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# THE USV ANNALS OF ECONOMICS AND PUBLIC ADMINISTRATION

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THE USV ANNALS
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### **SECTION 1**

ECONOMY, TRADE, SERVICES

THE USV ANNALS
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VOLUME 16, SPECIAL ISSUE, 2016

# THE IMPACT OF SMES FROM THE EUROPEAN UNION AND ROMANIA IN ECONOMY

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### **Abstract:**

The objective of this paper was aimed at understanding the importance of SMEs in the market economy as the economic engine continues to be the factor that motivates both business and human existence. The yield and quality of the results of a national economy depend largely on the ability to determine the creation and operation of a large number of businesses which provide products and services of quality, cost and reduced prices and quantities and of appropriate requirements domestic and foreign market.

The article deals with the content and structure, activities that are specific to SMEs and how they operate in the market, and how these types of companies influence the economy of the European Union and Romania.

Key words: the role of SME's, European economy, economical growth

JEL classification: F15, O13, Q01

### 1. INTRODUCTION

In this article I proposed to do a comparative analysis between European SMEs and SMEs in Romania, in the period 2008-2015 based on official statistical data submitted by state authorities. The last decades are characterized by the fastest and with the greatest impact in the evolution of mankind. The article deals with the content and structure activities that are specific to SMEs and how they operate in the market, a comparative analysis of small and medium enterprises in Europe and SMEs in Romania it is presented on the basis of statistical data role and impact that generates SMEs modern market economy

Between economic changes essentially enroll situation of SMEs in the forefront of development, transforming them into the most dynamic economic factor. Recent statistics from developed countries provides us with irrefutable arguments. The largest part of GDP is produced in the small and medium enterprises, so the majority of those employed working in SMEs, as they are only creating new jobs in the last two decades. SMEs have an important place in the national economy and the internationalization of the economy, being the main engine of its recovery. They are an example regarding risk taking and taking the initiative at the same time because they have a relatively small size can adapt more easily to new requirements existing in the moment and ultimately contribute to developing the spirit of entrepreneurship. Moreover, humanity is in the process of transition to a new economy, the knowledge economy. Its main component is the knowledge-based company. Developments so far and the specialists' analysis demonstrates that prototype company based knowledge is small or medium enterprise, incorporating technique and technology, which employs a small number of people, but with training high, whose main resource and vector development it constitutes knowledge, knowledge-based company is usually small, with the defining characteristics, competitive advantage based on knowledge, creativity, dynamism and high flexibility, high capacity to learn and use new knowledge to generate added value.

Small and medium enterprises are the main actors / key players in the modern economy and is the main way to recovery and revival of these. In last time following statistics provided by various institutes, SMEs contributed significantly more to the product GDP of the country, have rectified to some extent problems in terms of unemployment and finally brought technological innovations.

### 2. THE SITUATION OF SMES IN THE EUROPEAN UNION

In the European Union SME sector is considered to be a major feature of the economy, and while micro, small and medium enterprises are key to entrepreneurial and innovative spirit, these things are essential to ensure the competitiveness of enterprises in the European Union. Thus, since the 1980s, SMEs Incept to be more innovative and more flexible in terms of cost reduction and efficiency were much higher than the size businesses.

Over the past two decades micro, small and medium enterprises have become to be the main engine of modern economy and social development worldwide. Micro, small and medium enterprises are considered to be the most important pillars which are behind the growth and creation of jobs and growth and also increase national and regional competitiveness in a globalized economy.

By early 1996 were considered SMEs enterprises which had a number of employees less than 500, more specifically micro-enterprises had between 1 and 9 employees, small businesses between 10 and 99 employees and medium enterprises between 100 and 499 employees. Thus, until 1996 the only criterion for identifying SMEs was the number of employees. The European Commission in late 1996 stated their new criteria for defining SMEs, which are:

Type of enterprise	Number of employees	Turnover	Total balance sheet
Micro-enterprises	[0,10)	≤ 2 millions €	≤ 2 millions €
Small enterprises	[10,49)	≤ 10 millions €	≤ 10 millions €
Medium-sized enterprises	[50,250)	≤ 50 millions €	≤ 43 millions €

**Table 1. Classification of SMEs** adapted from the European Commission (ec.europa.eu)

SMEs and their sector plays an important role in the modern economy, the SME sector is shown to be the most active sector of the economy.

In 2015, 22.3 million SMEs were active in the non-financial sector. Non-financial sector consists of all economic sectors of the 28 member countries of European Union. From these economic sectors are some exceptions, such as education, health, agriculture, forestry, arts and culture sector and lastly governmental and financial services, SMEs accounting for 99.8% of all enterprises in this sector.

However, in 2015, SMEs in the non-financial sector has generated more than \$ 3.7 trillion in value added (58% of the total value added of the sector) and created jobs for nearly 90 million people being (67% of the total workforce. in a population of SMEs, micro-enterprises are estimated at 92.7% of all enterprises active in the non-financial sector in 2015, the only medium enterprises at a rate of 6.1 % and 1% small businesses.

The share of SMEs in total business population is varying between approximately 99.5% in Luxembourg and Germany and over 99.9 Portugal, Italy and Greece.

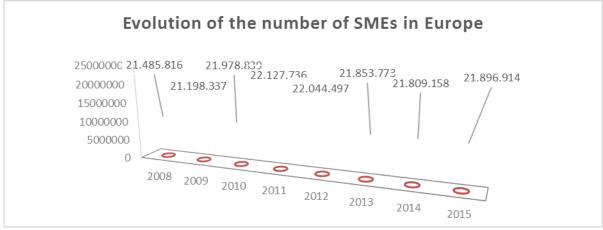


Figure 1. Number of SMEs in Europe in period 2008-2015

(adapted from Eurostat statistics)

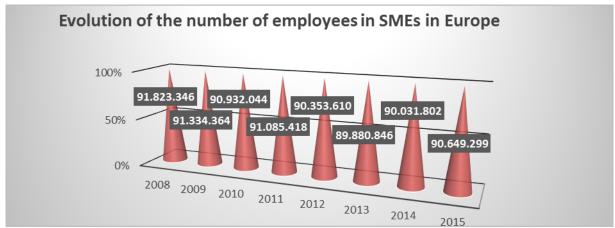


Figure 2. Number of employees in SMEs in Europe 2008-2015

(adapted from Eurostat statistics)

While small and medium enterprises are practically the same percentage of the total number of enterprises active in the Member States, their economic contribution varies greatly. But overall most of the countries of Central Europe are characterized by a large number of SMEs generating one million euro of added value in comparison with countries in Western Europe.

Micro-enterprises play an important role in the Southern and Eastern Europe, countries such as Croatia, Greece, Czech Republic, Hungary, Italy, Portugal, Poland, Spain. Almost all small and medium enterprises are micro-enterprises employing less than 10 people, about three-quarters of SMEs are active in five key sectors, wholesale and retail trade, manufacturing, construction, accommodation and food and services Business. In 2014, SMEs in all 28 member states of the European Union's value added increased by 3.3% and employment by 1.2% compared to 2013 value added increased by 1, 6% and employment fell by 0.5%.

However, the positive experiences of 2014 have not been shared by all member states, Cyprus, Sweden, Croatia, Greece, Italy and the Czech Republic showed a decrease in the value added that if Cyprus and Italy was also accompanied by a reduction in employment.

Through five key sectors, business services sector was at a very high level that the value added of the sector increased by more than 5% in 2014. The other four key sectors recorded good growth in value added, having of between 2.7 and 3.4%, but the performance of the employment growth was much weaker, particularly in the construction sector, where employment continued to decline

in 2014 even though there was an increase the value added by 3.4% and manufacturing sector, where employment increased by only 0.8%.

The latest developments in the EU member countries' performance with regard to SMEs reflects a macro-economic improvement and an improvement in the business sector. Not all SMEs have achieved improvements, especially in the construction sector and manufacturing sector, which were hit hard by the economic and financial crisis. Employment of these two sectors was in 2014, 17% of that 11% is below the levels of 2008, while value added in the construction sector remained below 18% compared to 2008, SMEs in the business sector and accommodation and food sector have benefited of robust growth.

The SME sector has contributed disproportionately decline both in employment that occurred in 2008-2013 and subsequent recovery of the labor force because SMEs accounted for 67% of employment in non-financial sector in 2008 and 2013. In those groups, SMEs, small and medium enterprises had a large share in terms disproportionate decline in employment in 2008 and 2013.

The strongest growth SMEs on employment was recorded in the sectors of small size, sectors that managed to record the best performance in terms of job creation, these sectors being energy electricity, gas, administrative activities, consulting services, sewerage, waste management and rehabilitated. These sectors show increasing employment in excess of 10% compared to 2008 and 2013, but they represent less than 10% of all jobs for SMEs. Employment in some sectors higher, such as food services sector, real estate and accounting sector, increased by 10%, 9% and 8% respectively during 2008-2013 these sectors accounting for 8% 3 % and 3% of total employment for small and medium enterprises.

