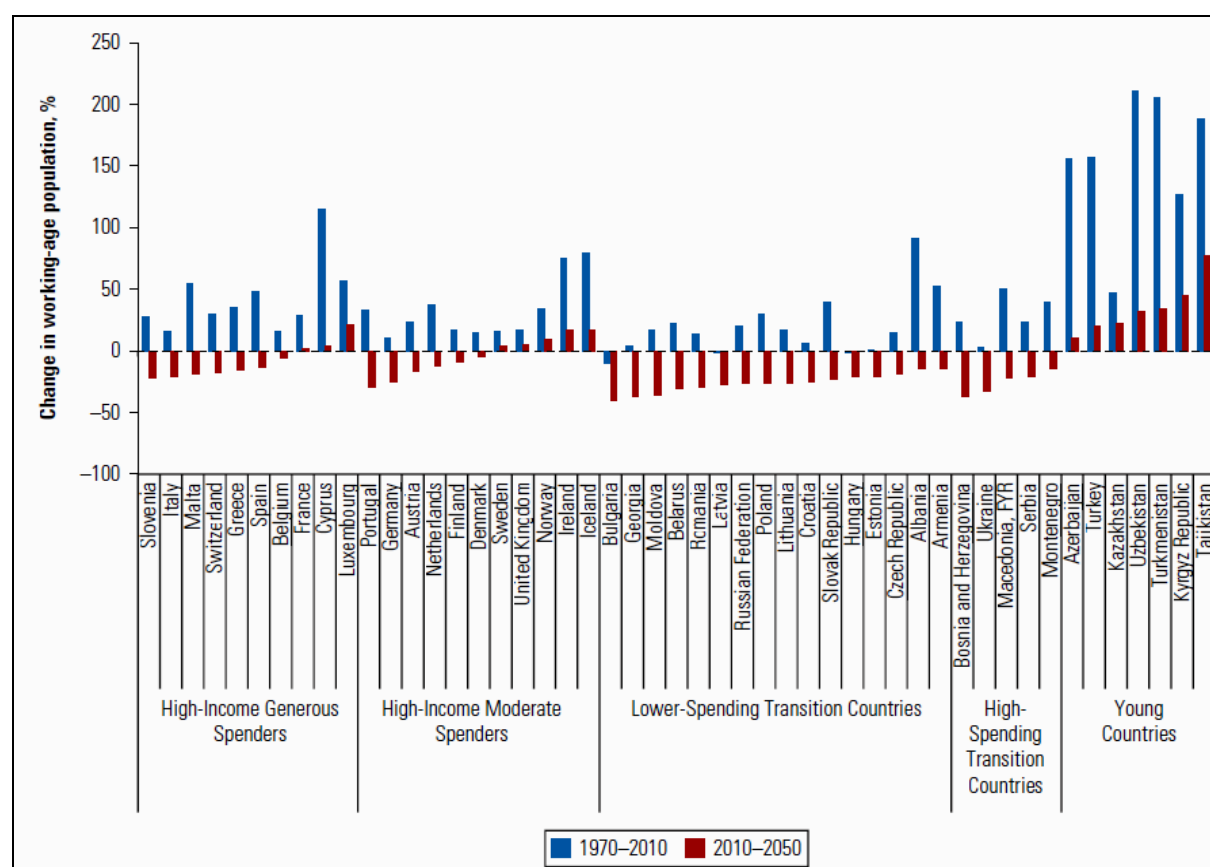


Figure 1. Change in Working-Age Population in Selected European and Central Asian Economies, 1970–2010 and 2010–2050

Source: United Nations population projections (UN 2011), in Anita M. Schwarz, Omar S. Arias, et.al, “The Inverting Pyramid: Pension Systems Facing Demographic Challenges in Europe and Central Asia”, World Bank, 2014, p. 34.

While the current picture looks worrying enough, the retirement of the numerous generations born in the 1950s-1960s will push things even further (according to the Figure 1). According to the World Bank, around 2050 the CEE countries will have to cope on average with a public pension budget deficit of approximately 7% of the GDP (according to the Figure 2), if the pension system parameters remain unchanged.

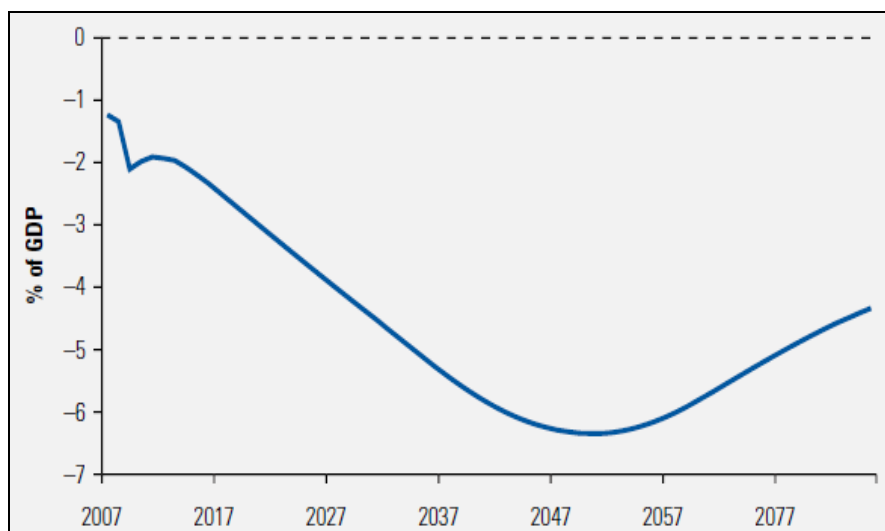


Figure 2. Projected Pension Deficits in an Average Central European Economy, 2007–2077

Source: Projections generated using World Bank’s Pension Reform Options Software Toolkit (PROST), in Anita M. Schwarz, Omar S. Arias, et.al, “The Inverting Pyramid: Pension Systems Facing Demographic Challenges in Europe and Central Asia”, World Bank, 2014, p. 34.

In this context, the following short-term measures are proposed (Şeitan M, Arteni M, Nedu A, 2012):

- 1) Conducting a public campaign to inform the members of retirement pension funds concerning: the volatility of the incomes from investments; the detailed current and future effects on the pensions of the members from various age groups; measures to protect the poorest and the most vulnerable (such as for example the minimum pension);
- 2) Setting a broader framework for the payment of the pensions both by phased or deferred annuities and by the possibility of a phased withdrawal when the retirement age is reached. Allowing phased withdrawals enables members not to liquidate the invested assets until their value is recovered;
- 3) The implementation of a time-limited programme, in order to support the small group of persons who will retire during the crisis, which group will be the most affected. The programme can be applied in the case of the retirements in the second Pillar, providing minimum income guarantees, similar to those that were proposed in the banking system to cope with the crisis. Support should only be allocated to the persons who are very close to the retirement age and in relation to their income level;
- 4) Supporting the public pension systems (First pillar) so that they remain financially viable and protecting the incomes of the employees with low incomes. In this context, governments might have to finance the public pension systems from the government budget in order to offset the reduction of the contributions collected from the members or could choose to

maximize the protection of the employees with low incomes, providing minimum fixed-rate pensions and the indexation of all incomes;

- 5) Rethinking the pension fund assets assessment rules in the context of the current extreme volatility on the financial market. Regulators and supervisors can consider relaxing the current strict rules for the assessment of all types of assets in order to level the presented evaluation when there are large movements of the prices in the short term. Some levelling during the high-volatility periods reflects real values much better and avoids potential side effects to the major short-term changes.

2. THE PENSION SYSTEM IN ROMANIA

The public pension system (the first pillar) is managed by the National House of Public Pensions which is coordinated by the Ministry of Labour, Family, and Social Protection. The contribution paid for the public pension is 31.3% of the gross salary income and is paid by the employer (20.8%) and by the employee (10.5%).

Under the laws in force, the standard retirement age will gradually grow, and will thus reach 60 for women and 65 for men in 2015, and 63 for women while it will remain 65 for men in 2030. Public pensions are calculated based on the individual points accumulated that are determined by the ratio between the taxpayer's salary and the average salary.

Implemented in 2007, *the mandatory privately-managed pension funds (the second pillar)* are mandatory for people who are under 35 years old and optional form persons 36 to 45 years old. The contribution to these funds was set to 2% of the gross salary income for the first year, and will grow to 6% by the end of 2016 (with an annual 0.5% increase). In 2009 the government decided to freeze the contributions to 2%, however, starting with 2010, the schedule for the increase of the contributions to the second pillar by 0.5% each year was reintroduced.

Mandatory pension funds are managed by nine private pension management companies. These companies charge, in compliance with the law, management fees as follows:

- up to 2.5% of the paid contributions;
- up to 0.05% of the total net asset of the pension fund.

Implemented in 2006, *optional pensions (the third pensions)* allow the voluntary contribution that is limited to maximum 15% of the gross salary income. The amount representing these contributions is deductible within the limit of a sum which is the equivalent of 400 euros both for the employee and for the employer.

The standard retirement age in the case of optional pensions is 60 years both for men and for women, provided that minimum 90 monthly contributions are paid.

Private managers (pension companies, insurance companies, asset management companies) authorized and supervised by the Private Pension System Surveillance Commission may manage one or several optional pension funds. For the management of the 13 current optional pension funds, management companies charge management fees including:

- up to 5% of the paid contributions;
- up to 0.2% of the total net asset of the optional pension fund.

The optional pension funds are established by a contract of association and must reach at least 100 members after three years of activity. Managers may only invest the assets of the optional pension funds in the financial instruments provided by the law, under the terms thereof and for the privately-managed mandatory pension funds.

In 2011, for the preparation of the country sheet on the sustainability of the pension system in Romania, based on the demographic projection at the horizon of 2060 made by the European Commission, simulations were made using the PROST (Pension Reform Options Simulation

Toolkit) model - it is prepared by the World Bank with the purpose of preparing well-substantiated policies able to decrease the gap between the quality and quantity analysis of the pension systems determining: the evolution of the evolution of the implicit debts represented by the payment of the pensions; the long-term sustainability of the pension system; the simulation of the impact of the various reform measures, such as the parametric reform (indexing method, contribution rate, retirement age) and the systemic reform (implementing the private pension pillar) - and the results were adjusted based on the experience of the Romanian experts who prepared the sheet, so as to meet the reporting requirements of the European Commission.

The result of the simulations and adjustments made was that the public pension expenditures will increase by 3.7% (13.5-9.8=3.7 percentage points, according to the Table 1, row 2, column 7 - column 2) of the GDP, between 2010 and 2060, with the highest increase between 2030 and 2040 (11.6-10.2=1.4 percentage points, according to the Table 1, row 2, column 5 - column 4), when the increase of the legal retirement age will be completed.

Table 1. Public pension expenditure projections

Indicator	(% of GDP)					
	2010	2020	2030	2040	2050	2060
Gross public pension expenditures	9.8	9.2	10.2	11.6	12.8	13.5
Net public pension expenditures	9.3	8.7	9.7	11.0	12.1	12.8
Public pension contributions	7.1	8.0	9.7	11.1	12.5	13.7

Source: Romania, "Country sheet on the pension projections", prepared for the Economic Policy Committee of the European Commission.

3. CONCLUSIONS

In view of the wide-spread concern with regard to population aging leading to the government expenditures of many countries to be unsustainable in the near future, some articles attempt to assess the severity with which changes in population age structure affect the budget deficit of national central governments.

By using fixed-effects panel regressions over 87 countries, some authors (Derek H. C. Chen, 2004) find that there is some evidence that increases in the elderly and youth population shares tend to increase the budget deficit, but only in developing countries. In addition, there is some indication that these age-structure effects on the budget deficit occur as a consequence of negative bequest motives.

The countries have many possibilities to improve the pension system. They can:

- cut other expenditure to make more fiscal room for pension spending
- revisit their pension spending priorities to see whether there is anything that can be reduced or eliminated
- increase the labor force, either by raising retirement ages or by encouraging immigration (the raising retirement ages affects both the expenditure and revenue sides of the pension balance, while immigration affects only the revenue side, and also increases long-term liabilities) etc.

Other countries have promoted low-cost, well-managed pension organizations that are better oriented to the needs of low income households, for example National Employment

Savings Trust (NEST) in the United Kingdom, which acts as the default in the new national automatic enrolment programme.

Private pension arrangements have been growing in importance in recent years as pension reforms have reduced public pension entitlements. In many countries (18 OECD countries), private pensions are mandatory or quasi-mandatory (that is, they achieve near-universal coverage of employees through collective bargaining agreements).

In a further eight OECD countries, voluntary private pensions (occupational and personal) cover more than 40% of the working age population. These may be the solutions to this crisis of population ageing.

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PROSPECTS OF MANAGEMENT ACCOUNTING AND COST CALCULATION

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***Abstract:** Progress in improving production technology requires appropriate measures to achieve an efficient management of costs. This raises the need for continuous improvement of management accounting and cost calculation. Accounting information in general, and management accounting information in particular, have gained importance in the current economic conditions, which are characterized by risk and uncertainty. The future development of management accounting and cost calculation is essential to meet the information needs of management.*

***Keywords:** management accounting, cost calculation, prospects*

JEL Classification Codes: M40, M41

1. INTRODUCTION

Accounting, seen both as a science and a practical activity, has evolved in close connection with mankind's economic and social existence, gaining increasingly complex forms in the course of time. Practical experience has generally influenced accounting theory, which actually distinguishes accounting and accountancy from other sciences.

The modern view of enterprise management maintains that results are aimed at not only globally, at senior management level, but also in each activity conducted at the lower hierarchical levels. In this connection, finding and defining methods and techniques of quantification, measurement and control of the results the management of each department is a key issue. To solve this problem an important role is held by management accounting and cost calculation, as methods used by managers for information, knowledge and control of the production process. Modern management accounting should provide information on the composition of costs, not only on their overall level. The calculation techniques developed in recent decades have greatly simplified accounting activities, reducing the workload. The evolution of management accounting in the last decades has been marked by the transition from a provider of financial information to a system of tools used by enterprise management in order to develop the strategy, liaise with the external environment, and make economic forecasts. In other words, management accounting has evolved from cost calculation to cost management. In recent decades, management accounting tools and their role have been the subject of numerous researches, which have started from the idea that the instruments considered traditional are insufficient, and new ones have to be proposed.

Adopting a type of cost calculation likely to meet the needs of management requires knowledge of the theoretical and applied problems of cost calculation, both in depth and in all their complexity. The role and importance of cost calculation for decision making at the enterprise level acquires new, ampler dimensions under these circumstances.

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In the above-mentioned context, the question naturally arises, “What are the prospects for management accounting and cost calculation?”.

2. EVOLUTION OF MANAGEMENT ACCOUNTING AND COST CALCULATION

The evolution of management accounting and cost calculation has undergone a series of transformations that followed the developments of the economic environment in general, and of the industry in particular. In recent decades much has been written about the beginnings and evolution of management accounting.

Main contributions to the domain have been those of A. Loft (1995)², R. Roslender (1995)³ and H.T. Johnson, R.S. Kaplan (1987)⁴ and others. Worldwide, the study of costs has a history in which several phases can be distinguished, as shown by S. Căpușneanu (2008)⁵. Business development in the sixteenth and seventeenth centuries led to the necessity of knowing costs as accurately as possible. Cost calculation or costing was gradually developed and systematized, and its fusion with accountancy led to the emergence of management accounting.

In the nineteenth century, management accounting was quite developed and provided the information necessary for the management of large-scale production of textiles, steel and other products. In the early twentieth century, under the influence of increasing taxation, the requirements in the field of financial accounting increased, and numerous accountants channelled their efforts towards working out their financial reports on time and in accordance with the rules of the time. That was the main reason why the practice of management accounting saw stagnation. However, as the economy evolved, after World War One companies extended their activities, and the need was felt to develop a kind of management accounting apt to meet the information needs of efficient management.

3. CURRENT CHALLENGES THAT MANAGEMENT ACCOUNTING AND COST CALCULATION HAVE TO COPE WITH

Management accounting should be organized so as to be a useful tool for management, and therefore management objectives should be considered, to begin with. The information provided by management accounting must have a number of qualities: being obtained in due time, being valuable, being relevant to the responsibilities of managers, and also relevant to the formulation of the decision.