Behind financial and economic crisis, most member countries have adopted measures to improve the access of SMEs to finance, especially bank lending, through subordinated loans advantageous schemes to guarantee loans or programs of microcredit. Many countries support the internationalization of SMEs, as are granted financial support for export promotion, market access strategies and participation in trade fairs.

Globalized markets offer small and medium enterprises in the European Union new business opportunities. Thus, one study concluded that SMEs in Europe are more active in the world than in America or Japan, 25% of SMEs exports to at some point in the past 3 years, with a 13% in terms of exports outside the European Union market. However, in this study it stressed that there is a market that has not been exploited at all, this market having huge potential this market with great potential lies in the BRIC countries, which is estimated to represent around 60% of GDP the world by 2030. currently, only 7% and 10% of exporting SMEs in the European Union on these markets.

To access these markets in third countries, SMEs must have some characteristics suitable to be supported by a policy framework suitable to help them gain a competitive advantage and benefit from a level playing field on removing obstacles, obstacles such as foreign regulatory frameworks and non-tariff barriers. Europe 2020 action has shifted towards supporting small and medium enterprises to become key players in the transition to an effective increase in the use of resources. Even if the market available to SMEs some incentives to improve the way they use resources in a lot of cases the market signals are very difficult to identify or interpret, so small and medium enterprises are facing challenges such as insufficient time, human and financial resources and ultimately insufficient information. That to overcome these challenges, SMEs must have adequate funding, using regional support programs and business support.

SMEs are the main creators of jobs in the European Union, but the economic crisis has caused the extinction of about 3.2 million jobs, thus the implementation of new programs, the Commission will try to regulate the situation and to support the still SMEs and young entrepreneurs who want to start a business.

## 3. THE DYNAMICS OF SMES IN ROMANIA AND THEIR INFLUENCE ON THE ECONOMY

The economic framework in Romania is dominated by small and medium enterprises, which has a much lower share than on micro-enterprises in the European Union as a whole. Over the past years there has been an increase in start-ups, but in spite of that micro businesses have not had a major impact in the economy, which is still lower than the average, providing only 23% of existing jobs in the private sector and 13% of economic value added. Romanian non-financial sectors in the economy are characterized by a relatively small proportion of micro-enterprises. Regarding the number of enterprises and the number of jobs, SMEs play a more important role than in other European countries. In Romania the added value generated by SMEs is 50%, which is below the EU average by 8 percentage points. Although the average is below the European Union, the number of jobs to small and medium enterprises fall in the EU average, with 67% of total employment.

The economic crisis has greatly effect the business sector primarily affected were small and medium enterprises, after deduction of real GDP by 6.6% throughout the economic crisis. Thus, the financial sectors have failed to recover fully from the economic crisis, the added value of small and medium enterprises in 2015 was lower by 12 percent than in 2008, although he had a 16% higher than the in 2009. This recovery did not generate an increase in the employment of the workforce, with an increase of only 2% of the number of jobs in small and medium enterprises, on the recession and having to 225 000 fewer jobs in 2015 than before the crisis period.

Finally, developments that have occurred in non-financial sectors of the economy, can vary according to the economic sector, some remained in recession whereas others had significant growth.

A sector that failed to be recovering from the economic crisis is the sector of hotels and restaurants. The added value services being generated in this sector was 19% lower than the value added generated in 2008. Many factors have generated this slow recovery, factors such as:

L	_the lack of a national strategy of tourism;
	infrastructure is underdeveloped and uncompetitive;
	smaller investments in infrastructure since 2009;
Γ	Teuropeanstandards have not been met by the service industry.

In addition to these factors is added and value added tax (VAT) on accommodation is much higher than that of neighboring countries, so generating a competitively low. To reduce these factors facing Romania, the government proposed to reduce the VAT rate from 16% to 9% for services such as accommodation.

Another sector unlike the services of hotels and restaurants, managed to register exceptional performance. This sector is the production of transport vehicles, road trailers and semi-trailers in the 2009-2015 period did increase the added value of 30%.

The number of jobs in this sector has returned to the level before the crisis. This value added growth was supported by foreign car manufacturers, these manufacturers investing heavily in production capacity in their own factories but also in national factory Dacia.

A significant investment was made by a German company in Sebes to increase production capacity, investment estimated at 300 million euros. In 2012 the value of exports of cars was 16.8 billion euros, which represents 20% of its exports to Romania.

After several years of growth, registering a new company managed to decrease by over 50% in 2009 due to financial and economic crisis. In 2009 there were only 57.085 new businesses registered, this number is very small compared with that of 2008 which was the number 101.527. After 2009 registrations have managed to recover, but they fell again in 2014, when there were only 101.628 new registrations businesses, compared to 124.814.2013.

If there would have involved government downward trend would have been much more pronounced in "SRL-D" program supporting the creation of new businesses that have been numbered 14,000 and also creating jobs in 26,000 starting with 2011.

In 2010 the number of removals was 58.726 being much lower compared to 2013 was 80 786, but this number has managed to fall in 2014 to number 76 483, so it is not clear that the figure in 2014 shows a reversal of the downward trend . Following them was not recorded no change to the negative trend in the number of net new business registrations, specifically the difference between the number of firms radiated and the number of new companies registered. Thus, the net figure dropped continuously from 75 824 in 2011 to 53.857 in 2012 to 44.030 in 2013 and 25.144 in 2014.

For small and medium-sized non-financial sectors of the economy prospects are positive overall. It is worth mentioning that the number of small and medium enterprises in 2015-2016 will increase by 6.2%, so 2016 will create 190 000 new jobs in SMEs, which represents an increase of 7 2 to 2015. In a final outlook on the added value of small and medium enterprises are very optimistic because it is expected an annual growth of 8.5% in 2016.

### 4. CONCLUSIONS

The role of SMEs is recognized worldwide and their unique contribution to European economic development. First SMEs generate most of GDP of each country is between 55% and 99%. At the same time, small and medium enterprises create most jobs and is a development environment for employees and at the same time stimulates competition, SMEs are taking an active role in creating a competitive economy. Another positive aspect generated by SMEs is that if it were not small and medium enterprises, large companies would have a monopoly on all fields, so they have the greatest dynamism in the context of market economy.

Both countries developing and developed countries realize that SMEs play a vital role in industrial development and economic, it is not surprised that the strategies policies supported SMEs as the engine of economic recovery modern.

Following comparative analysis of SMEs in Romania and Europe is that the SME sector is the most active sector of the economy, 22.3 million small and medium enterprises were active in the non-financial sector in 2015, they generate 3.7 trillion euros and creating over 90 million jobs. The most active non-financial sector in the European Union are five in number, these are the wholesale and retail trade, manufacturing, construction, accommodation and food services and ultimately business services. After the 2008 economic and financial crisis many sectors have recovered much harder SME sector disproportionately contributed a decline both in employment that occurred in 2008-2013 and the recovery force subsequent work because SMEs accounted for 67% of employment in the non-financial sector.

Romania has an economy that is dominated by SMEs, with a much lower share than on microenterprises in the European Union as a whole. Regarding the number of enterprises and the number of jobs, SMEs play a more important role than in other European countries. In Romania the added value generated by SMEs is 50%, which is below the EU average by 8 percentage points. Even though the average is below that of the European Union, the number of jobs to small and medium enterprises fall in the EU average, with 67% of total employment.

Regarding the number of enterprises and the number of jobs, SMEs play a more important role than in other European countries. In Romania the added value generated by SMEs is 50%, which is below the EU average by 8 percentage points. Even though the average is below that of the European Union, the number of jobs to small and medium enterprises fall in the EU average, with 67% of the total number of employee. Thus, nine out of ten enterprises are SMEs, and all SMEs generates two out of three new jobs. SMEs also stimulates entrepreneurship and innovation across the EU during the period 2016-2020 the ministry will allocate 189 million euros entrepreneurship, these are structural funds, this is crucial to boost competitiveness and employment for work.

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# THE PHENOMENON OF MIGRATION. OPPORTUNITIES AND CHALLENGES

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### **Abstract:**

Migration is not a new phenomenon, neither for Europe, nor for the entire world and it exists since the beginning of mankind. Over time, this kind of international mobility generated many opportunities, but many challenges as well. Being an extremely important and complex phenomenon, both in economic terms and mostly from the social perspective, mass emigration has never been more intense as nowadays. Together with this particular complexity, the intensity of the migration phenomenon reveals each individual's profound freedom desire, but also the acute need to ensure a better future for himself and especially for his family. Currently, an ever increasing number of individuals migrate in search of a better place, changing regions, countries or even continents.

Witnessing the events that transcend the people all around the world, we consider that migration generates economic, social and cultural, but also political profound changes. These major changes require the involvement of the political actors, namely the governments, in creating a favorable and reliable framework so as the society and decision makers to understand that immigrants represent an opportunity for the emerging economies and not a phenomenon that should be criticized.

In this paper we aim to follow the theories regarding the migration process, as well as the changes it generates, taking into consideration that of the 507 million current inhabitants of the EU, approximately 20 million are from countries outside the EU. We consider this research to be underlain, taking into consideration that regardless of the form it takes, in Europe immigration is and will remain a difficult to manage reality.

**Key words**: immigration, migration phenomenon, political actors' decisions

**JEL clasification**: F22, F50

### 1. MAIN INTERNATIONAL IMMIGRATION THEORIES

Until now, a sole theory, which includes the whole migration as a dynamic phenomenon with influences in economic, cultural, social and politic field, has not emerged. Traditional theories about the emigrational phenomenon are still present, but were adapted and improved to some real situations, in the context in which the forms of migration, its motivation and the immigrant fluxes have known major transformation. In the published literature there are four theoretical approaches towards the international migration (neoclassical economics theory, migration transition theory, new economics of labour migration and development-migration relationship), and they are presented in an experiment of assessing the predicative and explanatory valances according to the current international migration phenomenon.

Neoclassical economics theory. The main idea is that external migration of population is mainly caused by economical differences. The volume of external migration of population should be a very large one especially because of the existence of some significant economic differences at a global level, because, according to neoclassical theory any country should be characterized by at least an emigrational flow, towards a more developed country. The current reality confirms this aspect; the size of the phenomenon is presently increasing. [1] Anghel Even if the neoclassical economics theory has received numerous critics about the comparison with the contemporaneous realities of external migration, the merit of this theory is mainly the fact that it highlights the importance of economic factors in the international migration field.

Migration transition theory. Migration economists have observed that there is a possibility of the temporarily migration to appear through the discovery of "inflated migration". An increase in wealth leads to an increase of the migration phenomenon. With an increasing wealth and in the

context of an already existing network of migration, a larger part of the population has the possibility to migrate, the selectivity of the migration tends to reduce and this "initial increasing" phenomenon leads to a development of migration in the communities. The way the migration takes place through the movement of migrants towards other geographical regions is hinging to the interaction between more than one variable, like: high level of unemployment, low-income, political persecution – push factors, but also by a romantic envision of the host country, high level of salaries and presence of relatives – pull factors. This theory represents an attempt to analyse the way that migration and longer development processes are interconnected, as well as the way the character and goal of migration development could change the evolution of development processes.

New economics of labour migration. This theory is analysed compared to the neoclassical economic theory and to the innovation elements which the new economy brings in the exploration of migration economy. In the foreseen perspective of the new migration economy, the decision to emigrate belongs to the family or household which is included in the strategy to diminish risk by varying the sources of income. Another separate element that the new migration theory highlights is the household's incomes which are quantified in relation to the level of development of the domestic community. One of the main issues the new migration economy refers to is concerning the emigrational context which was the base of the theory design. If a household is involved in a risk diminishing strategy through the sending of one of its members to work abroad then it is logical to do so when the costs of migration are fewer, meaning in the maturity phase of the flow. In other words, when the decision to emigrate is made it needs to take into account more than one variable, which is why salary economic theory needs to be improved. [2]

Development-migration relationship. In the last four decades, the role of migration had been intensely debated, as of the development of the domestic communities of emigrants and their destination. In the existing debates two different theories emerge, one based on the balanced growth, the other on asymmetrical growth. The two theories can be found in the published literature under the names "migration optimists" and "migration pessimists" in Table no.1. [4]

Table no.1 Controversy about migration and development

Migration pessimists				
Structuralism				
Neo-Marxist				
Disintegration				
South- North net transfer				
Brain drain				
More inequality				
Consumerism				
Dependence				
More migration				

Source: Taylor, E., J., The new economics of labour migration and the role of remittances in the migration process, Blackwell Publishers Ltd, 1999, p. 65

Migration optimists are mainly guided by neo-classical economical migration and also by developing by modernizing theories; the migration role is solely realized through the alignment of prices, comparing to the pessimists. Migration pessimists, are based on socio-structuralism theory in which we find the neo-Marxist dependence; the migration role being the possibility to generate the counter flows of capital and knowledge, which may be later capitalized in order to encourage development and modernizing.

In conclusion, without touching the differences between neo-classical ideas and the developing ones, the optimists and the pessimists believe that migration has mainly been a beneficial phenomenon for the developing process in domestic countries. [3]

### 2. MIGRATION PHENOMENON AND THE REFUGEE CRISIS

The emigrational phenomenon is a complex one, with social, political, cultural and especially economic consequences. It has both positive and negative effects on the host country, and it all depends on the way it is managed. [6]

One of the most controversial effects of this phenomenon is the refugee crises in Europe. Presently the migration phenomenon generates many changes taking into account that today from the 507 million people of EU; almost 20 million are from countries that are not part of the EU. [7]

The refugee crisis in Europe represents a political and social phenomenon initiated by the conflicts in the Northern Africa and in the Middle East countries, the poverty and the human rights' violations in these countries. Europe's immigrants' crisis was largely amplified by the incomplete integration of all the countries on the continent in all the European mechanisms. The national interests and political attitudes towards the immigrants came into contradiction with the European policies and initiatives. Given that Europe faces the worst refugees' crisis after the Second World War, we consider that the European policies and initiatives are facing a great challenge.

The current immigrants' mass movement have strained Europe's regulations concerning the migration, testing the immigration policies and raising doubts about the maintaining of open borders. We consider that for a large number of countries, the refugee crisis represents a test concerning the basic values of the European Union.

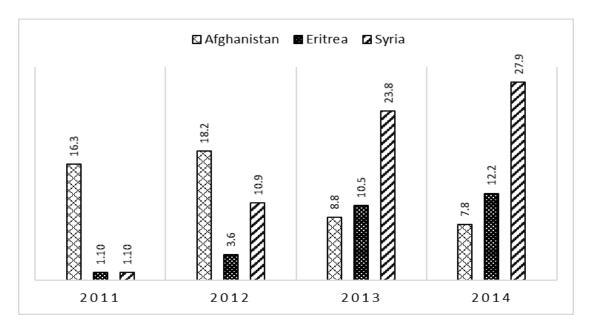


Figure no.1. Refugees' main countries of origin

Source: author's own, according to the data provided by Annual Risk Analysis, 2015, FRONTEX

In analyzing the Figure no. 1, for the period 2011-2014 it can be observed a gradual increase in the refugees' number, mainly of those from Syria, from 1.1% in 2011 to 27.9% in 2014. [8]

After having warned that the Schengen area is in danger if the EU countries cannot agree on a refugees' equitable distribution, the international decision makers urged Europe to collectively accept the responsibility for refugees' hosting.

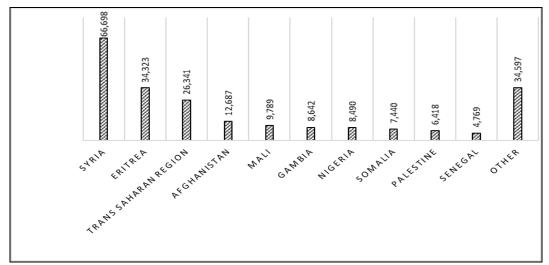


Figure no.2 The number of immigrants according to their nationality

Source: author's own, according to the data provided by Annual Risk Analysis, 2015, FRONTEX

The Schengen agreement is based on the trust that each Member State has in terms of the control of those entering the Schengen area from outside its borders, but the recent wave of refugees and immigrants overwhelmed the controls in some countries, such as Greece.

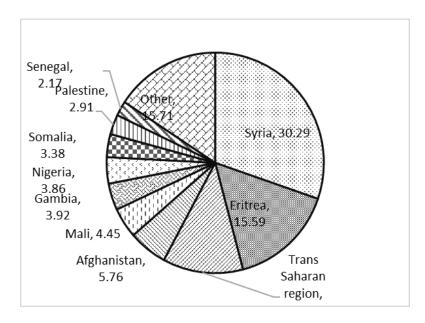


Figure no.3 The structure of total immigrants according to their nationality

Source: author's own, according to the data provided by Annual Risk Analysis, 2015, FRONTEX

Figure no.3 highlights the main categories of immigrants according to their nationality, as well as their number. Researching the provided data, it can be noticed that the largest number of refugees are Syrian (about 67,000), followed by those from Eritrea (about 35.000) and those from the trans-Saharan region. [8]

The large refugees' number triggered extensive international controversy, which in some situations damaged the diplomatic relations between states and amplified uncertainty about the European structure itself.