The word *relevant* is frequently used in connection with management accounting. In this connection, the titles of two reference works in the field may be mentioned: *Relevance Lost – The Rise and Fall of Management Accounting* (H.T. Johnson and R.S. Kaplan, 1987) and *Relevance Regained* (H.T. Johnson, 1992). The relevance of management accounting is fundamental to achieving its objectives and fulfilling its functions. Management accounting is a component of the management accounting system existing at the enterprise level, as can be seen in Fig. 1 This system includes, in addition to management accounting: financial accounting,

² Loft A., *The history of management accounting: relevance found.* în: D. Ashton, T. Hopper & R. W. Scapens (Eds), *Issues in Management Accounting*, Prentice Hall, London & New York 1995, pp. 17–38;

³ Roslender R., *Accounting for strategic positioning: responding to the crisis in management accounting.* *British Journal of Management*, 6 (1), 1995, pp. 45–57;

⁴ Johnson H. T., Kaplan, R. S., *Relevance lost: the rise and fall of management accounting*, Harvard Business School Press, Boston, 1987;

⁵ Căpușneanu S., *Elemente de management al costurilor / Elements of cost management*, Economica Publishing House, Bucharest, 2008, p. 17;

internal audit, management control and green accounting. The green accounting aims to incorporate informations about environmental performance into the process of decision-making. Organising a “green” accountancy is both a challenge and a necessity for accountants in businesses in the current context. Green accounting can be implemented at the level of both financial accounting and management accounting.

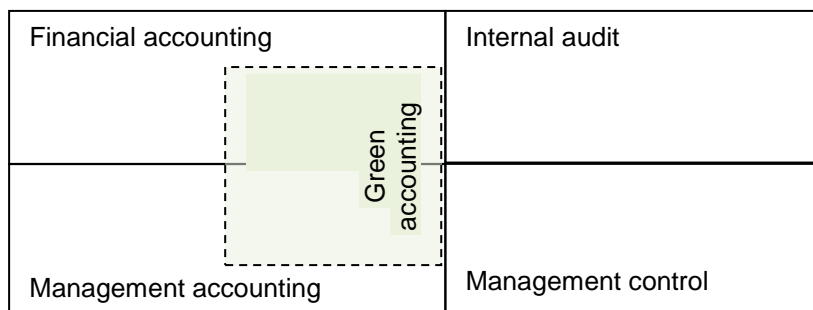


Figure 1. Components of management accounting system, in the author’s opinion

Source: Țaicu M., *Relevance of the performance-cost-value triad in the managerial accounting of firms in the bakery industry*, PhD thesis, University of Craiova, 2012

The borderline between management and accounting is difficult to distinguish in a strict sense. The relationship between the system of managerial accounting and management is a two-way relationship: the accounting information system conveys information necessary for making decisions, and the management conveys decisions to the system they head, a system that includes the company’s accounting system. This relationship is illustrated graphically in Figure 2.

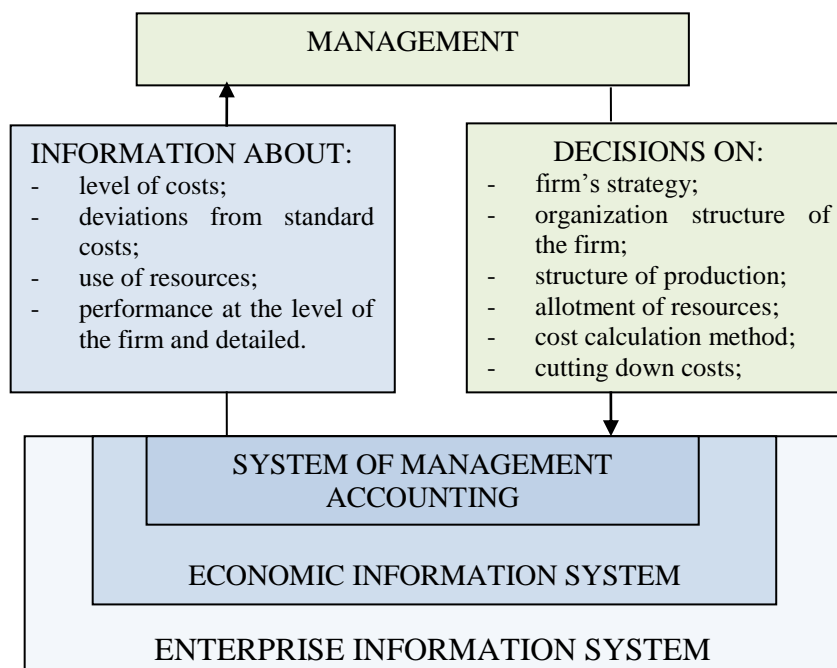


Figure 2. The relationship between the management and the enterprise information system

Source: developed by the author

L. Paliu Popa emphasizes⁶ the part played by accountancy in “ensuring the permanent connection between the decision-making (management) and the operational (execution) system”.

Since management accounting and costing are tools available for the use of managers, they should contribute to meeting management functions. Table 1 briefly presents how these tools contribute to fulfilling the functions of management.

Table 1. The relationship between management functions and management accounting

Nr.	Functions of management	Contribution of management accounting
1	Forecasting	Information on evolution of costs and their structure can be used for making predictions
2	Organizing	Information on performance by enterprise division, and then, in detail, down to product level, serve for deciding on organizing the firm and establishing the structure of production
3	Coordination	The information provided is used to optimize the use of resources (need resulting from the limited character of the resources)
4	Drive	Setting targets to be achieved (standard costs)
5	Assessment and control	Calculation and analysis of deviations from the standard serve to assess the extent of achieving proposed performance.

Source: developed by the author

While financial accounting is oriented towards the past, management accounting is future-oriented. All the components of management accounting are future-oriented, even if at times they look at the past. Thus, cost calculation, establishing performance by product, planning and forecasting work with data from the past, yet their purpose is to improve the future performance of the company. Management accounting provides the information necessary to analyze the deviations and make the corrective decisions. In other words, management accounting “assists” the control function of management, identifying the “problem-fraught” activities of the firm, as S. Căpuşeanu states (2008)⁷.

Modern enterprises have to face the changes that have occurred at both macroeconomic and microeconomic levels. Management accounting and cost calculation must adapt and respond to the challenges posed by these changes.

Environment changes occur constantly, having a significant impact on businesses and their management. These changes can be divided into five broad categories:

- globalization – to remain competitive the company makes a series of efforts that result in raising indirect costs. In this context, management of indirect costs / overheads requires an appropriate tool;
- increased risks due to uncertainty caused by factors such as changing consumer attitudes, shortening product life-cycle, etc.
- segmenting markets – consumers show increasingly diversified preferences, and businesses have to propose a range of products that should meet their expectations;
- rapid developments in technology and information technology, which compel companies to adapt constantly. Companies must bring forth new products to maintain them

⁶ Paliu Popa L., *Accounting, an essential component of the information system*, Annals of the “Constantin Brancusi” University of Targu Jiu, Economy Series, Issue 1/2013, pp. 66-73;

⁷ Căpuşeanu S., *Contabilitate managerială aprofundată / Advanced management accountancy*, ASE Publishing House, Bucharest, 2009, p. 13

abreast of consumer preferences;

➤ more and more serious social and environmental issues – the public opinion has become more sensitive to the questions of social and environmental performance of the modern enterprise. Current legislation compels businesses to respect standards in this area. Management accounting must respond to these new developments and give managers the necessary tool for a proper management of the overall performance of the company.

In recent decades we have witnessed a steady increase in the share of the indirect costs of the enterprise. In traditional methods, the indirect costs are allocated arbitrarily, based on distribution keys that are variable and little relevant, more often than not dependent on the amount of work performed (labour hours and machine hours, between which there is a causal relationship). Due to technical progress, direct labour today no longer has the same share in the total cost as it did before. In many areas of activity a shift was seen from work by product to the management of software that control the machines with which products are made. With computerization and automation there occurs an increase in expenditure for management and control activities.

The rapid changes in the external environment of the enterprise had the effect that there appeared new requirements in management accounting and management accountants. These requirements primarily refer to the nature of information provided to managers. In this context, it was essential to reposition management accountants in the hierarchy of the organization, given that the information provided by them is used by managers in formulating strategies. Focus shifted from historical, internal and financial information to future-oriented, non-financial, internal and external information.

4. WAYS OF IMPROVING MANAGEMENT ACCOUNTING AND COST CALCULATION

The literature of the field is rich in papers dealing with the need for, and solutions to improve management accounting and cost calculation. In its evolution, management accounting has followed the main developments in the field of organizational strategies, albeit with a delay of one or two decades. C. Iacob et al (2007)⁸ states that “cost is a construct, it only makes sense in a given scenario.” The authors point out that if a cost is a construct, then the concept of “real” becomes “a bit ambiguous and relative.”

In the current economic and technological conditions, production cost structure substantially differs from that in the era of “smokestack industries”, in A. Toffler’s terms. Traditional costing methods were developed mainly in the first half of the twentieth century and are characteristic of the type of conducting production then existing. A few decades ago direct costs accounted for 90% of total costs⁹. Arbitrary allocation of indirect expenses, under those conditions, led to relevant results. Traditionally, in the field of management accounting and cost calculation solutions were adopted to cover shortfalls rather than eliminating them, as pointed out Fiévez and Staykov (2007)¹⁰.

In Table 2 are summarized the main shortcomings of traditional management accounting, the solutions traditionally used to remedy them, and a number of solutions required in the present context.

⁸ Iacob C., Ionescu I., Goagără D., *Contabilitate de gestiune conform cu practica internațională / Management accounting in keeping with international practices*, Universitaria Publishing House, Craiova, 2007, p. 16

⁹ Dumitru, M., Calu, D.A., *Contabilitate de gestiune și calculația costurilor / Management accountancy and cost calculation*, Contaplus Publishing House, Ploiești, 2008, p. 170

¹⁰ Fiévez, J., Staykov, D., *La méthode UVA. Une aide à la décision pour les PME*, RF Comptable, no. 341, pp. 33-35, July-August 2007

Table 2. Shortcomings of traditional management accounting

Shortcomings of traditional management accounting	Traditional solutions	Solutions needed in the current context
<ul style="list-style-type: none"> ➤ allocation of indirect costs is done by choosing an arbitrary keys; ➤ social and environmental performance is not reflected; ➤ calculated costs are sometimes irrelevant for decision-making; ➤ some products performances are overshadowed by the negative results of other products; ➤ quite frequently sales profitability by product, customer or geographical area is not known; ➤ “perfect” calculation methods are very complex and difficult to apply in businesses. 	<ul style="list-style-type: none"> ➤ measures to reduce fixed costs; ➤ attempts to increase sales volume to better cover fixed costs; ➤ measures of reducing costs to maintain profitability, often impacting on product quality; ➤ establishing cost standards; ➤ launching new products with better performances to cover the losses in other products; ➤ giving up certain products, specific markets or customers; ➤ devising new methods of cost calculation to eliminate the shortcomings of the old methods. 	<ul style="list-style-type: none"> ➤ designing an appropriate information system; ➤ adjusting costing methods to the new technologies; ➤ adopting new methods of cost calculation that better respond to the need to conduct a management of overall performance; ➤ using modern information technology to get information as quickly as possible and transmit it to managers to enable them to rapidly make decisions; ➤ re-training the staff; ➤ achieving a global performance management (economic and financial, social and environmental); ➤ using modern instruments for performance monitoring.

Source: developed by the author

Budugan et al (2007)¹¹ believes that “organizing and managing management accounting (...) should essentially allow control of production factors with a view to obtaining high quality goods and services quality at reasonable costs.”

In the literature, the very organization of accounting in a two-tier system is questioned. Thus, according to Professor O. Călin (2010)¹², conducting accounting in a double circuit system is a limit to the accounting system as it leads to high workloads, causing many businesses to abandon the second circuit – management accounting and cost calculation. The activity of the business will be examined and evaluated only by financial accounting, thus depriving the management of invaluable information.

O. Călin (2010)¹³ proposes a model to be applied of integrated financial accounting and management concerning costs and cost calculation. This type of modelling considers a fusion between accounts in class 6 “expense accounts” and those in class 9 “management accounts” of the general plan of accounts, in compliance with grouping expenses in financial accounting in keeping with the three categories – operating expenses, financial expenses and extraordinary expenses, monthly reimbursement of expenses through the profit or loss account to establish the global result in financial accounting, while having the possibility to establish the analytical results in management accounting.

¹¹ Budugan D., Georgescu I., Berheci I., Bețianu L., *Contabilitate de gestiune / Management accountancy*, CECCAR Publishing House, Bucharest, 2007, p. 18

¹² Călin O., *Directions for improvement of the managerial accounting*, Lex ET Scientia International Journal - Economic Series, vol. XVII, nr. 2/2010, pp. 175-185

¹³ Călin O., *Op.cit*, pp. 175-185

I. Ionașcu (2003)¹⁴, referring to the organization of the company's accounting, said: "In response to the question whether to *break up* the firm's accounting into two autonomous informational modules, i.e. management accounting operating autonomously from financial accounting so as the latter to satisfy the current information needs, our answer is: no! Accounting in a firm must be organized in such a way as to provide useful information to various users, and so the criterion that validates the model of the organization of the firm accounting is the usefulness of information".

Organizing cost calculation within the enterprise has recognition of the object of calculation as a starting point. The object of calculation must be determined taking into account the organization and the particular aspects of the firm's activity. In enterprises with assets, subject to calculation may be a product (or a group of products), a service, a job, a commission, a place of expenses, etc. The second step in the process of organizing cost calculation is the choice of the method of calculation.

There are a variety of calculation methods, each with its advantages and disadvantages. Choosing the method of calculation should be done with regard to the particularities of the company and the information needs of the managers. To increase the efficiency of the economic information system it is necessary to organize the accounting calculation in accordance with forecasting and statistical calculation. This will ensure comparability between forecasting, statistical and accounting data. Organizing an appropriate management accounting in view of the needs of the company should not exclude the use of tools provided by other sciences. Author Gh. Săvoiu¹⁵ stresses the idea that "statistical methods, tools and even concepts are constantly applied, with a major impact, since no simplified and formalized presentation of an economic phenomenon can be made without their help."

As regards the method used in cost calculation or costing, the organization may choose one of the following two options:

- improving the costing method they have already been using;
- adopting a new method of cost calculation, likely to better meet the information needs of managers, and adapting it to the specific needs and issues of the company.

Either choice has both advantages and disadvantages. If one opts for improving the current calculation method, the costs are lower but one should consider the irremovable limitations of the method. Adopting a new method of calculation has the advantage of eliminating many of the disadvantages of the method used previously. However, one must keep in mind that the methods are designed to eliminate the shortcomings of previous methods lose sight of other issues, which will become their own limits. Also, one should consider the costs involved in adopting a new method of calculation (adapting it to the specific issues of the enterprise, staff training, possibly purchasing a different accounting software, etc.). The option of adopting a new method of calculation can bring long-term benefits despite the implementation costs that can sometimes be quite high.

The risks¹⁶ concerning the quality of the information about the costs of the enterprise can

¹⁴ Ionașcu I., *Dinamica doctrinelor contabilității contemporane. Studii privind paradigmele și practicile contabilității / Dynamics of the doctrines of today's accountancy. Studies on the paradigms and practices of accountancy*, Economica Publishing House, Bucharest, 2003, p. 134

¹⁵ Săvoiu Gh., *Statistică pentru afaceri / Statistics for business*, Universitara Publishing House, Bucharest, 2011, p. 214

¹⁶ Țaicu M., Răducu I. V., Lungu I., *Riscuri privind calitatea informației de tip cost în industria alimentară, Progrese în teoria deciziilor economice în condiții de risc și incertitudine, / Risks to the quality of cost information, in the food industry, Progress in the theory of economic decisions under risk and uncertainty*, vol. XXIII, Tehnopress Publishing House, Iași, 2013, pp. 40-46

be traced in keeping with the logic of obtaining it, all the way from designing the information system, where an essential role is played by the manager, and down to interpreting the findings. These sources of risk can be grouped into six main categories, as shown in Figure 3.