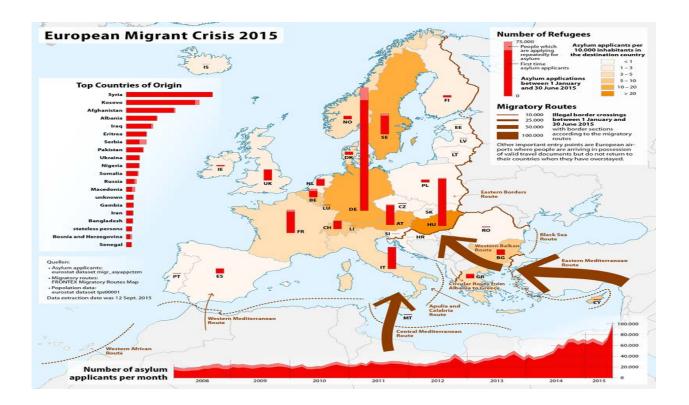


Figure no.4 Map of European Migrant Crisis

Source: FRONTEX, Migratory Routes Map, 2015

The unprecedented drama that occurred recently in the Mediterranean are increasingly sounding the alarm on the phenomenon of illegal migration from the Middle East and Africa towards Europe. Most immigrants have left behind a mixture of civil war, pressure and extreme poverty. For them, homeland is no longer an option to consider, especially since most of them are young people with ages over 30 years.

The refugees are coming to Europe either through Malta or directly mooring on the shores of Italy, as shown on Figure no.4. Other commonly used routes are those from the borders between Turkey and the EU, the immigrants having the option to stop in Bulgaria or Greece in the first phase of their new lives on European ground. Afterwards, many refugees are heading for Germany, France and the UK, these countries' governments considering that the southern countries are pushing the refugees' flow towards them.

In terms of immigrants' receiving, Sweden holds the record on the number of refugees accepted on its territory.

After receiving last year about 90,000 asylum applications, at the beginning of this year Austria adopted a first set of measures in order to limit migrants' receipt, limiting to 80 the number of those that can apply daily for asylum and to 3,200 the number of those entering every day on Austrian territory in order to continue their journey on to other European countries.

Currently, the European Commission proposed a permanent system for refugees' allocation in EU's countries, the states being allowed to refuse for one year the receipt of immigrants outside the EU, paying instead a contribution of 250,000 euros for each refused immigrant. Poland, Hungary and the Czech Republic announced their opposition against the European Commission's initiative to create a permanent immigrants' distribution system based on compulsory quota. This system leads to great disagreement among the leaders of the EU countries.

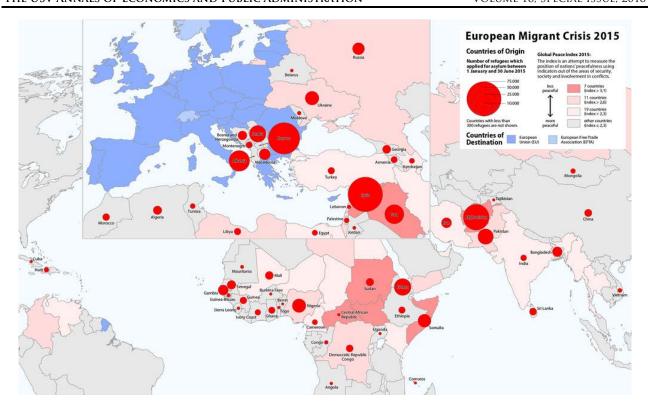


Figure no.5 Countries of origin of refugees which have applied for asylum in Europe Source: FRONTEX, Migratory Routes Map, 2015

Another problem that Europe is facing and that must be carefully managed is that within this massive number of people that entered the EU are not only refugees, but increasingly more migrants, people that do not qualify for the refugee status.

We consider that it is time for Europe to choose between surrendering and starting to send these people back so as to build a future in their own country.

### 3. SOLUTIONS FOR THE ATTENUATION OF THE REFUGEE CRISIS

Currently, the resumption of the Mare Nostrum program is able to limit the Mediterranean tragedies' number. But, in order for Brussels to resume the program of patrolling the waters of the Mediterranean, an agreement within the EU on the allocation of the refugees arriving on the continent is required.

Another option, consisting in the destruction of the ships used by Libyan traffickers, has the risk of fueling the military tensions in Libya and the threat that traffickers will resort to even unsafe ships for human trafficking. [10]

Meanwhile, armistices in North Africa and Middle East can be a solution to solve the refugee exodus to Europe, but this alternative involves a relatively long waiting time. Another possibility is that of relocating Syrian refugees in other Arab countries, but since the number of those already in Libya grows by the day, this option has a delayed effect.

The refugee crisis is an existential crisis of the European Union and, unless the appropriate solutions are found, the very existence of the EU will be questioned. The most valid solution in terms of the refugee crisis is represented by the compliance with the agreement from within the EU, through which member countries assume this ongoing and evolving humanitarian crisis.

Given that Europe faces the worst refugees' crisis after the Second World War, we consider that the European policies and initiatives are facing a great challenge.

### 4. CONCLUSIONS

Because of migration, European countries are confronting with this multicultural phenomenon thus achieving a multi-ethnic character. Although migration has both positive and negative consequences on the host country, the globalization of emigrational flows keeps diversifying. A proven fact is that, not always poor persons are the ones that leave their country first, but sometimes the ones that make the first step are persons that are from the middle class and intellectuals.

The migration consequences are considered to be different because emigrants are seen as different groups and not homogenous masses, and they have a different impact on the host country's economy. I think the migration process of people is initiated mainly by two reasons: conflicts, which represent one of the most present causes, limitation of opportunities. Usually people leave, they do not return to the origin country, thus the country loses its educational investment. The phenomenon is known as "brain drain", meaning in general a continuous transfer of personnel from less developed countries to strong economical developed countries.

In my opinion, the migration phenomenon means the existence of three actors: the fellow, the government and international organizations. These actors have more divergent goals and objectives sometimes even competing ones; the free movement of competing intellectual capital allows it to adapt to the rules of global market economy. I believe that the ones that will benefit from this process are the ones that will adapt themselves the best to the requirements of the global economy, the essential element of this competition being the human factor.

I believe that migration is a process that will forever evolve and is interdependent of the socio-political evolution worldwide. The migration phenomenon can have a significant contribution to the development and the reducing of poverty in the host country, but it can also generate a series of negative implications that need to be handled with care.

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# SECTOR-SPECIFIC STRUCTURE OF THE REGIONAL ECONOMY AS A FACTOR OF ELEVATION OF RISKS TO ITS ECONOMIC SECURITY

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### Abstract:

The article analyzes a sector-specific specialization of the regional economy in Ukraine. It also reveals possibility and conditions of transformation of a sector-specific specialization of the region and risks to its economic security. The article suggests an assessment of influence of a sector-specific specialization on occurrence of threats to the economic security of the region.

**Key words:** a sector-specific specialization of the region, structural changes in economy, economic security of the region.

JEL classification: P25, R10

### 1. INTRODUCTION

Socioeconomic development of the regions of Ukraine in 2015 – in the beginning of 2016 showed a large dependence of the regional economy on external conjuncture and vulnerability of socioeconomic sphere of the regions, which is caused by the sectoral structure of the regional economy. Structural imbalances of the regional economy lead to the situation when it cannot quickly adapt to changes, and this, in its turn, leads to stagnation and gradual downswing of the economic complex of the region. Such situation is also caused by a narrow specialization of economic complexes of the regions, even by sector-specific specialization, and crisis only intensifies these trends. All these require taking a number of measures towards protecting regional economies against further degradation. Such problems cause a necessity for developing a line of measures as to preventing turning of negative development trends of the regions into risks and threats to their economic security. Given issues precondition topicality of the given research.

Many authors are engaged into study of economic security of the regions and separate territories, namely Humeniuk A.M., Kosmarova N.A., Loiko V.V., Kozachenko H.V., Petrykova O.M., Stetsenko S.P. In their works they pay insufficient attention to the issues of dependency of the economic security of the region from specialization of the region, as well as to the issues of vulnerability of the region due to sector-specific specialization. That is why the purpose of the given research is to study the influence of the sectoral specialization of the region, including sector-specific specialization, on emergence of new risks to economic security of the region. Achievement of the purpose is based on the tasks fulfillment: to analyze a sector-specific specialization of the regional economy in Ukraine, to show conditions of transforming sector-specific specialization of the region into a risk to its economic security, to suggest assessment of influence of sector-specific specialization on occurrence of risks to economic security of the region.

### 2. STATEMENT OF BASIC MATERIAL

Security of the regional level in its socioeconomic dimension has to ensure effective interaction of economic, social and natural environment, which stipulates balance of economic comples of the region, increase of economic independence, expansion of domestic market and creation of conditions for manufacturing of competitive products, ensuring safe ecologic environment, establishment of adequate living standards of citizens. Substantial attention within

this context should be paid to economic security as it embodies relations of authorities and local self-government of the region with central authorities, as well as relations of the region with other regions under the condition of reaching acceptable level of competitive ability of regional manufacturers and their solid positions in the markets. Important aspects of the economic security of the region are the ability to establish sufficient conditions for business development and investments attraction and the ability to develop (sell innovative activity, modernize production, improve quality of human capital). Moreover, economic security means ability of the authorities and local self-government to use effectively natural resources potential, to establish steadiness and ability to survive under crisis conditions, to contribute to establishment of diversified economy in the context of representing various business patterns.

Regional economic security is an ability to manage effective resource use, to contribute to economic development and growth, provide competitive ability of the products on external markets, ensure saturation of domestic market and availability of steady positions on external markets, as well as to counteract internal and external threats. Within this context it is obvious that in regional economy narrow specialization becomes an obstacle to economic development of the regions and causes intensification of dependence on foreign manufacturers – in particular, due to the fact that extensive way of economic development leads to necessity for using foreign technologies. That is why there is a need of studying the problem of narrow sector specialization of the regions within the context of their influence on economic security of the region.

Sectoral specialization of the regions in Ukraine is multifarious. Sectoral structure of the regions was established as a result of policy of allocating productive forces and reaching maximum effectiveness from development of certain one or two types of production, which was justified under the conditions of one single economic complex of the USSR. However, under the conditions of independent Ukraine all these became a reason of regional disproportions growth and oversaturation of economic of the state with development of some sectors and weakness or decline of the others. And regardless of a 25-year experience of political independence, in economic terms Ukraine continued developing established sectors of industry and agriculture within the same regions. As a result of this one can observe oversaturation of economic system with sectors of heavy industry and machine engineering, which products cannot meet demand within domestic market. As to foreign market, it is worth saying that under the conditions of violating economic relations with the Russian Federation and enforcement of mutual sanctions, there emerges a task for manufacturers of the regions to find new sales markets, in particular EU and Oriental countries.

According to some scientists, modern stage of Ukrainian economy development and its regions is caused by a disproportion of industrial and sectoral structure, which is a consequence of ineffective economic reforms and political instability. A number of negative phenomena can be observed caused by loss of production potential, low intensity of structural changes, and insufficient level of entrepreneurial activity, nonconformity of economic structure of the region with the necessities of expanding innovative and postindustrial economy. A figure of array of structural changes that characterizes their scale speaks for peculiarities of structural processes dynamics. During 2006-2014 the highest values of this figure were recorded in production sector. The same processes were peculiar to construction, a share of which in economy structure of the region went down.

Structural changes in economy of the regions are peculiar to all regions. The highest values of structural changes in production sector were observed in Khmelnytsk (24.7%), Sumy (15.7%), Luhansk (13.1%) and Zaporizhzhia (10.9%) regions. In other regions scale of structural changes in this field were lower than an average value throughout Ukraine. Such situation certifies that production sector although losing its positions preserves its structure forming status. Increase of aggregate of structural changes during 2006-2014 in general throughout Ukraine also were demonstrated by agriculture, hunting, forestry (1.5%), wholesale and retail trade, repair of motor vehicles, temporary allocation and organization of nutrition (2.4%) and operations with immovable property (4.4%). In terms of other types of economic activity scales of structural changes were lower than average value throughout Ukraine.

In the majority of the regions, save for Volyn, Zakarpattia, Kyiv and Lviv region, increase of agriculture share in gross added value affected scale of structural changes. In terms of this figure leading positions were occupied by Mykolaiiv (0.94%) and Kherson (0.86%) regions. Moreover, in recent years decrease of structural volume of financial services has been observed in the majority of the regions of Ukraine (these changes do not relate to Volyn, Zhytomyr, Zakarpattia, Sumy, Ternopil, Kherson, Khmelnytsk regions and the city of Kyiv).

Results of the assessment of the scale of structural changes in terms of sectoral aspect should be completed with the figures of their intensity and speed. The highest speed of structural changes is peculiar for sectors of service industry, in particular due to increase of relative share of operations with immovable property and trade. The most intensive these changes were in Volyn region (1.01). Reduction of trade contribution into creation of Gross Value Added was observed in 10 regions. The larges losses are peculiar for production sector, construction and financial activity. During 2006-2014 the most intensive in the economy structure were losses of production sector share in Gross Value Added – speed of reduction of its share made up 1.01 per year. Instead, speed of structural changes in transportation, communication, state administration, education sector is low, which speaks for preservation of their structural proportions. During 2006-2014 coefficient of structural changes intensity within the regions of Ukraine made up 0.182, which speaks for the absence of speed and radical structural changes.

In general, we may state that types of economic activity, occupying a considerable share in Gross Value Added of the regions (production sector, agriculture, service industry) are more steady in time than those that have a small relative share (service industry, healthcare sphere) (Shults S.L., Lutskiv O.M., 2016).

More severe narrow specialization of the regions occurred due to an armed conflict on the East of Ukraine. It became a reason of economic decline of Donbass territories, when due to the armed conflict relations of the enterprises in this region with the Russian Federation enterprises were destroyed. According to the experts, economy of Donetsk and Luhansk regions heavily suffer from the broken economic relations with the Russian Federation, which negatively affected figures of foreign economic activity. Having solid relations with the Russian Federation and being on the positions of highly-developed industrial region separate industries were affected by negative economic shocks caused by openness of trade with the EU, trade restrictions and embargo with the RF. Machine-building industry, which currently requires import substitution most of all and as for now has no export markets, depends heavily on export to the RF. Metallurgical industry depends less of all form the RF market, which currently has only potential advantage from trade with the EU countries. Mining industry to the highest extent depends on donations from the State Budget of Ukraine and also as for now has only potential advantage from cooperation with the EU countries. With the high concentration of the enterprises that depend on the export to the RF, Donbas turned to be the most vulnerable to negative economic shocks with its large state subsidies and traditionally protected against competition (Zhukov Y., 2015).

All these certify that specialization of the regional economy is a substantial factor of economic security. Economic security has to demonstrate a high level of protection against risks, analyzed in terms of their occurrence and importance. Moreover, risks can grow into threats to economic security under the favorable conditions and in the absence of sufficient governance on the part of the state authorities. Within the context of the sector-specific specialization of the regional economy risks can turn into the factors of worsening level of economic security given that such sector-specific specialization creates the following trends, negative for the development of socioeconomic sphere of the region: sharp changes in demography, population migration, unemployment level increase, territory desolation, increase of norm of man-caused load on to the economy of the region, worsening of the ecological situation and non-controlled extensive usage of natural resources, sharp reduction of manufacturing volumes, necessity for rapid change of production specialization, which means a necessity for large capital assets, professional retraining of the employees, their release establishes load onto the labor market and sphere of social provisioning, dependence of the manufacturing on import suppliers, insufficient quantity of funds to

conduct modernization of production, low level of branching of infrastructure networks.

Establishing systems for ensuring economic security of the region we should understand that sector-specific specialization of the regional economy within the region may cause emergence of risks and threats to stable situation of the region. However, throughout entire country a sector-specific specialization may be a considerable effective phenomenon, unless occur factors causing transformation of a sector-specific specialization into negative characteristic – in particular, this increase of dependence on import carriers, violation of traditional cooperation relations with the enterprises of other regions, markets foreclosure.

Tasks of the system for ensuing economic security are as follows:

- supporting activity of the objects of crucial infrastructure;
- stablishing effective work of the objects of social infrastructure and municipal services;
- contributing to development of structure establishing enterprises, as well as those enterprises that have long-term economic advantages in general system of territorial labor division;
- developing transport system and ensuring equal access to important objects of the life support systems within peculiar territory;
  - increasing level of investment attraction of the economic objects within peculiar territory;
  - ensuring expanded reproduction of economic structure of the region;
- calculating and assessing dependence on the import of goods in particular, essential commodities and energy carriers;
  - complying with good service standards as to the needs of the population.

And if risks from sector-specific specialization of the region do not worth the situation in the mentioned above spheres, than in such case sector-specific specialization is not a reason of emergence of risks to economic security.

Modern regional economic security is an aggregate of the following qualitative characteristics: level of small business development and entrepreneurial activity, contributing to scientific and research activity and level of innovations implementation, investment climate, and quality of human capital and standard of population living. That is why sectoral specialization of the region that establishes figures of its development should ensure all characteristics of economic security on the high level. These very internal characteristics of the development should also include ability to adapt quickly to changes on foreign markets. The result is that if industry/industries of the regional economy able to ensure specified characteristics on the high level, than a mono-functional specialization is not a risk of reducing level of economic security. In other case it is wise to introduce structural changes of the economy of a separate region.

A sector-specific specialization of the region clearly depicts that fact that system for ensuring economic security is a prerogative of the state as an institution, not of a market, as far as for the market it would be more beneficial to establish by itself a specialization of the regions based on the comparison and equalization of profit rate. However, as far as issue of location of economic activities is tangent to the issues of social equality, equitability of incomes, ensuring of safe ecological situation, than issues of a sector-specific specialization are institutional leverage of the state onto the regional economy and a constraining factor for realizing all "wishes" of the regional manufacturers. A system for ensuring economic security is exactly has to be aimed at achieving balance of economic, social and ecological interests of the state, i.e. ensuring sustainability of the development.