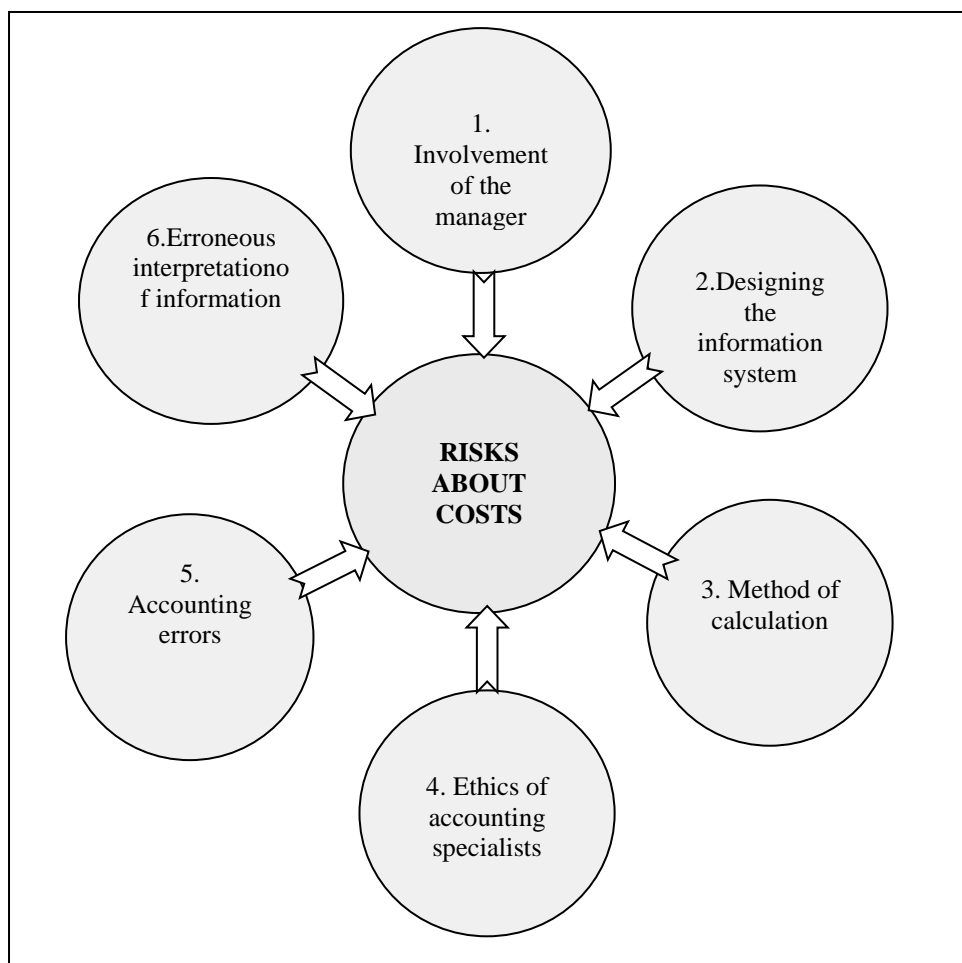


Figure 3. Sources of risks to the quality of cost information

Source: Țaicu M., Răducu I. V., Lungu I., *Riscuri privind calitatea informației de tip cost în industria alimentară*, Progrese în teoria deciziilor economice în condiții de risc și incertitudine, vol. XXIII, Tehnopress Publishing House, Iași, pp. 40-46, 2013

The process of designing the information system and the choice of the calculation method virtually mean organizing management accounting and cost calculation within the enterprise. Designing a costing system should start with a thorough study of the activity in the enterprise. It is the costing system of the company that has to adapt to the operating activities of the enterprise, not vice versa. Any significant change in the company's processes must be followed as soon as possible by the adaptation of the costing system.

Organizing management accounting and cost calculation for the enterprise is influenced by a number of factors, summarized in Table 3. It is these specific factors that must be considered whenever any attempt is done to organize the enterprise's accounting system.

Table 3. The factors that determine the organization of management accounting and cost calculation

Factors		Short description
Subjective	Management vision and involvement	The management methods and techniques adopted determine either choosing a classical calculation method (be it global, phased, or by commission) requiring two sets of calculations, predefined calculation and post-calculation, or choosing a forecasting calculation method (standard costs) to ensure an increase in the efficiency of information and operational control of costs.
	Cultural factors	Organizing management accounting and cost calculation is influenced by the culture of a nation, by social, political and religious factors.
	Staff training and involvement	These are essential, from the correct implementation and application of a method of cost calculation up to analyses based on the information obtained.
Objective	Type of production	Specific costing methods are suitable to each type of production. Thus, the method by product, the method by commission or M.H.R. are recommendable for enterprises with individual production. In keeping with the targets of the management of the enterprise, the method of standard cost can be used.
	Production technology	By production technology is understood the sum of the successive operations that raw materials go through, in the various processing stages, up to obtaining the final product, which influences the type of documents that must be filled in.
	Mechanization and automation of production	In units having a complex mechanized or automated process of production, determining the cost by cost carrier is requisite at this level, which will reduce the number of intermediate calculations needed to calculate the cost of the product.
	Continuity of the production process	In enterprises having continuous production, working all the year round, effective cost per unit is calculated at the end of each period of inventory by articles of calculation. For enterprises with seasonal activity, calculation of effective cost per unit is done only within the period of activity.
	Organization structure of the enterprise	It represents the framework management accounting is built on and has an influence through its two components: the structure of production and conception and the functional structure.
	The manner of conducting production	It determines the method of accounting and costing used by the enterprise. Specific methods of calculation are suitable for each type of production. Thus, for the metode de calculație. These methods can also be used for serial production. în cazul producției de serie. In keeping with the targets of the management of the enterprise, the method of standard cost can be used.
	Information system used	Quite naturally, the information system used must be adapted to the needs of the enterprise. The costs generated by purchasing and implementing such an information system represent a constraint for many small enterprises having limited resources.

Source: developed by the author

In organizing management accounting, businesses can choose the methods and procedures deemed appropriate to their information needs. Keeping a management accounting for the company involves the use of a chart of accounts, a set of documents, methods, rules, procedures and means appropriate to that accounting subsystem, which are required to observe and use/apply after they are developed or adopted. They are the result of a process of standardization and

internal normalization, where an important role is played by the management accounting.

The factors influencing the organization of management accounting and cost calculation in the company can be divided into two categories. On the one hand, we have the subjective factors, which differ both from one country to another, and from one company to another. The objective factors actually reflect the company's specificity rather accurately. Two businesses identical with respect to the objective factors yet different with respect to the subjective factors will adopt different management accounting systems.

In addition to the information needs of management, in organizing and conducting management accounting and cost calculation in the company, a significant role is exerted by political, cultural and religious influences. G. Hofstede (1984)¹⁷ made a classification of the countries of the world based on multiple criteria, including cultural ones. Each nation's culture is characterized by a set of values and own rules, which are developed by several generations, as the result of historical developments. Culture plays an important role in the reasoning of individuals, their ethics and attitudes, being passed from one generation to another through education, socialization and religion.

However, it is not only the organization of management accounting and cost calculation that is influenced by cultural factors. The manner of reporting enterprise performance is also influenced by the specific culture of each nation. To support the above claim, an apt example will be that of the origins of two kinds of monitoring and reporting the performance of the enterprise. Dashboard and Balanced Scorecard are two performance management systems with different cultural roots as shown by A. Bourguignon et al. (2001)¹⁸: the French and the American system, respectively.

Choosing the cost calculation method is crucial for the successful approach to organizing a cost calculation likely to meet information needs. In general, the evolution of the methods of calculation is characterized by their increasing complexity. There are however exceptions to this rule. In this regard we can mention the case of the ABC method, which is a milestone in the cost calculation, but proved difficult to implement and apply in individual businesses. The researches that have been undertaken to date have shown that the ABC method, given its complexity, is not the desired solution in the field of cost calculation. Aware of its limitations, Kaplan and Anderson have proposed a development of it: Time Driven ABC. In TDABC more operations are measured by means of one measure only: time. It is a principle of the methods based on constant reports, adopted precisely on account of its advantages. The methods based on the principle of constant reports emerged in response to the inaccurate cost determined by other methods of calculation, and the workload required to allocate indirect costs.

Using Business Intelligence systems can help management to gain efficient, operative information. L. Bănică et al (2014)¹⁹ states that "the purpose of Business Intelligence (BI) software is to help the firms acquire knowledge about highlights and dangerous trends, to observe the connections and to forecast the future market evolutions". But one should bear in

¹⁷ Hofstede G., *Culture's consequences: international differences in work-related values*, Sage, Beverly Hills, London, 1984

¹⁸ Bourguignon A., Malleret V., Norreklit H., *Balanced Scorecard versus French tableau de bord: beyond dispute, a cultural and ideological perspective*, available on: <http://www.hec.edu/var/fre/storage/original/application/b238ea034d08e3b258e080d334376553.pdf>, accessed September 2014

¹⁹ Bănică L., Ștefan L.C., Jurian M., *Business Intelligence for Educational Purpose*, Balkan Region Conference on Engineering and Business Education, Vol. 1, Issue 1, 2014

mind that the use of such modern computing systems facilitates management accounting work, yet staff training and involvement are essential to analyze and interpret the findings.

5. CONCLUSIONS

Costs play an increasingly important role in internal reporting. Since the market price is determined by the laws of supply and demand, businesses are performing only to the extent that they succeed in mastering costs. Internal reports contain information on the revenue, costs and results of a company. The information provided to managers must be synthetic, comprehensive and easy to understand, and it must be submitted just on time in order for decisions to produce the expected effects. Accurate knowledge of the level of costs is highly recommendable and has implications for decisions in the company. The importance of information on the cost is given by increasing competitive pressures as a result of globalization, and the increasing number of products and manufacturing processes, the effect of diversification strategies.

The forecasting function of management accounting is becoming increasingly important, but its core remains costing, as it provides opportunities for enterprise performance management through knowing and mastering costs. Practitioners have a choice between a partial cost, which often proves insufficient, and a complete cost, whose determination is complex, consumes significant resources and is characterized by arbitrariness given by using allocation keys. In the active process of improving and diversifying the methods of cost calculation in businesses, it is necessary to consider two fundamental issues. The first aspect is related to the reduction of workload for obtaining information on production costs, and thus reducing the cost of obtaining such information. The second aspect concerns the superior capitalization of the information obtained, thus increasing the efficiency of the information system. Turning to account information means making available for the management a support tool in decision-making, which results in increased accountability for all decision-makers.

In conclusion, management accounting and cost calculation should not be seen as an end in itself, but rather as a means to provide information support for decision making. Cost calculation is just a stage that allows mastery and control of costs. Mastering costs means limiting the tendencies to exceed their allowable level, thus eliminating waste of company resources.

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THE ADVANTAGES OF WTO COMMERCIAL SYSTEM

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***Abstract:** The WTO was created in 1995 with the propose to encourage and regulate trade between its member states. The primary objective of the WTO was and still is to create economic growth and encourage free trade among nations. This aspect was disputed between specialists: some say that the WTO creates economic opportunities and that its positive impact extends beyond just economic benefits by creating an international framework of political stability, offering a solid foundation for promoting international peace by encouraging good political relations among member nations and providing a solid dispute resolution process, while others say it is disfavors lower class citizens, limiting their opportunities for social and economic mobility, is only widening the global income gap between the wealthy and poor: as the rich get richer, the poor get poorer and it favors prosperous countries and multinational corporations, while preventing smaller and poorer countries from having a fair shot of engaging in open market trades and exchanges.*

In this paper we will stop only to emphasize the advantages of the WTO commercial system, following that in a future work to approach also the disadvantages of this commercial system.

***Keywords:** trade, trade policy, agreements, international organizations, negotiations*

JEL Classification Codes : F53, F59, O19

1. INTRODUCTION

World Trade Organization (WTO) is an international organization that oversees a large number of agreements defining the "rules of trade" between Member States.

WTO is the successor to the General Agreement on Tariffs and Trade (GATT) and operate in the reduction of barriers to international trade. World Trade Organization came into being on 1 January 1995, after almost 50 years of trade between nations have operated in an institutional framework that had no "de jure" the state of international organization.

WTO is the only global international organization, with universal vocation, which establishes rules of trade between countries. These rules are contained in the WTO agreements, negotiated, signed and ratified by parliaments of members, the main purpose of these agreements being to support producers of goods and services, exporters and importers to achieve commercial operations, as well as offering a coherent and effective multilateral framework that assist members in identifying and harnessing the benefits required of growth. All these rules are multilateral (for multilateral agreements), with some flexibility for developing countries.

Members of the WTO enjoy the benefits conferred by any trade agreement. However, since the WTO has so many members, its benefits are really global. The WTO helps trade throughout the world to flow smoothly through its trade agreements. This provides its members with a fair method to resolve trade disputes without resorting to violence or even war.

Membership in the WTO also has responsibilities. Members agree to avoid erecting trade barriers, instead abiding by the WTO's resolution of the dispute. This prevents the escalation of trade restrictions that could help the individual country temporarily, but hurt world trade overall. In fact, it was just this type of retaliatory trade warfare that worsened the Great Depression of 1929. As global trade slowed, countries sought to protect domestic industries. Trade barriers were erected, creating a downward spiral. As a result, global trade shrank by 25%.

Members of the WTO know what the rules are, the penalties for breaking the rules, and how to play the global trade game. This certainty creates a safer trading arena for everyone. It also lowers the costs of doing business just by removing volatility. These general benefits extend to all members. Since the membership is so large, many of these benefits are also felt by the entire world.

2. MATERIALS AND METHODS

The research was accomplished from a triple perspective, in which the conceptual methodological approach is correlated to the empirical study and to a variety of references to practical actions aiming the activity of the World Trade Organization, based on the current knowledge in the field.

The results expressed in this paper were the result of a qualitative analysis of the characteristics and the evolution of the World Trade Organization trade system in order to establish its most important advantages.

3. THE BENEFITS OF THE WTO TRADE SYSTEM

The main benefits of the WTO trading system are:

1. The system helps promote peace;
2. Litigations are handled constructively;
3. Rules make life easier for everyone;
4. Freer trade reduces the cost of living;
5. Offers more choices of products and qualities;
6. Trade increase revenue;
7. Trade stimulates economic growth;
8. Basic principles make life more efficient;
9. Governments are protected by lobby;
10. The system encourages good governance;

1. The system helps promote peace

Peace is partly a result of the two fundamental principles of the commercial system helping trade to flow smooth, and giving the country a constructive and fair openness for the treatment in matters of trade disputes. It is also a result of trust and international cooperation that the system creates and reinforces.

History is full of commercial disputes turned into war. One of the most vivid is the commercial war of the 1930s when countries competed to raise trade barriers to protect domestic producers. This has exacerbated the Great Depression and has played an important role in the outbreak of the Second World War.

Two developments, immediately after the Second World War helped to avoid trade tensions before the war. In Europe, commercial development has developed in the coal, iron and steel field. It was created global General Agreement on Tariffs and Trade (GATT). [Andronic, 2007]

Both proved to be successful, so are now considerably expanded: one became the European Union and other World Trade Organization (WTO).

Rough, sales people are usually reluctant to fight their customers. In other words, if trade flows smoothly and both sides enjoy a healthy commercial relationship, political conflict is unlikely. Moreover, fluent trade helps people around the world to get better.

Trade wars of the 1930s are the evidence that protectionism can easily throw the country into a situation where no one wins and everyone loses.

Narrow protectionist view is that defending some particular sectors against imports is beneficial. But this view ignores how other countries are going to respond. Long term reality is that a protectionist step by a country can easily lead to repressions from another country, a loss of confidence in free trade and a sliding in serious economic problems for all - including initially protected areas. Everyone loses.

Trust is the key to avoid this kind of unsuccessful scenario. When governments are confident that others will raise their trade barriers, they will not be tempted to do so. Will also be in a better mood to work together.

WTO trading system plays a vital role in creating and building trust. Particularly important are the negotiations that led to an agreement by consensus, and focus on the rules.

2. Litigations are handled constructively

It could be a disadvantage for the liberalization and expansion of trade. More trade means opportunities for the emergence of disputes. Left alone these disputes can lead to serious conflicts. But in reality a lot of tension in international trade is reduced because countries can turn to organizations, especially WTO to resolve trade disputes.

Before World War II this option was not available. After World War II the community of world nations negotiated trade rules that are now entrusted WTO. These rules include the members obligation to bring their disputes to the WTO and not act unilaterally.

When are brought disputes to the WTO, the WTO procedure focuses on the rules. Once a rule has been established, countries focus on trying to follow the rules, and perhaps later on renegotiation of rules, not on declaring war on each other.