A sector-specific specialization of the region is a starting point for assessment and forecasting of economic security risks, their change, that is why it is necessary to reveal possibility of their occurrence and their threshold values, on the one part, and preventing occurrence of the risks, on the other part, which envisages elaboration of a measures complex as to preventing emergence of these threshold values. The largest risks are: increase of rates of drop in production, destroying scientific and research potential, deindustrialization of economy, inequality of population income, and loosening of labor motivation, and energy dependence.

A system for ensuring economic security of the region is based on preventing occurrence of threats and effective counteraction to occurrence of existing threats. Threats can be divided into internal (increase of volumes of production, worsening of investment climate, reduction of share and output of innovation products, level of dependence on imported energy carriers) and external (worsening of conjunction of certain markets, reduction of currency inflow). Joint action of authorities, local self-administration authorities and public organizations should be aimed at prevention of occurrence of such threats or their neutralization in a subjective aspect. In a conceptual aspect such threats could be counteracted if one could solve a problem of a sector-specific specialization of the regions and if a sector-specific specialization could be directed into a constructive channel.

That is why improvement of a situation in the field of sector-specific specialization of the regional economy may be reached in two ways: to develop by all possible means an available specialization on the basis of determining dominating industries and to search for the sales markets inside and outside the country, or to diversify structure of such economy, if possible. The most effective is a way that could combine two mentioned above ways: under the condition of high figures of development of a given industry to contribute to its further existence and market expansion; the other enterprises that do not demonstrate such positive figures require diversification and change of profile. Moreover, negative consequences from overcoming sector-specific specialization can be loosened due to strengthening of manufacturing relations between enterprises inside the country. It is also wise to calculate comparative advantages of certain industries in their correlation with the same industries inside the country and abroad, in order to understand whether it is necessary to preserve a sector-specific specialization of the regional economy.

Apart from a function of "protection", system of measures on ensuring economic security should also envisage a function of "ensuring significant and positive figures if socioeconomic development", which could be implemented owing to actualization of regional strategies based on inclusion of new sections to them, devoted to the issues of revealing and counteracting risks of economic security. Actions of the authorities aimed at resolution of issues of counteracting risks have to be adjusted in the main strategic documents of the regional policy (strategies of regional development) and strategies of ensuring national security of the country.

As far as economic security of the region is a flexible notion, depending on many factors, so for its assessment one should establish a specific, differing from general national, system for indicators. This should be implemented for assessment of crisis situations and threat of their emergence in socioeconomic field of the region, assessment of influence of regional threats onto the security of the states, and development of institutional instruments of ensuring economic security.

Among criteria of economic security specific importance has application of threshold values-indices in the analysis, which certify of approaching of a critical status of an industry and necessity for taking measures as to eliminating such critical status. Threshold value are boundary values (a minimum or a maximum), nearing to which violates stability of an industry development, affects other industries and creates general negative trends. Nearing of an indicator to a threshold value means necessity for taking measures in order to change a situation.

Development of a criterion of economic security or a threshold value of economic security is not a final one for development of measures as to removal of a sector-specific specialization of the region. A threshold value is a quantitative and qualitative assessment of socioeconomic situation in terms of the most important processes that reflect economic security of the state. Threshold value should be a dynamic figure, as far as manufacturing structure in itself is a variable one.

Indices-threshold values characterize situation only in a peculiar aspect. Figures should be considered in aggregate in order to have a realistic view on the level of threats. The same figures in all neighboring regions should be considered in the same way. Moreover, the analysis should also include figures of the regional level of economy as far as macroeconomic figures are analyzed according to other approaches.

Since it is hard to assess a risk in quantitative terms, then increases importance of expert methods in risk assessment. A role of risk management system is also strengthened, forecasting of critical situations in order to be able to respond on the risks timely. The result is that analysis of potential losses, which may occur as a result of a region specialization change and violation of its

established monopolization, should precede assessment of economic security level.

Respectively, for the most reliable assessment of economic security risks it is wise to define threshold values of a sector-specific specialization of a region. For the purpose of managing a sector-specific specialization it is preferable to define which industries are able to provide stability of the system, and which should be restructured.

The issue about size of each component of economic security is also topical – if figures are dependent on each other than it can be revealed by the analysis and, respectively, forecasting. Study of the level of economic security in terms of its components and assessment of level of influence of each component onto the security allows resolving problems in overall. Based on weight of each component in structural losses it is possible to assess importance of these components in a system of ensuring economic security. Calculation of weight of economic security components allows establishing a uniform characteristic of research, which is hard to assess in other ways, and that is why this method is effective when resolving problem of assessing functional components of economic security.

Owing to a need to respond to economic security risks of the region the following criteria of assessing influence of a sector-specific specialization of the region on occurrence of economic security risks can be suggested:

- a share of a separate industry in a structure of gross regional product and its dynamic during a specified period of time defined for analysis needs (to define potential threats);
- comparison of shares of certain industries among the regions of the state for the purpose of determining "weak" ones in terms of a sector-specific specialization of the regions (to develop measures of the state policy aimed at prevention of threats expansion);
- conducting factor analysis of socioeconomic development figures influence of the region onto the figure of gross regional product (for more detailed determination of a mono-specialization of a region);
- conducting correlation and regression analysis of influence of a separate industry share, which has a prevailing share in the structure of gross regional product of the region, onto the other socioeconomic figures of regional development volume of production, construction works, involved investments, renovation of production capital funds, innovation implementation, population income size and its variation, unemployment, population migration etc.; defining cause-effect relationship of such influence (to determine relationship of a mono-specialization and other figures in dynamics);
- monitoring of an industry share change in the structure of gross regional product and forecasting of a figure of this share for a short-term and long-term perspective (to develop preventive measures of the state policy);
- expert assessment of outgrowth of economic security risks, established based on monospecialization, for economic security of the region (for an unbiased assessment of monospecialization as a factor of influence on economic security);
- development of a number of measures as to influence onto mono-specialization of the regions (for its possible change and assessment of a need of such change).

### 3. CONCLUSION

Thus, a situation with structural (sectoral) changes in the regional economy has been analyzed, reasons of occurrence of risks to economic security of the regions that occur due to a sector-specific specialization of the regional economic complex have been studied; components of assessment of influence of regional economy specialization on emergence of risks to economic security of the region have been suggested. To balance development of territories in terms of ensuring economic security it is necessary to use qualitatively new approaches that consider sectoral peculiarities of the given territory, as well as adjacent territories and the country in general, as well as possibilities of implementing structural reforms in the country.

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# THE DEVELOPMENT OF REGIONAL FOOD MARKETS OF UKRAINE: CHALLENGES AND PROSPECTS

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### Abstract:

In the article there are defined global and national factors having effect on the development of the Ukrainian food market. There are outlined research directions which will help to develop efficient mechanisms of market regulation in the post-crisis period.

Key words: food market, food security, agricultural complex, basket of goods, food products.

JEL classification: L10, P40, P23

### I. INTRODUCTION

Economy of Ukraine becomes more open and it is increasing its dependence on global processes. Most clearly this dependence is manifested in the analysis of the conditions of the food market of Ukraine and determining factors that influence its development options.

Food Market is a system of economic relations, consisting in the production, transportation, storage and sale of food. Structural elements of these relations are based on forward and backward market linkages that are under the constant influence of regional peculiarities, effective demand and supply, and also adequate methods of regulation of market relations and decision-making processes.

Food market of the region should be considered as a complex integrated system with lots of businesses and intermediaries, by diversity flows socio-economic processes, ambiguity of tasks, only large amount of information constantly growing number of relationships between market participants and their probabilistic nature of others.

The main system features of regional food market which performs an important social function of meeting the needs of the population for food are: isolation, structuring, divisibility, dynamism. Selected properties allow to explore the regional food market not as a set of economic agents that operate within a certain territory, but as a dynamic system that can adequately respond to organizational and managerial impact.

### II. CONTENT

Food market of the region is on the one hand, a subsystem of the national food market, on the other hand – a subsystem of regional socio-economic system. In the first case the regional food market is affected by the dynamics of the overall economic situation in the second – the changes taking place in the region. In turn, the regional food market itself is an important factor of socio-economic development.

Regional food market operates in conditions of variability external factors, which can be divided into two groups.

The first group includes the factors that are formed outside a particular region, they are connected with the processes of globalization and macroeconomic factors and mezoekonomic level. The second group includes intraregional factors caused by relationships between the needs of the region's population and production, supply and demand in the regional market of food products; by

the differentiation of income and consumption patterns; by the the level and structure of consumption; by the current consumption and accumulation; by the socialized and individualized forms of consumption, etc.