Around 300 disputes were brought to the WTO since was established in 1995. Without a means to combat them in a constructive and harmonious way, some of them could lead to a serious political conflict. The fact that disputes are based on WTO agreements means that there is a clear basis for judging who is good or bad. Once the decision was taken, the agreements provide future focus on other actions to be taken.

Increasing the number of disputes brought to GATT and its successor, the WTO, does not reflect increasing tension in the world. Rather, it reflects the world closer economic ties, expansion of GATT/WTO members and that countries trust the system to resolve their differences. Sometimes trade between countries in conflict can be lit, but always aim to comply with the agreements and commitments that have been negotiated.

3. Rules make life easier for everyone

WTO decisions are taken by consensus. Agreements apply to everyone. Rich and poor countries alike have an equal right to challenge each other in the dispute settlement procedures of the WTO.

This makes life easier for everyone. Smaller countries can enjoy greater bargaining power. Without a multilateral regime, such as the WTO, the most powerful countries would be free to impose their will unilaterally on smaller trading partners. Smaller countries should deal with each of the major economic powers individually, and would be much less able to resist unwanted pressures.

There are benefits suitable for large countries. Major economic powers can use a single forum of the WTO to negotiate with all or most trading partners simultaneously. This makes life simpler for major trading countries.

The alternative would be continuous and complicated bilateral negotiations with dozens of countries simultaneously. And every country could end up with different trading conditions with each of its trading partners, making life extremely complicated for its importers and exporters.

Discrimination principle built into the WTO agreements avoids this complexity. The fact that there is one set of rules that apply to all members greatly simplifies the entire trade regime. And these agreed rules give governments a clearer image of trade policies that are acceptable.

4. Freer trade reduces the cost of living

Protectionism is expensive: prices raise. The WTO global system reduce trade barriers through negotiation and applies the principle of non-discrimination. Results are lower costs of production (because imports in production are cheaper) and reduced prices of finished goods and services, and ultimately a lower cost of living.

There are plenty of studies showing the effects of protectionism and free trade. These are just a few numbers.

Food is cheaper

When protecting agricultural, your food costs increase by an estimated \$ 1,500 per year in the EU, equivalent to a tax of 51% on food in Japan (1995), with \$ 3 billion a year added to American grocery consumer bills just to support sugar in one year (1988), according to World Trade Report 2014.

Negotiating agricultural trade reform is a complex process. Governments still debate the role of agricultural policies played in a number of issues from food security to environmental protection.

But WTO members now reduce subsidies and trade barriers that are the worst offenders. And in 2000, began fresh talks on further agricultural reform. These were incorporated into a larger work program, the Doha Development Agenda launched at the fourth WTO Ministerial Conference in Doha, Qatar, in November 2001.

Clothes are cheaper.

Import restrictions and high tariffs combined to increase the price of textiles in U.S. by 58% in the late 1980s. UK consumers paid about 500 million pounds per year for their clothes due to restrictions. For Canadian the law project is approximately of \$ 780 million. For Australians would average \$ 300 per family annually if Australian customs duties were not reduced at the end of 1980s and early 1990s, according to World Trade Report, 2008.

Trade in textiles and clothing was going through a major reform in the WTO, which was completed in 2005. [Andronic, 2007] The program included eliminating restrictions on quantities of imports.

According to World Trade Report 2011, if duties were also eliminated, economists calculate the result as being good for the world for about 23 billion dollars, including \$ 12.3 billion for the United States, \$ 0.8 billion for Canada, \$ 2.2 billion EU and about 8 billion dollars for developing countries.

The same is true for other goods.

When the United States has limited car imports from Japan in the early 1980s, the price of cars increased by 41% between 1981 and 1984, almost double the average for all consumer products. The objective was to save American jobs, but high prices have been a major reason why more than a million new cars were sold leading to more job losses.

If Australia would have kept prices in 1998, customers in Australia would have paid on average \$ 2,900 more per car today. In 1995 aluminum users in EU paid 472 million dollars extra because of tariff barriers. [Rose, 2005]

One of the search base to the Doha Development Agenda (ADA) was another round of cuts in tariffs on industrial products, for example, manufactured and mined. Some economists (Robert Stern, Alan Deardorff and Drusilla Brown), predict that reducing them by one third would raise developing countries' income of about \$ 52 billion.

Similar French restrictions added an estimated 33% of the French car prices. Televisions, radios, videos are, or were all more expensive in protectionism.

Liberalization of telephony means cheaper phone calls - in 1990 to 4% per year in developing countries and 2% per year in industrial countries, taking into account inflation.

In China, the competition from the second mobile company was at least part of the reason why was reduced with 30% the price of a call. In Ghana the reduction was 50%. [Tomz, Goldstein and Rivers, 2007]

And so it goes on. The system now entrusted to WTO runs over 50 years. During this time there have been eight major rounds of trade negotiations. Trade barriers around the world are lower than they have ever been in modern trading history.

5. Offers more choices of products and qualities

Let's think about things that people in other countries can have, because are buying exports from us and elsewhere. Look around and consider all the things that could disappear if all our imports would be taken from us. Imports allow us more options, more goods and services to choose from, as well as a wider range of skills. Even the quality of goods produced locally can improve because of competition from imports.

The choice is not simply a matter of consumers buying foreign finished products. Imports are used as materials, components and equipment for local production. This extends the range of final goods and services that are made by producers, and increase the range of technologies that we can use. When mobile equipment became available, services rose sharply.

Sometimes the success of a product or service imported on domestic market also can encourage new local producers to compete, increasing the choice of brands available to consumers, and increasing the range of goods and services produced locally.

If trade allows us to import more, it also allows others to buy more of our imports.

6. Trade increase revenue

WTO's own estimations for business impact of the Uruguay Round in 1994 was between 109 billion and 510 billion added to world income (depending on the assumptions for calculating and allow margins of error).

More recent studies have shown similar figures. Economists estimate that reducing with a third barriers to trade in agriculture, industry and services would boost world economy with 613 billion, equivalent to adding an economy the size of Canada in the world economy.

In Europe, the European Commission calculates that EU income during 1989-1993 grew by 1.1-1.5% more than they would have without the single market.

So clearly trade increase revenue. Also, trade poses challenges for local producers to compete with imports. But the fact that there is additional income means that resources are available to governments to redistribute benefits to those who gain the most for example, to help companies and workers adapt by becoming more productive and more competitive in what they already were doing, or switching to new activities.

7. Trade stimulates economic growth and these can be a good news for the labor force employment.

Trade clearly has the potential to create jobs. In practice, there is often evidence that lower trade barriers have been beneficial for employment. But the picture is complicated by a number of factors. However, alternative, protectionism is not the approach to employment issues.

There is clear evidence that trade stimulates economic growth and that the economic growth means more jobs. It is also true that some jobs are lost even when trade expands. But its reliable analysis raises at least two problems.

First, there are other factors in play. For example, technological progress has also a strong impact on employment and productivity, helping some jobs, damaging others.

Second, while trade clearly boosts national income (and wealth), this is not always translated into jobs for workers who lost their jobs due to competition from imports.

The picture is not the same everywhere. The average length of time that a worker needs to find a new job may be higher in one country than for a similar worker in another country facing similar circumstances.

In other words, some countries are better than the others to make adjustments. This is partly because some countries have more effective adjustment policies. Those without effective policies are missing an opportunity.

There are many cases where the facts show that the possibility was understood where trade liberalization has been beneficial for employment. EU Commission considers that the establishment of the single market means that there is somewhere in the range of 300.000 to 900.000 more jobs than would have been without the single market creation.

Often, the job prospects are better in companies involved in trade. [Bari, 1997]

In the United States, 12 million people owe their jobs to exports, 1.3 million of those jobs were created between 1994 and 1998 and these jobs tend to be better paid, with better security. In Mexico, the best jobs are those related to export activities: sectors that export 60 percent or more of their production, pay salaries 39% higher than in the rest of the economy. [Rose, 2005]

The facts also show how much protectionism is affecting employment. The example of the automobile industry in the United States has already been mentioned: trade barriers to protect jobs in the United States, by restricting imports from Japan ended up by making cars more expensive in the USA, so fewer cars sold and jobs were lost.

In other words, an attempt to address a problem in the short term by restricting trade has turned into a bigger problem in the long term. Even when a country has difficulty making adjustments, the alternative of protectionism would simply make matters worse.

8. Basic principles make the system more efficient from the economic point of view and reduce costs

Many of the benefits of trading system are difficult to summarize, but are very important. They are the result of core principles at the heart of the system, and make life simpler for businesses directly involved in trade and for producers of goods and services.

Trade allows a division of labor between countries. This allows resources to be actually used for production. But trading system offers more than that. This helps increase efficiency and reduce costs further because important principles are enshrined in the system. Let us imagine a situation in which each country sets different rules and different levels of customs duties on imports from different trading partners. Imagine that a company in a country wants to import raw materials or components or printed circuit copper cable for electrical goods, for example for own production.

It would not be enough for the company to look at prices offered by suppliers around the world. The company should also make separate calculations with respect to different levels of tax that would be levied on imports (which would depend on where imports originate), and

should consider each of the rules applicable to products in each country. Buying copper or circuit boards become very complicated. This, in simple terms, is one of the problems of discrimination. Imagine now that the government announced that it would charge the same duty rates on imports from all countries, and will use the same rules for all products, regardless of where they come from, whether imported or locally produced. Life would be simpler for society. Supply components would become more efficient and would cost less.

Non-discrimination is one of the key principles of the WTO trading system. These include:

- transparency (clear information about policies, rules and regulations);
- increased certainty about trading conditions (commitments to reduce trade barriers and increase access other markets in other countries are required);
- simplifying and standardizing customs procedures, eliminate bureaucracy, centralized database of information, and other measures to simplify trade that is called "trade facilitation".

Together, they make trade easier, reducing costs and increasing confidence in the future companies. This in turn also means more jobs, better goods and services for consumers.

9. Governments are protected by lobby

The GATT - WTO system, which has evolved in the second half of the 20th century helps governments to take a more balanced view on trade policy. Governments are better placed to defend against lobbying coming from interest groups limited by focusing on trade-offs that are made in the interest of everyone in the economy.

One of the lessons of protectionism that dominated the first decades of the 20th century was the damage that can be caused if narrow sectoral interests lopsided wins a share of political influence. The result was a policy of increasingly restrictive that turned into a trade war that nobody won and everyone lost.

Superficially, restricting imports looks like an effective way to support the economic sector. But pushing the economy against other sectors should not be penalized if you protect clothing industry, everyone has to pay for expensive clothes, fact that put pressure on wages in all sectors.

Protectionism can also escalate other countries can retaliate by increasing their trade barriers. That's exactly what happened in the 1920s and 30s, with disastrous effects. Even sectors that demanded protection ended up losing. Governments should be armed against pressure from interest groups limited and the WTO system can help.

The GATT – WTO system covers a wide range of sectors. So if during a GATT- WTO trade negotiations a pressure group makes lobbying for its government can be considered special case in need of protection, the government may reject protectionist pressures arguing that it needs agreement ranged wide, which will benefit all sectors of the economy.

10. The system encourages good governance

Under WTO rules, once a commitment has been made to trade liberalization, it is very difficult to be canceled. These rules also discourage a range of unwise policies. For businesses, this means greater certainty and clarity about trading conditions.

Rules include commitments not to backslide into unwise policies. Protectionism is generally, is unwise because of the damage it causes domestically and internationally, as we have already seen.

Particular types of trade barriers cause additional damage because they provide opportunities for corruption and other forms of bad governance.

A kind of trade barrier that WTO rules seek to address is the rate, for example, limiting imports or exports to no more than a certain amount each year. Because quotas limit supply, they

raise prices artificially creating abnormally high profits (economists talk about "quota rent"). That profit can be used to influence policies that more money is available for the lobby.

It can also provide opportunities for corruption, for example, in the allocation of quotas between traders. There are many cases in the world where this has happened.

In other words, quotas are a particularly negative limiting trade. Governments have agreed through WTO rules that their use should be discouraged.

However, the odds of various types remain in use in most countries and governments strongly support that they are needed. But they are controlled by the WTO agreements and there are commitments to reduce or eliminate many of them, especially in the textile industry.

Many other areas of WTO agreements can also help to reduce corruption. Transparency (such as making available all information on trade regulations), other aspects of "trade facilitation", clearer criteria for regulations dealing with product safety standards, and non-discrimination also helps by reducing the possibilities of making arbitrary decisions and by deception.

4. CONCLUSIONS

World Trade Organization serves as the forum for further negotiations on liberalization of trade in services by abolishing barriers and the development of rules in new areas related to trade. In addition, it performs the following functions: to facilitate the implementation, administration and application of the Uruguay Round and of any new agreements to be negotiated in the future; resolving commercial disputes; examination of national trade policies; cooperation with other international institutions in global economic policy making. Thus, in order to ensure greater coherence in global economic policy-making, the WTO shall cooperate, as appropriate, with the IMF and the World Bank.

Through its location outside the United Nations, the WTO managed to preserve within its domestic activity, the character of "political neutrality" and the essence of its role, a role for which it was set up, of strict settlement for commercial activity on international plan.

Supporters of the WTO argue that its success is self-evident: it has increased global trade and continues to fulfill its mission. Detractors say that the WTO's approach helps rich countries at the expense of poor countries. An influential 2002 paper declared that any benefits from the WTO were an illusion since the trading volume between members and nonmembers differed little. Professor Shang-Jin Wei, working with Arvind Subramanian of the Peterson Institute for International Economics and Johns Hopkins University challenged this finding in a recent paper.

Wei and Subramanian found that the WTO has an enormous effect on member countries — world imports were higher in those countries by roughly 120 percent, or about 8 trillion dollars in 2000 alone, thanks to its provisions. But the researchers found that these benefits were not distributed evenly. "The WTO makes a huge difference," Wei says, "but not in a symmetrical pattern — and that's intentional. It has always been non uniform, by design." [Subramanian and Wei, 2007]

The researchers discovered several key differences in how the WTO functions for developed and developing nations. One key difference they found is that the WTO does boost trade more for rich countries than for poor countries. Although this may seem unfair, it follows directly from the GATT's structure. "During much of GATT's history, developing countries were given a free pass. ... They didn't have to do much to reduce their trade barriers. It was the principle of 'special and differential treatment.' ... So it's no surprise that you don't see much of an effect on developing countries' trade volume." [Subramanian and Wei, 2007]

Things are different for developing nations that joined the GATT later or joined once the WTO had replaced the GATT, and the researchers argue that such countries have gained the

most. “In the latest round of negotiations, members tightened up the ascension criteria, countries that joined the GATT after 1990 or joined the WTO had to implement more reforms, and these nations have seen faster growth in their international trading volume.” [Subramanian and Wei, 2007]

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ADVANTAGES AND LIMITATIONS OF THE FINANCIAL RATIOS USED IN THE FINANCIAL DIAGNOSIS OF THE ENTERPRISE

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***Abstract.** This paper points out the importance of the financial ratios used in financial diagnosis. Starting from the idea that the financial theory and practice use too many indicators to achieve the financial diagnosis of a company, and that most of the instruments used are relevant only under specific and limited conditions, we examined the advantages and limitations of the financial ratios. The research method used in this paper involves on the one hand, the theoretical substantiation of the specific notions used in financial diagnosis of an enterprise, and on the other hand their transposition by appealing to an example of the use of a company.*

***Keywords:** financial diagnosis, financial ratios, performance*

JEL Classification Codes: G11, G12, L21

1. INTRODUCTION

The profitability rates show the efficiency of a company as a ratio between the resulted effects (benefits) and the efforts to achieve them. The corporate finance theory established two relative measures of profitability, the *return on assets* and the *return on equity*, whose actual size and influence are used in diagnosing the profitability of a company (Stancu, 2007, p. 705).

Considering the present computing technology, many analysts are tempted to calculate a larger number of indicators than necessary. In general, only a small part of them are really useful in the financial diagnosis of a company (Bondoc D., Țaicu M., 2013, p. 9-10).

Also, the profitability rates of a company are not absolute criteria of evaluation, they only provide valuable information in combination with other indicators that highlight the changes in operation and financing over several periods and compared with other companies on the respective market (Helfert, 2001, p.96).

2. THE RATIOS OF RETURN ON ASSETS

The *return on assets (ROA)* is a measure frequently used to evaluate the performance of an enterprise and results by reporting the net profit (various forms) of a company to the value of assets used to generate that profit. It is interesting to note that there is no consensus among experts on calculating ROA, their views being divided. We are presenting the most common means of evaluating the return on assets of a company.

Some authors suggest to calculate the return on assets as the ratio between the net profit (NP) of a company and the average total assets of the last two accounting years (Helfert, 2001, p.112-p.113):

$$ROA = \frac{NP}{ATA} \quad (1),$$

The average total assets (ATA) is calculated by the following formula:

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$$ATA = \frac{TA_1 + TA_0}{2} \quad (2),$$

where TA_1 represents the total assets at the end of the current financial year (for which ROA is calculated) and TA_0 is the value of assets at the end of the previous year.

The author states that in determining the return on assets of a company, one may use the *economic assets* instead of the total assets (the right denominator of ratio (1)). The *economic assets*, also known as the *economic capital*, represents the capital invested in the company and it is the part of total assets not financed by operation debts (mainly the debts to suppliers). Therefore, the economic capital of the enterprise groups those asset items funded from sources that the company has to remunerate (equity assigned by shareholders and short-term, medium and long term loans, contracted from various creditors):

$$EA = TA - CDWI \quad (3),$$

where: EA = the economic assets of a company and
CDWI represents its *current debts without interests*.

Using the economic assets instead of total assets is justified by the fact that the operational debts of the company represent available free funding sources to support a part of the current assets of the company. Therefore, the return on assets may be interpreted as the net asset profitability (of the invested capital) and is calculated using the following formula:

$$RONA = \frac{PN}{AEA} \quad (4),$$

where:

- RONA = return on net assets;
- AEA = average economic assets.

Certainly, the methodology for calculating this indicator is formally identical to that given by (2):

$$AEA = \frac{AEA_1 + AEA_0}{2} \quad (5),$$

in which:

- AEA1 = economic assets (net assets) of the company at the end of the current year;
- AEA0 = economic assets (net assets) of the company at the end of the previous year.

The average total assets or the average economic assets are recommended because the results achieved by a company during a financial year are determined by the capitals it has at the end of the previous year, and the additional capital invested in the current year (Brealey and Myers, 2003, p. 828). Despite this evidence, the experts have not reached an agreement on the exact moment the assets of the company should be considered; some support the (total or net) assets from the beginning of the year, while others, surprisingly, recommend the values at the end of the current year (Stancu, 2007, p.757). As for me, I find entitled the compromise solution of considering the average values.

Other authors consider that the return on assets should be calculated in two forms (Ross-Westerfield-Jaffe, 2002, p.37):

- *the gross return on assets* (GROA) is determined as the ratio between the earnings before income tax (EBIT) and the average total assets (ATA) of the company for the last two financial years:

$$GROA = \frac{EBIT}{ATA} \quad (6)$$

- *the net return on assets* (NROA) is calculated by reporting the net profit of the financial year to the average total assets. In this case, the calculation of ROA is the same as the equation (1) proposed by Helfert (2001).

The return on assets is an indicator that measures the ability of the company to ensure through its results (earnings before income tax EBIT or net profit, according to the method of calculation of ROA considered), renewal and payment of its assets (or economic assets). The return on assets may be considered an internal rate of return (regarded as a set of old and new investments) that if higher than the cost of capital indicates a higher value of the company (Stancu, 2007, p. 759).

The return on assets may be defined by the ratio between the net operating profit and the value of the economic assets at the beginning of the current financial year:

$$ROA = \frac{EBIT \cdot (1-t)}{EA_0} \quad (7)$$

Another interesting opinion considers appropriate to calculate the return on assets in both gross and net ways, similar to that proposed by Ross-Westerfield-Jaffe (Vintilă, 2005, p.193-p.194). The calculation formulas are as follows:

$$GROA = \frac{EBE}{GEA_0} \quad (8)$$

$$NROA = \frac{EBIT}{NEA_0} \quad (9),$$

where:

- GROA = gross return on assets;
- NROA= net return on assets;
- GEA_0 = gross economic assets (including depreciation) at the beginning of the financial year;
- NEA_0 = net economic assets at the beginning of the financial year.

The difference between gross and net return on assets is important because the first one is not affected by the depreciation policy of the company and it is therefore useful in comparing different companies that belong (or not) to the same sector. The gross return on assets may also be regarded as a measure of efficiency in which the company uses its economic capital, an efficiency resulting in proper remuneration and quick renewal.

The return on assets has to be higher than inflation so that the company keeps the value of its economic assets. We may introduce the concept of *rate of real return on assets*, which is calculated by removing the impact of inflation on the nominal rate ROA. The calculation formula is given by the well-known Fisher's formula:

$$1 + ROAR = \frac{1 + ROA}{1 + i} \quad (10),$$

where ROAR represents the real return on assets, and i is the inflation rate. Processing the previous relation, we get the following expression of the ROAR:

$$ROAR = \frac{ROA - i}{1 + i} \quad (11)$$

If inflation values are below 10%, one may use the following approximation in calculating the real rate of return on assets of the company:

$$ROAR \approx ROA - i \quad (12)$$

Finally, other authors suggest that return on assets should be calculated by reporting the net operating profit to the average economic asset, according to the following formula (Brealey and Myers, 2003, p.828):

$$ROA = \frac{EBIT \cdot (1-t)}{AEA} \quad (13)$$

Note that the return on assets of an enterprise must be calculated differently depending on its capital structure. Equation (13) is valid for companies financed entirely from equity (leveraged zero). For other companies, the calculation of return on assets must take into account the tax savings resulting from interest tax shields:

$$ROA = \frac{EBIT \cdot (1-t) + ITS \cdot t}{AEA} \quad (14),$$

where ITS represents the interest tax shields.

An indisputable advantage of the relation (14) is that it gives the possibility to make comparisons between companies with different financing policies, because it eliminates the impact cost of borrowed capital. Also, equation (14) shows that among two companies that obtain the same earnings before income tax (EBIT) and the same average economic assets, the heavily indebted one will have a higher ROA (Brealey and Myers, 2003, p.828):

$$\frac{EBIT \cdot (1-t) + ITS \cdot t}{AEA} > \frac{EBIT \cdot (1-t)}{AEA}$$

I consider appropriate the use of relation (13) to calculate the return on assets (and, respectively, its variant (14) for indebted companies), because it shows the company's ability to use profitably assets in its operation, in order to reward and renew its economic assets. I also recommend to use the average economic assets instead of the average total assets, because the first one shows how management directs the funds to be paid (long-term debts, current bank loans, etc.).

My option for the calculation formulas mentioned above is also based on the fact that they emphasize the operating performance of the company which, as I argued above, should be the basis for profit. When using the relation (1), whose reference is the company's net profit, one may be misleading: a serious operation deficit may be "dressed up" artificially by a very good financial result, and the return on assets may suggest a better return than it really is.

Now I would like to move on and calculate the return on assets (ROA) for a company, according to the equation (14), as this company is indebted. Before that, I am going to evaluate the economic assets of the company, using the following table:

Table 1. Determining the economic assets for the company in the period 2010 – 2013

YEAR	2010	2011	2012	2013
Total assets (TA)	496,842,468	476,098,503	523,653,396	610,697,694
Current debts without interest ² (CDWI)	63,558,299	77,825,392	72,129,980	45,494,830
Economic assets (EA)	433,284,169	398,273,111	451,523,416	565,202,864
Average economic assets ³ (AEA)	451,931,365	415,778,640	424,898,264	508,363,140

Source: the balance sheets of the company, own calculations. The amounts are expressed in RON.

² Calculated as the difference between total liabilities with maturity less than one year and short-term bank loans.

³ Determined using formula (5).

The necessary information to determine ROA are shown below:

Table 2. Determining the return on assets (ROA) for the company in the period 2010 – 2013

YEAR	2010	2011	2012	2013
Net earnings before income tax (net EBIT)	27,137,713	-11,708,507	13,929,645	80,045,868
Interest tax savings (ITS x t)	1,562,526	1,808,992	1,612,689	513,763
Average economic assets (AEA)	451,931,365	415,778,640	424,898,264	508,363,140
Return on assets (ROA)	6.35%	-2.38%	3.66%	15.85%

Source: own calculations. The amounts are expressed in RON.

The return on assets at company fluctuated considerably over the period of analysis, reducing from 6.35% in 2010 to -2.38% in 2011, and increasing to 3.66% in 2012 and 15.85% in 2013. This means that if in 2010 the operating profit of the company provided the renewal of the economic assets in approx. 16 years, in 2012 this period increased to 27 years and in 2013 dropped to approx. 6 years, while the operating loss recorded in 2011 consumed a part of the economic capital of the company. In 2013, the leap made by the return of assets was due to a better overall operating performance, making a profit that balanced the supplementary financing need, generated by increasing stocks. The values of ROA in 2010 and 2012 may be considered normal for the Romanian economy, since the renewal of assets is slower compared to the mature Western economies (Vintilă, 2005 p.194).

3. THE RATIOS OF RETURN ON EQUITY

The rate of return on equity (ROE) is a quantification in relative terms of the return on equity of the company, meaning the shareholders' placement who entrusted the respective capitals. As in case of return on assets, the authors' views are also divided in defining this indicator.

Brigham and Ehrhardt (2002, p.381), Friedlob and Schleifer (2003, p.2003), Stancu (2007, p.760) and Vintilă (2005, p.199) propose to determine the return on equity as the ratio between the net result for the financial year and equities of the company at the end of the previous year:

$$ROE = \frac{NP_1}{E_0} \quad (18)$$

On the other hand, as I argued in the analysis of the return on assets, in case of the return on equity we should consider that the net result of the current financial year is achieved by using both the available equity at the end of the previous year and the additional ones invested during the current year. Therefore, Helfert (2001), Brealey and Myers (2003), and Ross-Westerfield-Jaffe (2002) recommend to calculate the return on assets by dividing the net result by the average equity of the company:

$$ROE = \frac{NP}{AE} \quad (19),$$

where AE is the simple arithmetic average of the equity of the company for the last two financial years, respectively

$$AE = \frac{E_1 + E_0}{2} \quad (20)$$

Regardless of the method of calculating the return on equity, we have to state that this indicator is a relevant measure of management efficiency in dealing with shareholders' capital. This efficiency refers to the company's ability to remunerate equity (by dividends paid to

shareholders) and to increase their value over time by making a profit that would reduce the company' debts, but rather making investments from its own resources to produce economic value added.

I mention that as far as I am concerned, I consider the relation (19) to be appropriate in calculating the return on assets, as it shows company's return on equity according the management vision on using such capital and the changes occurring in their structure and volume.

ROE calculation for the company is shown below:

Table 3. Determining ROE for the company in the period 2010 – 2013

YEAR	2010	2011	2012	2013
Net result of the current financial year (NP)	17,173,683	-1,036,756	55,614,476	50,540,752
Average equity (AE)	257,455,645	265,524,108	302,820,913	365,906,472
Return on equity (ROE)	6.67%	-0.39%	18.37%	13.81%

Source: the balance sheets and profit and loss accounts of the company in the period 2010 - 2013, own calculations. The amounts are expressed in RON.

The results in the table shows a modest net profit of the company compared to the equity value in 2010, leading to a financial rate of return on equity of only 6.67%. In 2011, the massive operating deficit, though covered mostly by good financial performance, could not prevent the company to record a loss, generating a negative return on equity of -0.39%, which means that the overall activity of the company used a part of its equity. The year 2012 was the most profitable in terms of both operation and financial activity, while the net profit of over 55 million RON resulted in 18.37% return on equity. In 2013, the net profit was lower (yet very good, 50.54 million RON). These last two values indicate a good potential of the company to distribute dividends and increase its reserves for further profit reinvestment. As the company reduced its dependence on external capital, it managed to improve its profitability, even if the net profit did not keep up with the equity variations in 2012 and 2013.

The financial rates provide undoubtedly valuable information on the activity of a company and its financial position. However, the analysis on financial ratios should be performed carefully and rationally, giving the following reasons (Brigham and Houston, 2008, p.113 -p. 114):

- many large companies have divisions operating on different markets; it is difficult to develop a relevant system of ratios for such companies. Therefore, we recommend to use financial ratios for highly specialized companies;
- the fact that a company achieves "good" performances is not enough. The ratio values should always be compared with the values reported by the market leaders, to see exactly where the company stands⁴;
- inflation may induce major distortions in the analysis; therefore, when performing multiannual financial analyses, it is important that the results be interpreted considering inflation;
- the seasonal factors may also influence the analysis of the financial ratios. Therefore, it is necessary to make adjustments that minimize the impact of seasonality;
- as the financial practice demonstrates, many companies resort to subterfuges that allow them to veil artificially their situation, making the ratios look better than they really are⁵.

⁴ In practice, this process is called benchmarking.

⁵ In the literature, these procedures are called "window dressing".

Let us consider the following simple example: at the end of a financial year, just before the end of the reporting period, a company takes a short-term loan, keeps the money as available funds, and at the beginning of the next year, the company repay the loan. This stratagem is designed to improve apparently the company's liquidity situation, although there is no real change in this respect;

- the various accounting methods and techniques (such as those used in inventory management and calculation of depreciation of fixed assets) may complicate comparisons between the companies' financial ratios. Another problem arises from the fact that many companies prefer to use leased equipment, which has two consequences: first, often these assets do not appear on the balance sheet, and the amount of assets may be low compared to the turnover (and therefore the rotation of fixed assets accelerates) and secondly, the lease obligations may not be recorded in the balance sheet as debt, which "improves" the capital structure of the company;
- It is often difficult to say whether the values of the financial ratios are "good" or "bad". For example, a high rate of current liquidity may show a good capacity of the company to meet short-term obligations; but it also may be the consequence of holding too much cash in the house and / or current bank accounts, which is not recommended, since excessive cash means unproductive assets. Similarly, a rapid rotation of operation assets through turnover may have a positive connotation (the company uses its fixed assets efficiently) or, on the contrary, a negative one (the company is undercapitalized and cannot afford to purchase other assets);
- a company may have some financial ratios that look "good" and others that look "bad", which considerably hampers the evaluation of the overall situation of the company. Therefore, it is recommended to use statistical procedures in determining the importance of indicators and the accurate classification of companies.

The quantitative analysis on financial ratios to be accompanied by a qualitative analysis, factors that may have a strong influence on the company. These qualitative factors were synthesized by the American Association of Individual Investors⁶ and include:

- *customers*. Since the company's revenues depend on a small number of customers, then the company may face serious problems if these customers are turning to competition. On the other hand, if there is a tradition in business relations between the two parties, this factor can stabilize the company's sales;
- *offer diversity*. Although the companies with specialized offers, consisting of a small number of products, may be more effective as a result of specialization, they are exposed to greater risks than firms whose offer is diverse;
- *suppliers*. If the company depends on several suppliers, then it is likely to get into problems when such providers have difficulties;
- *geographical extent of business activity*. As the financial practice shows, the multinational companies often report higher growth rates and profit margins. However, there is the reverse: a significant volume of transactions carried out across national borders means that the company is exposed to significant currency risk. In addition, there is the country risk to be taken into account;
- *competition*. In evaluating opportunities for growth and future performance, the company must take into account both the current competition and the possibility of new competitors in the future;

⁶ The American Association of Individual Investors (AII), <http://www.aaii.org>.

- *future prospects of the company.* For example, if a company invests heavily in research and development, its future performance depends directly on the success of the products in the research phase;
- *legislative framework.* It is obvious that the legislative changes may have significant implications for both business environment and company.

4. CONCLUSIONS

An important issue of the analysis based on financial ratios is the overvaluation the rate of return on equity as an indicator of company performance. The fundamental objective of financial management is to maximize the value of the company. Although the return on equity (ROE) and the value of shareholders' property are often highly correlated, there are some problems that occur when ROE is used as the sole measure of performance of a company (Brigham and Ehrhardt, 2002, p. 393 – p.394).

First, ROE does not consider the risk of a company, and the shareholders are interested in the risk associated with investment, more than in its potential benefits.

In order to demonstrate this, let us consider the case of a company which has two subunits, namely A and B. Division A is characterized by an expected return on equity of 15%, but its cash flows are highly volatile, while unit B has an expected ROE of only 12%, but stable cash flows. In this context, the 15% expected variability in cash flows of division A may not materialize, and the real ROE value may be lower than the 12% recorded by division B; this unit may create more value for the shareholders as a result of a lower exposure to risk.