Thus, all factors having effect on development of the Ukrainian food market can be conditionally classified into two groups: global and national. At many international conferences initiated by FAO had identified a number of global factors and short-term order, causing increasing price dynamics for the period 2015-2024 years. [1, p.25; 2, p.75; 3]:

- alternation of poor harvests in various parts of the world and as a result of price changes divergence on different food groups;
  - restoration of long-term steady decline in real food prices;
- increasing the use and allocation of land for biofuel production in various regions of the world (USA, EU, Brazil, Indonesia, etc.);
  - demand for animal protein will act as the main driving force of global food markets;
  - increase of production of crops due to improving yields;
  - export concentration increased market risks for important food;
- uncertainty fluctuations in world prices of food raw materials intensified in terms of deployment of disparities of the major regions of the world;
- inconsistency of policy actions to ensure the required supply in the domestic markets of some countries, particularly in the form of bans and other restrictions on exports;
  - probable at least one strong shock to the world markets for decades.

In the years 2014-2015 the price of crops and livestock products showed different trends. Large harvests of 2013-2015 years caused the further pressure on prices for grains and oilseeds. Simultaneously the limited supply due to various factors, including the recovery of livestock and disease outbreak support the record high meat prices, while prices for dairy products have fallen sharply compared to historical highs.

To further adjustments to short-term factors FAO expects a special index that reflects the dynamics of average prices of five commodity groups: meat, dairy, cereals, oils and fats, sugar (a total of 55 specific trade names). According to a report in January compared to December 2015 the index fell by 1.9% because of decrease prices for all types of goods included in the the index of goods. And the most significant reduction in sugar prices have demonstrated. The index in January was 150.4 points, 5 which is 16% below the level recorded a year ago. This is the lowest result since April 2009. [4]

Food and financial imbalances have become a serious reminder of the vulnerability of the global food system because of the aggravation of military conflicts and showed that the already unacceptably low level of global food security may fall even lower. Simultaneously extremely urgent is national need to identify factors influencing the development of the food market of Ukraine because only activation exploit the potential of agro-industrial sector of our country can be the key to improving its resilience to such shocks during deployment crisis caused by political-military conflict with Russia.

According to experts, it is expected that the 2015/2016 years in Ukraine, Russia and Romania harvest will be lower than last year – at 176 millions tons of grains to 185 millions tons in 2014/2015 years. The decline will primarily due to dry weather conditions, reductions in Russia will be 4%, in Ukraine – 4.2%, Romania - 8%. In turn, the yield reduction will affect the export potential of these countries. Overall, the share of the Black Sea region in the global grain trade increased from 10% in 2006/2007. to 19% in 2014/2015 years [5] (Fig. 1).

TotalexportsofUkraine, RussiaandRomaniacanmakein 2015/2016 was 71 milliontonsversus 77 milliontons a yearearlier. The greatest reduction in export performance expects Romania - by 26.1% (to 8.5 mln tons), Russia - 4.5% (30 mln tons), Ukraine - by 3.2% (to 33.3 million . tons) (Fig. 2) [5].

Obviously, in such circumstances, our country has the greatest potential to export grain. The key export destinations for the Black Sea countries will remain North Africa, Middle East, Europe, Southeast Asia, India and Turkey. In general, according to experts, agricultural exports generates

38.8% of total foreign exchange earnings of Ukraine, and in Russia it exceeds in terms of money supply arms abroad. [6]

For Ukraine, the main trends of this season were the rising cost of grain production in local currency by 25%, and reduced margins on 1 hectare by 20% because of decrease of world prices of grain.

Provided that the internal policy of Ukraine may receive positive activation of its presence in the global food market. So in 2016, FAO forecasts that wheat production will be 723 million t that is by 1.4 percent (10 million tones) below the record level in 2015. The main reason for the projected decline will be the reduction of winter in, due, primarily, dry weather. [4] Thus the land resources of Ukraine - are among the largest in Europe; the country has 30% of world reserves of black earth. Thanks to this Ukraine can double food production in a short period of time.

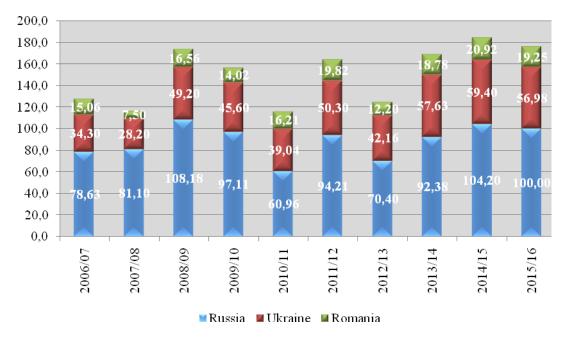


Figure no. 1 Dynamics of production of grain in the Black Sea region in 2006-2015, thousand tons

Source: http://www.ukragroconsult.com

State authorities consider the domestic food market as the main indicator of credibility. That is why the importance of the state controlled prices for social food products, as a sign of the state authorities' stability, gets political shading.

We believe that instruments of state regulation of the food market should be well-considered, thorough and of systematic, consistent character. Since any fluctuations of prices for major social products activate administrative levers of influence, it testifies to a low safety margin of food security system in the country.

One of the major challenges for the Black Sea region can become a problem and the benefits of increase production of plants based on the achievements of biotechnology.

Thus, the Ministry of Agrarian Policy of Ukraine and FAO intends to deepen cooperation in the framework of the strategy to develop agriculture and rural areas 2015-2020, projects of food security and the restoration of the agricultural sector of Ukraine's regions that are in the area ATO. FAO experts conducted field and analytical work, which resulted was designed table of damages to Ukrainian economy and agricultural sector needs assessment of the Donetsk and Lugansk regions.

The result was a methodology of development strategy of agriculture and rural areas 2015-2020 years. [7; 8] Some aspects of the new strategy experts estimate as quite positive initiatives to achieve food security.

At the same time a series of strict regulatory measures are stipulated by the bill in case of threat to food security: introduction of standard trading margins, minimum purchasing prices for

agricultural products, assignment of quotas for the export of foods and finally – a possibility of moratorium imposition for the import of foods. Considering the fact that such restrictive measures are already widely used in Ukraine, adoption of a basic document establishing unified rules of their implementation can be considered a positive evolution factor of the national market of food products.

Today the increase of investment attractiveness of the Ukrainian food market is defined as a major prerequisite of the agricultural complex development of the country on the condition that target investment programs are realized (agricultural parks, urban agriculture, development of farming, building up of the agricultural market infrastructure, etc.). Lack of active efforts to attract such target investment resources will cause extensive increase of food export, which without systemic improvement of the regulatory basis will result in temporary profit for the benefit of certain economically interested groups.

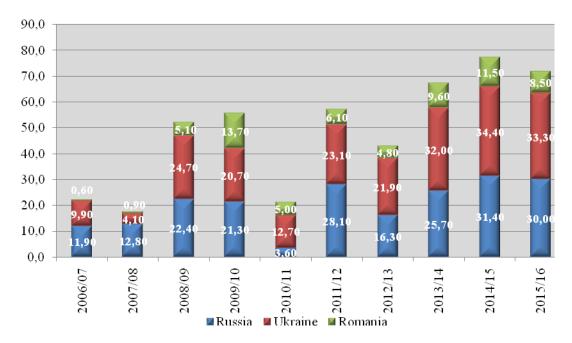


Figure no. 2. Dynamics of export of grain from Ukraine, Russia and Romania in 2006-2015.

Source: http://www.ukragroconsult.com

Lack of an adequate food storage infrastructure (for grain, vegetables, fruit, etc.) is the major problem causing destabilization of the food market of Ukraine. Monopolization of elevators and storage bases significantly holds back the development of farming enterprises. Infrastructural problems of the agricultural complex have become systematic and their solution is delayed for an indefinite time. It is easier for the government to ensure the need-and-demand balance at the domestic market through the use of administrative methods – regulation of export and import of certain groups of food products. Of course such policy allows adjusting prices for food products at the domestic market, but it is destructive for the domestic agricultural complex. It can lead to food dependency of the country.

In this changing environment, regional market designed to function, the main ones are:

- Ensuring the interaction of buyers and sellers by means purchase and sale agreements and coordination of economic interests of contractors;
- Establishing of quantitative proportions in the structure of demand and supply;
- Determination of the equilibrium price and proportions between the prices of various products:
- Implementation of the distribution of food among different socio-economic groups in the region;

- Ensuring the participation in the interregional trade and economic relations.

One of the key objectives of management of the food market of the region is to ensure maximum predictability of conditions of its operation. And if external to the region's territorial authorities to influence factors is difficult, then intraregional factors can and should actively influenceby developing the food market in line with the overall strategy of socio-economic development. It should be borne in mind that among the factors that shape the level of consumption of food, including the needs of the population, production, cash income, trade, etc., are so complex interrelationships that even current support matching of demand for food products and their supply is an extremely difficult management problem. This, in particular, shows the absence of significant relationship between the level of per capita food production and the level of market prices for it in the region.

An important aspect in substantiating the prospects of the food market region's is to determine the future needs of its people for food, which depend on factors such as the demographic structure, the nature of employment and cash income, climatic conditions, national traditions and more. The influence of which should predict in future. Food in turn characterized by quality, structural and energy parameters [9].