Second, the return on assets is a relative measure of a company's performance, which does not account for the size of the invested capital⁷.

Let us consider a company that has two investment projects under operation: project X of EUR 5,000 and an estimated ROE of 50%, and project Y of EUR 10 million with an expected rate of return on equity of 30%. To simplify, let us assume that both projects have the same degree of risk. It is clear that project X has a higher profitability, but because its value is very small, it creates less value for the shareholders than the latter.

Third, using ROE as a measure of performance and as a reference in determining managers' remuneration, may encourage them to invest in projects with a higher expected return on equity, though they can be very risky. Let us take the example of a company that had a very good year, reporting a value of ROE of 40%, and now it has the opportunity to invest significant capital in a low-risk project with the expected ROE of 28%. The company managers will be reluctant to accept this project, as it would reduce the company's overall financial return on equity, and that would lower their bonuses – despite the fact that the project is very profitable (and, furthermore, its efficiency is significantly higher than the cost of capital), the risk is low, and would make a significant contribution to the value of investments made by the owners of the company.

These examples demonstrate that the decision to use ROE as the sole measure of profitability may be a fundamental error.

In order to optimize the financial analysis, it is recommended to perform ROE analysis in parallel with a study of risks regarding the return of assets, an indicator showing the company's relative profitability to its size. Also, a viable alternative is the use of other performance indicators such as the added economic value.

⁷ Brigham and Houston (2008), p. 116.

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ANALYSIS OF THE HUMAN RESOURCES MOTIVATION WITHIN A COMMERCIAL COMPANY

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Abstract: *This paper aims to conduct a study on the main theories of motivation; human resources' motivation represents a major component of management and one of the most commonly treated subject in the literature. The actual content of every firm motivation reflects the managerial and economic vision promoted therein. The wide variety of these concepts, combined with the diversity of human resources and managerial situations in organizations, are reflected in a pronounced heterogeneity of the concepts and management practices. The empirical basis of this paper is the interpretation' results of all answers, obtained from the applied within the company questionnaire.*

Keywords: *human resources management; managerial practices; financial and non-financial motivation.*

JEL Classification Codes: M220

1. INTRODUCTION

The human resources motivation is a complex process as it aims the individuals within organizations, their diverse needs, expectations and aspirations. The statement „human resources are unique in terms of their growth and development potential” (Manolescu, 2005, p.11), supports this idea.

In the literature, the concept of motivation has a number of approaches. The motivation is an important lever in the individual self-regulation, as the motivation involves the extent to which a „persistent general effort is conducted to measure a goal” (Johns, 1998, p.28). It seems relevant Emilian's definition of motivation as „the overall state of emergency that need to be satisfied and that push it and it incites the individual to determine and satisfy them”. Additionally, the motivation is „the amount of the internal and external energies that initiate and directs human behavior toward a goal that, once reached, will lead to satisfying a need” (Stanciu Ș., 2001, p.175).

The employee's motivation in achieving performance can be determined by two types of factors (Mathis R.L. et al, 1997, p.203):

- Internal or individual factors (perception of the tasks, all the attitudes, needs, interests, behaviors and the values system);
- External or organizational factors (the salary system, specified tasks, work group, the surveillance and control system, the communication process, the feed-back and the leisure).

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2. THE STUDY'S OBJECTIVE

The purpose of this paper is to evaluate the employees' motivation. The success, performance and competitiveness of all the enterprises, regardless of their nature and their profile activity, depend to a decisive extent on the quality of management in general, but especially of the human resources management's quality (Isac N., Radulescu M., 2014, p.55). It is proved in practice that only a rational and efficient use of human resources can ensure the success in any economic and social field of activity. The economic activity of any company should be to obtain profit and an efficient management of human resources is the main way that will achieve this goal. Human resource's strategy (Secara C., 2014, p. 62) should be developed in close relation to the aims and mission of the organization, thus workforce was being selected, remunerated, motivated and distributed judiciously, her work being reflected in all areas (the production, social, political and economic domains).

The organization that addresses professionally human resources is likely to achieve high performance in all fields. Analysis and evaluation of the CS „PROIECTANTUL” LC human resources motivation had in mind about the following issues: the staff structure, the wage levels and the staff motivation. Compliance obligations assumed both by the employees and the company management helps to maintain an environment that encourages teamwork, cooperation and dynamism. The financial motivation within the company refers to all forms of monetary rewarding the performance of an employee: salary, benefits, bonuses and dividends. The motivation degree positively influence the employee participation in achieving the company's goals and, at the same time, the creation and development of a strong organizational culture.

The non-financial motivation refers to forms of rewards and incentives which do not involve direct grant of money to the employee. This reasoning is based on the settings of all the work and organizational factors influencing the energy, tenacity, and enthusiasm of employees and causes them to work at the highest settings. The management considers the non-financial motivation as an optimal solution for some problems that naturally occur during the activity, and it provides solutions that enhance the creativity, competitive spirit and loyalty of the employees to the organization.

3. THE RESEARCH METHODOLOGY

The analysis and evaluation of human resources motivation in the CS „PROIECTANTUL” LC took into account the following issues: the staff structure, the wage levels and the staff motivation. The company has 164 employees with individual employment agreement (see Table 1). Compliance obligations assumed by both employees and the company management helps to maintain an environment that encourages teamwork, cooperation and dynamism. Payroll system considered amplifying the employees' sense of belonging to organization and maintaining a real motivation to work by providing the differentiated wage levels of skills, completed studies and projects' complexity. To evaluate the motivation of employees in CS „PROIECTANTUL” LC, the questionnaire method was used.

The questionnaire was completed by a total of 50 people representing a sample of 30% of the total employees of the organization, and of these 27 were females (54%) and 23 were males (46%) (see Fig. 2). The sample selection took into account the structure of personnel (staff directly involved in the design and administrative staff) and the structure of employment by level of education (see Table 1 and Figure 1).

We used the same type of questionnaire to all persons, specifying the name of the employee who completes it, the compartment to which it belongs and its preparation, respecting

the rules: training employees on the knowledge for reality need, creating the atmosphere of trust, collaboration, use of appropriate language and formulations for the purpose.

Table 1: The company's graduate employees

	Categories of Personnel	Number of people
1.	University degree's employees, of which: - economic studies - technical studies - law studies - others	87 6 78 1 2
2.	High school degree	75
3.	Elementary's	2
	TOTAL	164

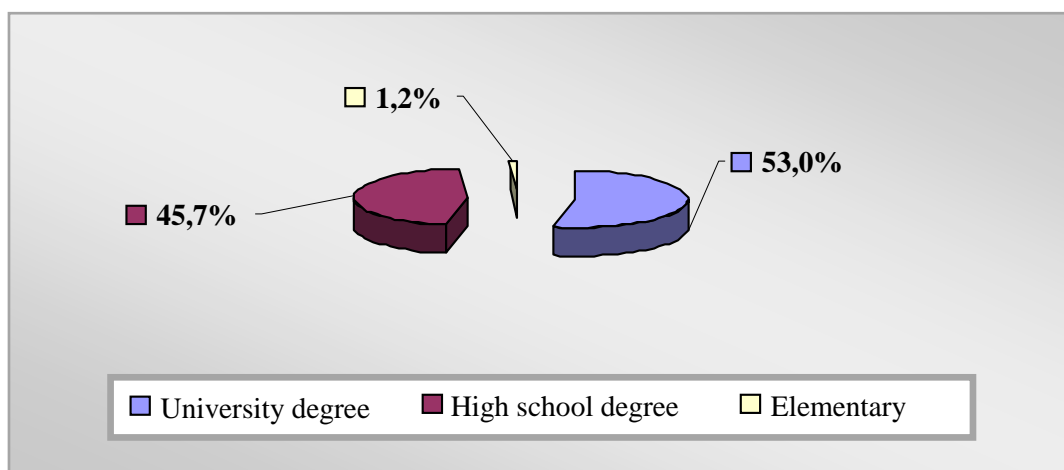


Fig. 1: Personnel' structure by level of training

The main resource of the CS „PROIECTANTUL” LC is the employees. The company has a number of 164 employees of which 87 graduate (university's degree), 75 of them have a High school degree and 2 has elementary studies.

Table 2: Employees' gender structure

Gender's	Number of employees
Female	93
Male	71
TOTAL	164

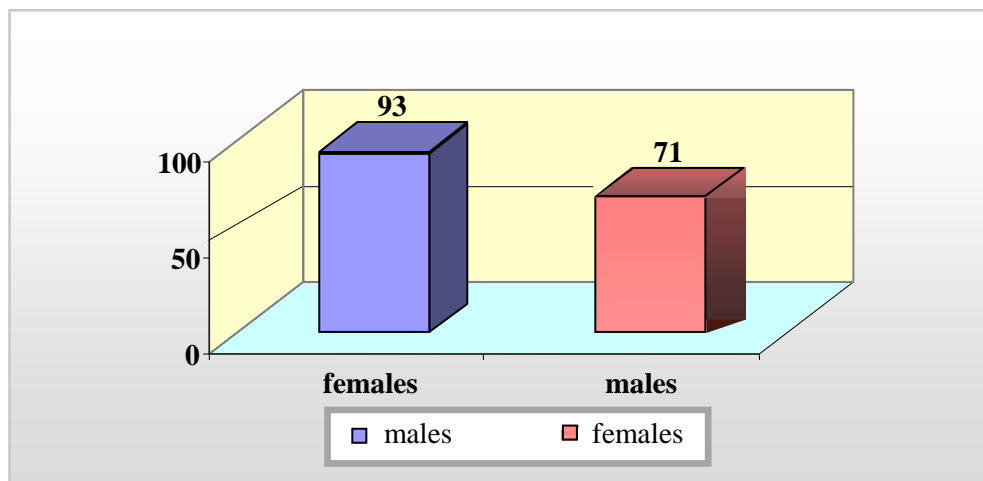


Fig. 2: Employees' gender structure

This figure shows that the company has 93 female employees and 71 male employees which indicate the preponderance of female staff.

4. INTERPRETATION OF RESULTS

Considering the personnel structure in CS „PROIECTANTUL” LC were surveyed 39 people in design teams and 11 individuals belonging to the administrative staff. Summarizing all questionnaires, the following conclusions:

Q1: Do you think that your work is fairly paid?

A: Yes – 14 people (28%) ; To a small extent – 29 people (58%); No - 7 people (14%);

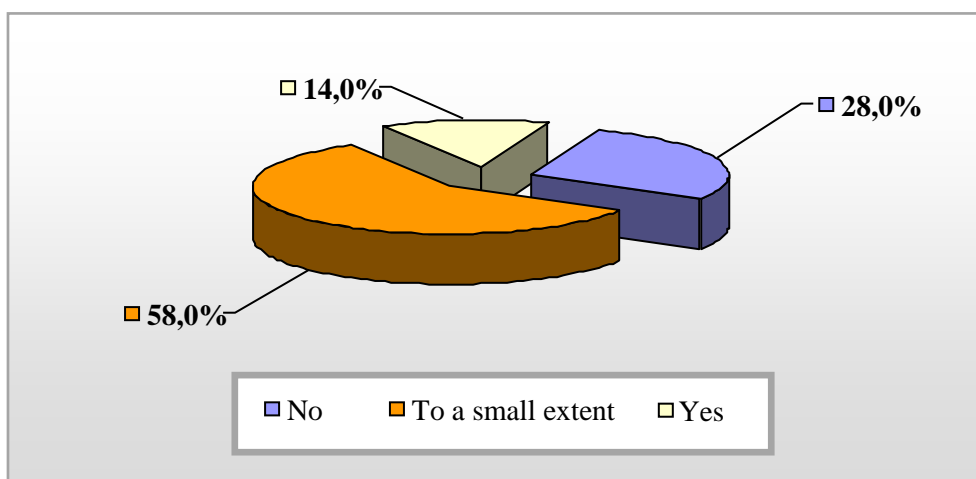


Fig. 3: Question 1 share answers

Only 28% of the employees believe that they are paid correctly while most employees believe their work is not rewarded according to their performance level.

Q2: Is your organization rewarding outstanding merits?

A: Yes – 13 people (26%); Seldom – 29 people (58%); No - 8 people (16%);

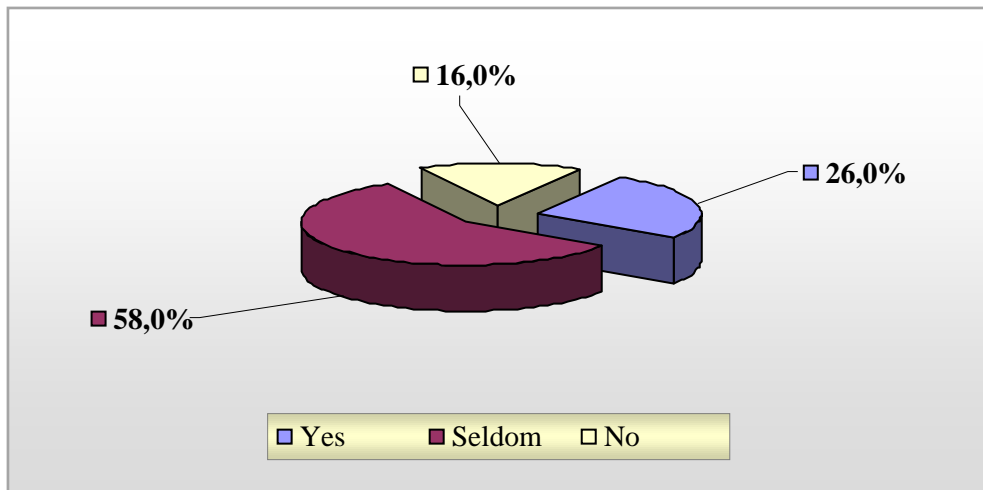


Fig. 4: Question 2 share answers

Most of the employees (58%) believe that exceptional results are rarely rewarded while a minority of the employees (16%) feel they are not rewarded at all.

Q3: In your organization, is respect and consideration as important as material reward?

A: Yes – 33 people (66%); less important – 14 people (28%); No - 3 people (6%);

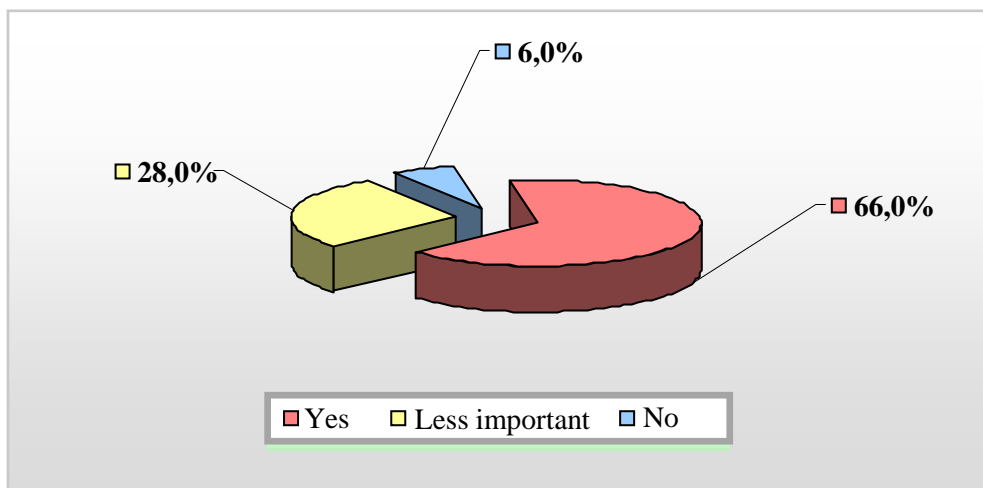


Fig. 5: Question 3 share answer

66% of the employees consider the respect and deference as more important than material reward, which shows the interest of employees for the non-financial motivation.

Q4: In your organization, is managers' assessment just as important as the financial reward?

A: Yes – 25 people (50%); Less important – 22 people (44%); No - 3 people (6%);

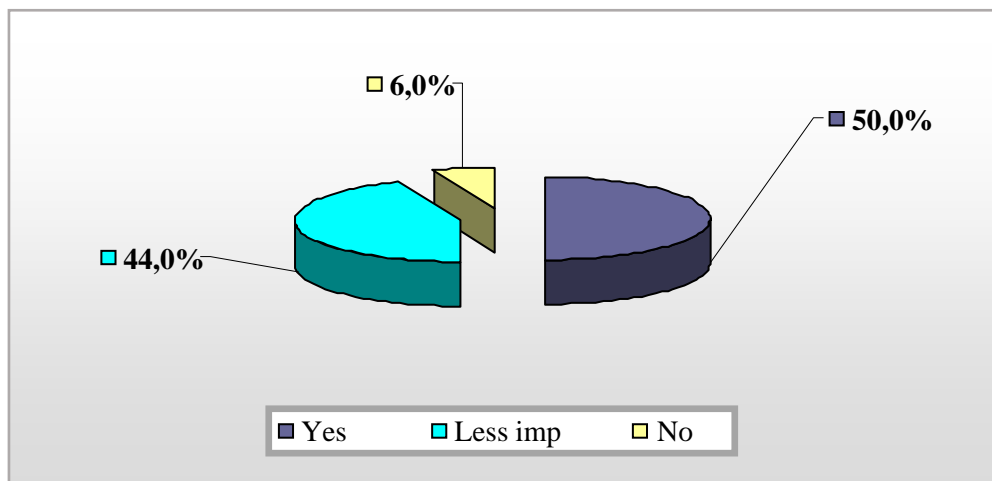


Fig. 6: Question 4 share answers

Although half of the employees believe that appreciation from managers is more important than financial reward, a considerable part of them (44%) believe it is a less important issue.

Q5: In your organization, the managerial levels promotion is made by skills or age criteria ?

A: Skills – 24 people (48%); Age - 26 people (52%);

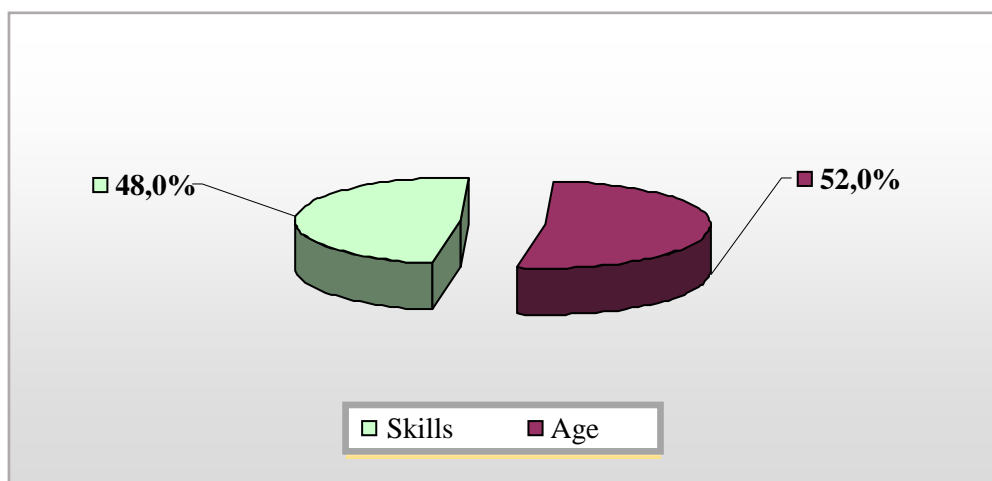


Fig. 7: Question 5 share answers

An important aspect is that 52% of the employees consider that advancement is based on age which shows the importance of hierarchy and its respect in the management's mentality

Q6: In project development, is accepted and encouraged the initiative?

A: Yes – 34 people (68%); Seldom – 7 people (14%); No - 9 people (18%);

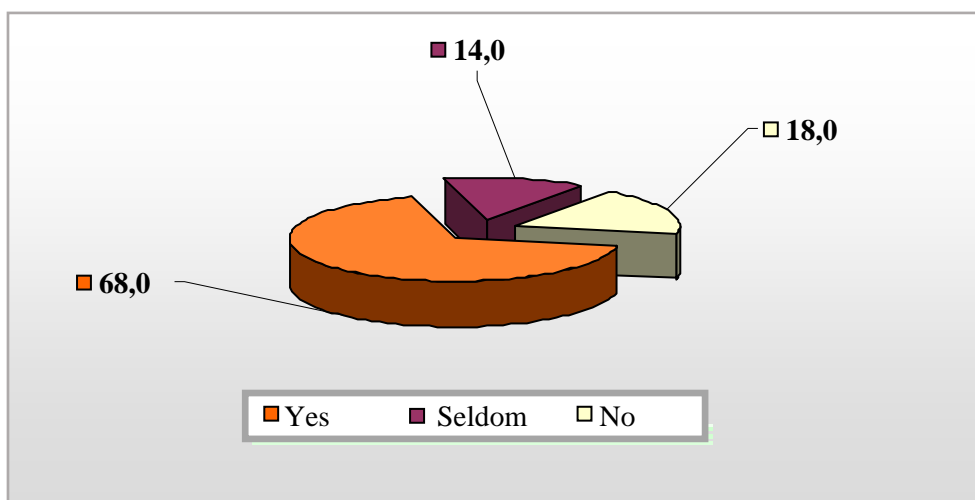


Fig. 8: Question 6 share answers

The vast majority of the employees (68%) feel that their initiative is appreciated, which shows the management’s interest for innovation.

Q7: In your organization, have you been wrong or treated unfairly?

A: Yes – 15 people (30%); Seldom – 23 people (46%); No - 12 people (24%);

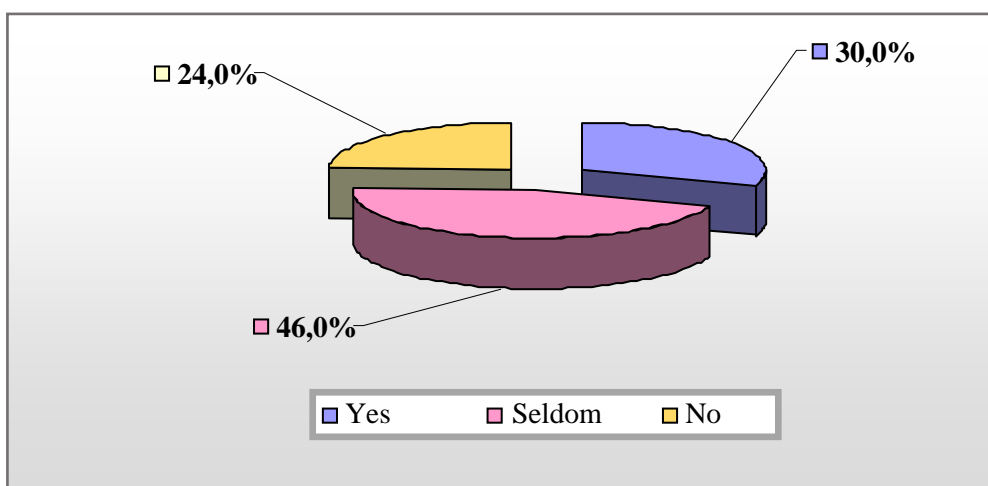


Fig. 9: Question 7 share answers

46% of the employees believe that they have been treated fairly, which is a point in management’s favor, although a significant share of them (30%) feel that they have been treated unfairly.

Financial motivation in CS „PROIECTANTUL” LC includes all those forms of monetary reward of the work, or the employees’ results as the salary, benefits, bonuses and dividends.

Non-financial motivation refers to the rewards and incentives forms that do not involve direct provision of money for the employee. This reasoning is based on the regulation of all personal factors, work and organization, that influence the energy, tenacity and enthusiasm of all employees and causes them to work at their highest settings. The managers considers non-financial motivation a solution for problems that arise naturally during activity, it provides solutions that enhance creativity, increase competitive spirit and increase loyalty to the organization.

We note that at the basis of each employee's motivational reactions are primarily the specific needs; these needs are very wide range, as shown in the diversity of the motivational theories.

5. CONCLUSIONS

We believe that employee's motivation can be enhanced by the existence of a performance evaluation program that encourages initiative, develop responsibility and stimulate effort for performance boosts.

Of particular importance is the study of underlying cultural values in the company, which are intended to highlight which are the most important sets of values at the level of each employee and the entire organization. Both management and organizational culture must support and reinforce desirable behaviors in the company. We consider that another very necessary element is the trust between employer and employee, which provides the framework through which is established and provided fair wages and rewards.

In this regard, we consider useful for motivating the company's staff a study of the salaries and benefits paid to employees in different positions and at different levels. The results of this study lead to the creation of a clear vision of the market wage system, which can be the substantiating basis of their own system of remuneration

At the end of this study we suggest some practical solutions, necessary to achieve and increase the employee's performance:

- to pay attention to non-financial motivation, which has a number of advantages: has stronger effects; calling for such as emotional elements; have positive effects on team cohesion; creates loyalty to the firm.
- to provide a suitable job for the employee's values and needs;
- to increase the job's attractiveness;
- let management to initiate meetings to celebrate individual and team success;
- to share awards for excellent results and to provide a progressive rewards for performance of excellence;
- paid time off, given during birthdays;
- paid course on a chosen by the employee topic;
- to offer indirect material rewards: many different insurance, protection schemes, etc.

All these techniques are often issues that management lose sight of, but if included in the organization motivation strategies can extend a major impact.

6. RECOMMENDATIONS

To achieve the performance criteria, we recommend:

- Establishing a reward system at the company level, according to its results or according to the results of each employee. This system, however, is conditioned by the fact that all employees know very well the criteria on which awards are granted.
- Awards for staff to be made in time, i.e. with a certain periodicity. It is common the biannual employees award (on Easter and on Christmas), but we believe that this system should be linked to certain of the employees personal achievements.
- Prize pool should be planned and included in the annual budget of the company. This planning of a permanent fund awards reflect the company's care for their employees and that it has defined its own personnel policy, a clear plan for how to involve human resources objectives.
- Finally, to be allowed to purchase share or shares in the company they work, because that creates a sense that they work both for the company and for himself.

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ASPECTS OF THE STOCK VALUATION AND ACCOUNTING IN AGRICULTURAL UNITS IN ROMANIA

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***Abstract:** This paper approaches a current and common and topical problem of the business entities operating in agriculture, the stock valuation and accounting problem. Thus, gradually the article starts from the delimitation of the categories of inventories in agriculture, continues with the reasons for the need to value them and shows the stock valuation methods in the current accounting and in other specific situations.*

***Keywords:** valuation, inventories, agriculture, accounting, IAS, production cost*

JEL Classification Codes: M40, M41

1. INTRODUCTION

As shown in the specialised studies³, Romania is one of the countries with a strong agrarian character, among the European Union countries. This does not mean a corresponding contribution of the agriculture to the GDP formation, nor, a high degree of efficiency, in terms of productivity level equally resulted from comparing the sector with other sectors of our economy, and especially, with yields at the various crops and animal species recorded in the other EU countries.

In agricultural companies, inventories are the current assets base upon which large part of the accounting activity is focused, especially in terms of determining the production cost that presents calculation peculiarities, depending on the specificity of the business. Besides the current accounting valuation, specific problems occur in terms of determining the stock value and in the case of the overall valuation of the company.

2. TYPES OF AGRICULTURAL ENTITIES IN ROMANIA

Agriculture is “the branch of the material production having as an object crops and livestock in order to obtain food products and certain raw materials; all the works and methods used for this purpose.”⁴ The volume, structure and manifestation of these resources in the process of their use differentiate agriculture from other branches of the economy.

The agricultural activity is according to IAS 41 “Agriculture”, “the transformation of biological assets (living plants and animals) into agricultural produce (harvested product of the entity's biological assets”⁵

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³ Constantin Anghelache - Romania 2013. The Economic Status under the Burden of the Crises Effects, Economic Publishing House, Bucharest, 2013, p.163

⁴ National Continuous Professional Development Institute – Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest, 2012, pp. 9-29.

⁵ Definition according to the International Financial Reporting Standards

Companies carrying out activities in order to obtain agricultural and food produce are currently known as units, farms or agricultural entities. The concept of agricultural entity has a broad meaning, designating any entity in which agricultural produce is obtained.

“*The agricultural unit* is the place in which the farmer combines production factors in order to obtain agricultural produce. The farmer can use the land as owner, lessee, administrator or entrepreneur.”⁶

The diversity of the agricultural units is determined by a multitude of characteristics, such as: the types of activities performed, legal organization form, form of property, economic form of organization, size, production factors used.

Table no.1 Main forms of economic organization in agriculture

Small farms	<p>☀ “The small farm is the primary production and consumption form, which partially or fully provides the family with the required food.” It is characterised by the cultivation of small areas, up to 10 hectares, with poor technical equipment, and lack of operating capital; it is agriculture performed for subsistence, without an important contribution to the market development.</p>
Family farms	<p>☀ “The farm is the primary basic unit of agriculture, a form of organization that provides political stability and economic motivation for farmers.” These farms are based on the private property of the land, leasing or renting it, have a great expansion in all developed countries, can be found in a lower percentage in the developing countries and are being established in countries in transition.</p>
Cooperatives and associations of cooperatives	<p>☀ There are worldwide various forms of cooperation known in agriculture, from simple agreements to business associations. The characteristic of the agricultural cooperation in the countries with a market economy is the fact that the production of the raw material is made at the level of the individual farm, the purpose of the cooperatives being the upstream and downstream activities of the agricultural production.</p>
Agri-food companies	<p>☀ Are free economic companies, established for profit. They are less specialised in agriculture (livestock, intensive fruit and vegetable production), and mainly integrate the agricultural production to processing and selling (vertical integration).</p>

(Source: table made by the authors based on the specialized literature)

Another aspect of agricultural units, besides the economic form of organization, is the legal form of organization.

Farm legal status can be divided into two main categories⁷:

I. Without legal personality:

- Individual farm – the most frequent type of farm in the rural environment which is usually composed of the family members or family associations that use common agricultural areas and/or breed animals;

Self employed persons, individual companies, family company.

II. With legal personality:

- Autonomous companies – business entity, a legal entity whose property consists of assets fully or mostly belonging to the public domain of national interests/ local or the state private property, performing agricultural activities among others;

⁶ National Continuous Professional Development Institute – Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest, 2012, p.28.

⁷ <http://www.insse.ro/cms/ro/content/ancheta-structurata-agricultura>

- Agricultural company/association – this type has legal personality, but is not commercial in nature;
- Private owned company – has legal personality, manages private/public capital and its core or secondary business is represented by agricultural activities.
 - ✓ Research institute/ station, school with agricultural profile (high school);
 - ✓ town hall;
 - ✓ Other public institutions;
- Cooperative unit – farm with legal personality established based on Law no. 566/2004, property, performing agricultural activities among others;
- Other types (foundation, religious establishment, school, etc.) – farms with legal personality such as monasteries, churches, convents, schools with non-agricultural profile or other non-governmental organizations only if they carry out agricultural activities among others.

3. DELIMITATIONS AND STRUCTURES CONCERNING INVENTORIES IN THE AGRICULTURAL FIELD

In relation to the typology of inventories, depending on the type of activity carried out by the company, there can be inventories of raw materials, production in progress and finished products (for industrial entities) and inventories of goods (for business entities). According to the international accounting standard IAS 2 “Inventories”, inventories are assets:

- held for sale in the ordinary course of business;
- in the process of production for such sale;
- in the form of materials or supplies to be consumed in the production process or in the rendering of services.⁸

International Financial Reporting Standards (IFRS) separately approach the accounting of biological assets related to the agricultural activity and to the agricultural production when nit is cropped (described in IAS 41 – Agriculture).

According to the provisions of Order 3055/2009 approving the accounting regulations compliant to the European Directives (as supplemented and updated), inventories include: goods, raw materials, materials such as inventory objects, packaging, production in progress, livestock and poultry, and finished products. The inventory category also includes goods held in custody, for processing or consignment at third parties, which are recorded separately in the accounting records on categories of inventories.

The Activity companies in the agriculture sector requires the use of stocks specific to this branch: seed and planting material, feed, animals and poultry, etc. These are highlighted by the following accounts⁹: 3025 “Seeds and planting materials “, 3026 “Feed“, 331 “Produce in progress”, 341 “Semi-finished products”, 345 “Finished products”, 351 “Materials and materials held by third parties”, 361 “Animals and poultry”, 356 “Animals at third parties”.

4. THE NEED TO VALUATE THE INVENTORIES OF THE AGRICULTURAL COMPANIES

The need for this assessment is based on the reality that the input value based on the cost price has a historical value only, any subsequent significant change in the real value of goods distorting decisions.

⁸ Definition provided according to International Accounting Standard IAS 2 Inventories /2013

⁹ According to the accounting regulations passed through OMFP 3055/2009 (as amended and supplemented)

Given that in the life of an entity there are several moments when the valuation is necessary, we could say the same thing about the need to value inventories.

In my opinion, the inventory valuation need emerges in the following moments:

-The accounting valuation in agricultural companies:

- a. when entered in the assets or when first recognised in the accounting records:
 - contributed to the capital of the company – assessed at the business value set by the assessor;
 - obtained freely or by donation – valued at their fair value.

- b. when inventoried – in order to determine the real (inventory) value, which is determined depending on the condition of the goods, its usefulness for the entity and its market price;

-On the occasion of the overall assessment of agricultural companies, as they are part of the company assets. The need to value the company occurs in agricultural company selling and purchase transactions, in mergers in order to set the net merger contribution, in liquidations of the agricultural companies, etc.

5. INVENTORY VALUATION IN THE ACCOUNTING OF THE AGRICULTURAL COMPANIES

The share of the current assets in the balance-sheet assets of agricultural companies is significant in many cases, which is why their correct valuation is important. According to the fundamental idea of company valuation, and also in the valuation of the current assets, the aim is to assess their most realistic (market) value.

In relation to the nature of the assets, the direction of the movements occurred in the mass of the assets and the time when the evaluation is made, the following rules and valuation forms can be noted: valued when entered into the accounting records, valued when removed from the accounting records, valuation at inventory, and valuation at the balance record. I will present the valuation of the inventories of the agricultural entities according to the accounting referentials applicable to trading companies in Romania.¹⁰

Table no. 2 Valuation of the inventories of the agricultural companies in the accounting records

Valuation moments	
	Valuation when entered into the accounting records
	<p>The initial valuation of the inventories of the agricultural entities is made at cost. This cost can be represented by:</p> <ul style="list-style-type: none"> - The purchase cost: for those bought from various suppliers (the purchase cost is equal to the purchase cost, customs duties, unrecoverable fees and all other expenses directly related to the commissioning of inventories, expenses that cannot be recovered from third parties); - The production cost: or those from own production, including the livestock weight gain increment (the production cost includes the purchase cost of raw materials and supplies, other direct production costs, as well as the share of the indirect production costs);

¹⁰ Note: the inventory valuation rules according to Order no. 2239/2011 of the Minister of Public Finance on the simplified accounting rules coincide to those presented in Order no. 3055/2009 of the Minister of Public Finance approving the accounting regulations compliant to the European directives

- **The value of the contribution to the equity capital** of the agricultural entity, inventories contributed in the agricultural entities are assessed at the contribution value determined following the valuation process, performed according to the legislation in force;
 - **The inventories of agricultural companies received freely** are assessed at fair value.
- The fair value** is the amount for which the asset could be willingly exchanged between parties informed in a transaction with the objectively determined price.

Valuation when exiting the entity

When exiting the entity or being given for consumption, inventories are valued and deducted from the accounting records at their original value or their book value.

When inventories and fungible assets are removed from the accounting records, they are assessed and recorded by applying the following methods:

The first-in, first-out method (FIFO) - the goods removed from the accounting records are assessed at the purchase or production cost of the first batch. As the batch is exhausted, the goods removed from the accounting records are assessed at the purchase or production cost of the next batch, in chronological order.

The weighted average cost (WAC) method – consists of calculating the cost of each item based on the weighted average of the costs of similar items that are in stock at the beginning of the period and of the costs of similar elements made or purchased throughout the period.

The last-in, first-out (LIFO) method – goods removed from accounting are assessed at the purchase or production cost of the last batch. When the batch is exhausted, goods removed from accounting are assessed at the purchase or production cost of the previous batch, in chronological order.

Valuation at stocktaking and presentation of the items in the balance sheet

Implies assessing the inventory value of the balance items when they are inventoried. It is represented by their current or utility value, being determined according to the utility of the goods in the economy of the company and the market price.

Assets such as stocks are assessed on the balance sheet at book value, less adjustments for the impairment found. Adjustments for impairment are established including for the inactive inventory. If the book value of the inventories is higher than the inventory value, the value of the inventories is reduced to the net realizable value by setting an adjustment for depreciation.

The book value is the value at which the asset is recorded in the balance sheet and is determined as difference between the input value, on the one hand and adjustments for impairment, on the other hand.

The **net realisable value of the inventories** is the assessed selling price that could be obtained throughout the normal course of the business minus the costs assessed for completing the goods, where appropriate, and the assessed costs of selling it.¹¹

Assets such as stocks should not be reflected in the balance sheet at higher value than the value that can be obtained by their use or sale.

¹¹ National Continuous Professional Development Institute – Guide for the application of the national accounting in agriculture, CECCAR Publishing House, Bucharest, 2012, p.51

	Valuation when recorded in the assets
IFRS	<p>International Accounting Standard IAS 2 "Inventories" presents rules for the valuation of similar inventories to the ones included in the accounting regulations compliant with European directives (shown above).</p> <p>The differences occurred in relation to the fungible inventory valuation methods when they are removed from fungible inventories, the only agreed methods being FIFO and WAC.</p>
Valuation according to Order no. 1286/2012 of the Minister of Public Finance on the International Financial Reporting Standards	<p>The differences related to the inventory valuation compared to the accounting regulations in Directive IV of the EEC are present in IFRS. Thus, IAS 41 "Agriculture" mention the fact that a biological asset should be valued at the initial recognition and at the end of each financial year at its fair value minus selling costs, except when the fair value cannot be reliably determined. The content of the same standard brings the following additional clarifications concerning the determination of the fair value:</p> <ul style="list-style-type: none"> - If an entity has access to different active markets, the entity uses the most relevant one (the market expected to be used) - If an active market does not exist, an entity uses one or more of the following, when available, in determining fair value: <ul style="list-style-type: none"> the most recent market transaction price, provided that there has not been a significant change in <ul style="list-style-type: none"> a) economic circumstances between the date of that transaction and the end of the reporting period b) market prices for similar assets with adjustment to reflect differences; c) sector benchmarks (for example price/kg)

6. INVENTORY VALUATION METHODS IN THE OVERALL COMPANY VALUATION PROCESS

Out of the three known approaches for the determination of the value of the companies (the market approach, the cost approach, and the income approach) I am mentioning that the inventory valuation occurs only when the asset or cost approach methods are applied. Under the asset approach method of valuation, inventory valuation is required to determine the value at which inventories will be recorded in the assets correlated for the determination of the net asset value adjusted or the net liquidation asset respectively (depending on the assumption of the continuation or cessation of the activity). I will present aspects pertaining to inventory valuation in the overall company valuation process according to the specialized literature.¹²

For the company assessor, it is very important to know which inventory valuation method is used by the company. If the valuation in the accounting records of the company is made at cost, it is also necessary for him to know the specific method used for quantifying such costs.

If the cost is no longer an actual measure of the market value, in the accounting it is allowed to record the lower value between cost and marked value.

There are three main methods for the inventory valuation in such circumstances:

- The "item-by-item valuation method" (by which the cost and the market value are compared on each item in the inventory, the individual items being assessed at the lowest level);

¹² Sorin V. Stan – "Company Valuation, reviewed and supplemented", Iroval Publishing House, Bucharest, 2013, p. 252.

- The main category method (by which the total cost and the total market value of each category of article are compared, each item being valued in the accounting records at the lowest value between the two compared levels);
- The total cost method (by which the whole inventory is valued both at cost and at market value, and the lowest value is used to determine the recorded cost).

The raw materials are valued at the price of the day by using the market price. For the finished products, which constitute the object of contracts or firm orders, the valuation is made at the selling price mentioned therein and for the finished products to be sold, at full cost.

The unfinished production is valued based on the prices of the finished products, adjusted for the technical finishing level, determined on the occasion of inventorying the production in progress. Since the operation is complex and needs time, the remaining the production in progress in the balance sheet is adjusted for the expenses related to the ceased orders, which are to be sold separately. The other items are taken into account with the value in the balance sheet, adjusted with the amounts representing the equivalent value of the damaged goods.

7. IDENTIFYING AND VALUATING INVENTORIES SPECIFIC TO THE AGRICULTURAL BUSINESS OF THE COMPANY S.C. IRIS TITULESCU S.A.

I will present the stages performed to obtain the cereals (leguminous bean and haulm plants) in the above/mentioned company, mentioning the types of inventories spent or obtained and their accounting valuation:

Table no. 3 Types of operations, inventories used and inventory valuation in an agricultural company

Stages performed in the agricultural entity from the land preparation to harvesting	Inventories used/transformed and their accounting records	Inventory valuation
I. Land preparation		
1.1. Ploughing 1.2. Disking 1.3. Scarifying	Throughout the financial year various costs are recorded in relation to the land preparation and other operating expenses which are equalized on a regular basis at the level of the profit and loss account in correspondence with the credit of account 711 "Incomes related to stocks' costs" (331 "Products in progress" = 711 "Incomes related to stocks' costs"). At the beginning of a new accounting period the unfinished production is resumed in order to continue, by means of the reverse accounting formula (711 "Incomes related to stocks' costs"= 331 "Products in progress")	The valuation of the agricultural production in progress is made at cost (depending on the operating expense level recorded by the end of each year).
1.4. Seeding	The seeds are used* for planting 6025 "Costs of seeds and sapling" = 3025 "Seeds and sapling"	When seeds and the sapling are removed from the assets, being fungible stocks, they are valued using the FIFO method
1.5. Herbicide	The land is treated with herbicide according to the standards, and the removal of the herbicide from the accounting records is accounted for	When the herbicide is removed from the assets it is valued using the

	in 6028 “Costs of other consumables” = 3028 “Other consumables ”	specific identification method.
II. Crop maintenance		
2.1.field hoeing 2.2. mechanical hoeing 1 2.3.mechanical hoeing 2 + fertilising	Throughout the accounting years various land preparation expenses and other operational costs are recorded and equalized on a regular basis in the income and expense account in relation to the credit of account 711 “Incomes related to stocks’ costs” (331 “Products in progress” = 711 “Incomes related to stocks’ costs”). At the beginning of a new accounting period the unfinished production is resumed in order to continue, by means of the reverse accounting formula (711 “Incomes related to stocks’ costs” = 331 “Products in progress”)	The valuation of the agricultural production in progress is made at the production cost (depending on the operating expense level recorded by the end of each year).
Cropping	Besides the other operating expenses related to the land maintenance and carrying out the agricultural work, the direct/indirect expenses related to the cropping stage that will be included in the production cost related to the production in progress will also be taken into account (331 “Products in progress” = 711 „Incomes related to stocks’ costs”)	The valuation of the agricultural production in progress is made at the production cost (depending on the operating expense level recorded by the end of each year).
Storage	Following the cropping the obtained cereals are recorded, accounted for by means of account 345 “Finished products” opened on analytical accounts corresponding to each type of cereals (345 “Finished products” = 711 “Incomes related to stocks’ costs”).	The valuation is made at the production cost* by also taking into account the unfinished production cost recorded in the previous accounting years, as well as the direct and indirect production expenses of the last accounting year.
Produce selling	The products can be sold as follows: i. Selling (discharge of administration of the produce 711 “Incomes related to stocks’ costs” = 345 “Finished products”) ii. Transferring produce to the landowners who leased the land (462 “Sundry creditors” = 345 “Finished products”) iii. Part is used for seeding for the next year (3025 “Seeds and sapling”= 345 “Finished products”).	The valuation at removal from assets is made depending on the production cost** of the cereals removed from the accounts.

* the seeds used for seeding come either from the previous year crop (specific accounting record: 3025 “Seeds and sapling” = 345 “Finished products”). The removal from the product category is made depending on the production cost previously recorded when obtaining the seed crop), or are purchased from internal suppliers (3025 “Seeds and sapling material” = 401 “Suppliers”), the valuation when they are entered in the accounting records being made at purchase cost.

** Agricultural companies and agricultural associations (legal entities) calculate the costs of the agricultural production obtained in the course of an accounting year. As shown in

specialised materials¹³, a fact also proved in practice, a main problem related to the assessment of the production cost is related to the time when the calculation can be made. Determining the final cost of the agricultural production at short time periods is difficult due to the inconsistency between the period when resources are spent and the time when the production is obtained. The inconsistency between the period when the production expenses are incurred and the period when the production is obtained is differentiated depending on the profile of the branch, as well as of the activities performed in these agricultural branches. This situation is quite noticeable in the vegetal production branch, which branch also influences the livestock production by the fact that it provides the feed required to raise and maintain animals. Another aspect that influences the calculation of the unit cost of the agricultural production is obtaining from certain crops and categories of animals, both the main produce, as well as the secondary ones. Obtaining from certain crops and categories of animals two or several main produce determines the creation of a system of criteria used to specify the main produce and the produce that are assimilated, from the point of view of the calculation, as secondary produce. This delimitation into main produce (with and without calculation) and secondary produce requires, on the one hand, choosing the calculation procedure, and on the other hand, the valuation of the main produce assimilated to the secondary production. The calculation of the cost per unit is based on the data related to the production expenses and the production obtained, recorded and grouped in the operational records of each production farm. The cost calculation methods vary depending on the agricultural activity, for example in the case of the company analysed, the stage method is applied. “The problems of the change in the economic environment and the companies’ need to adapt determined the reorientation of the managerial accounting. At the same time, given that the techniques and practices used by traditional managerial accounting, applied in new production conditions have not yielded the expected results, it is increasingly evident that the managerial accounting system needs to improve”¹⁴.

In the practice of many Romanian companies (including the agricultural ones where I carried out the practical research) we can find the case when, at stocktaking, a stage prior to the financial statements, book values equal to the inventory (actual) values are recorded in the inventory record. I checked based on the management accounting data and the statistical information¹⁵ the comparability of the costs and the prices of three categories of cereals (wheat, corn and sunflower).

Table no. 4 Price-cost comparability for cereals

(RON/kg)

Calendar year	Wheat		Corn		Sunflower	
	Cost	Price	Cost	Price	Cost	Price
2005	0.2357	0.37	0.2476	0.37	0.5828	0.76
2006	0.3237	0.35	0.2850	0.39	0.4817	0.73
2007	0.4310	0.74	0.3052	0.78	0.6295	0.88
2008	0.3924	0.68	0.3567	1.01	0.8766	1.19
2009	0.4173	0.48	0.2510	0.67	0.5340	0.88
2010	0.5577	0.59	0.4400	0.71	0.8690	1.22
2011	0.5201	0.89	0.3040	1.01	0.6880	1.64
2012	0.6817	0.93	0.7210	1.05	1.3920	1.88

¹³ Băviță Ilie, Dumitru Mădălina, Pitulice Ileana Cosmina, Calu Daniela Artemisa, Popa Adriana Florina – “Accounting in Agriculture. Theoretical and Practical Approaches”, Contaplus Publishing House, Bucharest, 2008, pp. 72-74

¹⁴ Constanța Iacob, Marian Țaicu “Managerial Accounting and Environmental Performance of Bakery Companies”, Scientific Bulletin – Economic Sciences, Volume 11/ Issue 1 Pitesti 2012, p.19

¹⁵The prices were taken from the website www.insse.ro//tempo and the information related to cost was taken from SC Iris Titulescu SA

8. CONCLUSIONS

Following the analysis of the data in the table, we can conclude that the market prices (which can be assimilated to the net realisable value or the real value) are higher than the cost in the accounting records, in the case of the specific inventories of this agricultural company and consequently according to the principle of prudence no value adjustments for temporary depreciation should be recorded. However, in my opinion the situation can be generalised in all agricultural companies, and the practice of entering into the inventory record of the equality between the book values and the real ones is risky because in the case of real values lower than book values, failure to enter value adjustments for the depreciation of the inventories leads to the distortion of the fair image of the assets.

We can say that agriculture is a fundamental branch of the national economy, and the entities operating in this field present specific categories of inventories, whose assessment needs special attention especially in relation to the assessment and recording of the production cost, the other cost categories being determined easier. Moreover, the fact that there are similar goods currently traded in the market facilitates valuation at stocktaking or in other moments that require real values.

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