The closer the per capita consumption to physiological norms, the higher interest of the population to quality parameters and especially the environmental characteristics of food. Conversely, with the deterioration of dietary regional authorities are increasingly faced with the need not only to monitor the structure of consumption of basic foodstuffs (Dairy and meat products, bread, potatoesfats, sugar, fruit and vegetables), but to seek to prevent long-term deficit of caloric intake, which affects the deterioration of health.

The structure of food products consumption has a major effect on the perspectives of food market development. Generally the main subject of research is the structure of the food basket and comparison of factual consumption regulations of basic foods by Ukrainians with the recommended consumption regulations and consumption regulations in the developed countries.

The contents of the food basket usually change together with the change of income. At that the poorest sections of the population consume mainly grain products and then, proportional to the increase of their income, their food becomes more varied at the expense of meat, fish, milk products and vegetables, which are a vital source of protein and other nutrients.

The research shows that energy value of dietary intake of the population of Ukraine as compared to the level of such economically highly developed countries as Great Britain, Germany, Italy, Canada, the USA and France makes 48.5- 67.3%. The share of animal products is 23.1% in the structure of the dietary intake. As compared to the dietary intake of the population of highly developed countries, such foods as products of plant origin, and especially potatoes, bread and bakery products prevail in the dietary intake and their share exceeds (according to caloric value) 50% of daily consumption of foods [10].

Because of an irrational food structure, where the majority of calories are received from bakery goods, potatoes and sugar, a great number of people in Ukraine are losing immune potency of the body. It affects the life span, working capacity, morbidity, and finally leads to the decrease of the gene pool.

### III. CONCLUSIONS

Today scientists do not study differentiation problems of consumer food basket structure depending on the place of consumption. That is, they do not determine which products are most needed by residents of rural areas and city residents, in what regions, what products are grown by them and what products they prefer to buy. Regional peculiarities of consumption and production of agricultural goods, consumption rate, and place of purchase are not studied, as well as seasonal fluctuation of demand for food products. Lack of adequate sociological and marketing researches in the above directions significantly narrows possibilities of establishing effective communication connections with the buyers, and hence unprofessional use of this instrument rather often leads to

burst of feverish demand among average consumers arising from the fear of deficit for basic food products and results in the attempt of Ukrainians to create large (often unreasonably large) food supplies, which has already become a characteristic feature of our mentality.

We believe that for the definition of development factors of the food market of Ukraine, alongside with the study of traditional global and national macroeconomic factors there is a need for systematic study of the Ukrainian consumer according to various criteria (income level, region, age, family format) and formation of a task-oriented policy of the food market regulation, which would be based not only on administrative mechanisms, but would also stipulate initiation of effective marketing programs aimed at elimination of disproportions at the food market caused by the detrimental effect of psychographic factors in the models of behavior of regular Ukrainians.

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# DYNAMIC TRENDS OF WAGE IN UKRAINE: PROSPECTS OF EUROPEAN INTEGRATION

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### Abstract:

We analyze the main trends of the national economy and the dynamics of wages in Ukraine and other post-socialist countries in terms of the prospects of Ukraine's integration into the European economic and social space. The estimation of the impact of the wage indices for the welfare of citizens. The basic factors of Ukraine's backlog in terms of wages from other countries and the possibilities and prospects of solving this problem are determined.

**Key words:** wages, consumer price index, the index of real wages, minimum wages, cost of living, consumption, incomes policy.

**JEL classification:** B40

### 1. INTRODUCTION

The level and dynamics of wages largely characterize the level and terms of the welfare of the population, since they are closely intertwined with several other indicators that collectively define social competitiveness, prospects of growth and, consequently, the prospects for integration with other countries in comparable circumstances. These indicators include the size of the minimum social standards, the dynamics of nominal and real wages; level of purchasing power, and others. Comparing these indicators with those of other countries in social development enables them to analyze the situation and identify the real causes of unequal income growth of different countries to study proposals to improve public policy approaches to regulation of income.

The problem of improving the mechanisms of income distribution has always been topical in the practice of management and economic theory. Different aspects were highlighted in the works of representatives of the classical school (F. Quesnay, W. Petty, A. Smith, D. Ricardo, J.B. Say, J.S. Mill) and neoclassical school (K. Menger, F. Wieser, A. Marshall, V. Pareto, F. Edgeworth, K. Viksell, P. Douglas, J. Stigler), institutionalists (A. Deaton, T. Veblen, R. Coase, O. Williamson, D. North, J. Rawls, A. Sen) and other scientists.

In Ukraine, the problems of labor were studied by Z. Galushka, V. Heyts, A. Gritsenko, K. Gubin, N. Deeva, P. Eshchenko, Y. Zaitsev, A. Kolot, E. Libanova, I. Malyy, O. Novikova, N. Holod, O. Chernyshevych and other scientists. In their writings, considerable attention is paid to the problems of uneven social justice in the distribution, substantiation of the value of social standards defining principles of state policy of wage formation.

From the international experience point of view, the comparison of wages dynamics in different countries, the definition of social standards and approaches to state regulation of wages have great importance. This makes possible to understand the real situation of solving social problems, identify the main causes of the backlog of individual countries in terms of revenue growth, to assess the prospects of aligning different countries in terms of social competitiveness that prevents their effective cooperation in the future.

The purpose of the paper is to analyse the main trends in wages in Ukraine, compare them with those of other countries, to identify the reasons for the backlog of Ukraine and to identify opportunities and prospects for solving this problem under the influence of European integration processes.

# 2. THE DYNAMICS OF WAGES AS A REFLECTION OF WORLD ECONOMY DYNAMICS

The wage level is largely determined by the scale and efficiency of economic development. The end of XX - beginning of XXI century was characterized by the growth of the world economy. Exceptions were the years 2008-2009, which were characterized as the Great Recession. Table. 1 shows the growth rate of GDP in the years 2000-2014 in some post-socialist countries. This data shows that in the years 2000-2007 the average GDP growth rate made up 7.25% and the higher rate of 10% observed in Azerbaijan, Armenia, Latvia. The lowest growth rates were in Moldova, Slovenia, Hungary and the Czech Republic. In Ukraine, economic growth was even slightly above average, amounted to 7,4-7,6%.

In the crisis period 2008-2009, the situation changed. GDP growth declined significantly, and in countries such as Estonia, Latvia, Lithuania, Ukraine there was a recession of economy to 14-17% per year. In the post-crisis period not all countries have restored the previous rate of economic growth. Thus, Ukraine, demonstrating the growth in 2010-2011 to 4.5% in 2012, began to lose that, and in 2014 the economy has meant a decline of almost 7%. In other countries, including Belarus, Estonia, Lithuania, Moldova, Poland, Romania, Slovenia, Hungary and the Czech Republic as the rates slowed considerably.

Table 1. Average annual GDP growth of some post-socialist countries in the 2000-2014 years.%

in the 2000-2014 years.%										
Country	2000-2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Azerbaijan	11,32	34,50	25,00	10,80	9,30	4,96	0,09	2,16	5.80	2.79
Belarus	7,25	10,00	8,65	10,25	0,16	7,74	5,54	1,50	1.02	1.59
Armenia	11,46	13,20	13,75	6,95	-14,15	2,20	4,70	7,18	3.53	3.43
Georgia	6,45	9,38	12,34	2,31	-3,78	6,25	7,17	6,55	3.32	4.73
Estonia	8,07	10,10	7,49	-4,15	-14,07	3,33	8,28	3,22	1.63	2.08
Latvia	7,82	11,15	9,60	-3,28	-17,73	-0,94	5,48	5,58	4.23	2.36
Lithuania	7,10	7,81	9,80	2,91	-14,85	1,52	5,87	3,62	3.26	2.93
Moldova	6,25	4,79	3,00	7,80	-6,00	7,09	6,80	-0,82	9.40	4.60
Poland	3,29	6,23	6,79	5,13	1,63	3,88	4,32	2,05	1.67	3.30
Russia	6,78	8,15	8,54	5,25	-7,80	4,50	4,30	3,40	1.30	0.62
Romania	5,26	7,88	6,32	7,35	-6,58	-1,15	2,16	0,33	3.39	2.90
Slovakia	4,32	8,35	10,49	5,75	-4,94	4,38	3,23	2,03	1.43	2.41
Slovenia	3,73	5,85	6,96	3,38	-7,84	1,24	0,60	-2,34	-1.00	2.64
Hungary	4,19	3,88	0,13	0,74	-6,70	1,24	1,65	-1,66	1.53	3.64
Ukraine	7,48	7,40	7,60	2,30	-14,80	4,10	5,17	0,15	-0.03	-6.83
Czech Republic	4,12	7,02	5,74	3,10	-4,51	2,49	1,89	-1,25	-0.70	2.02

Note. Prepared by author: International Monetary Fund: Data and Statistics: <a href="http://www.imf.org/external/data.htm">http://www.imf.org/external/data.htm</a>

According to the dynamics of the national economy in this period the rates of real wages growth also changed (Table 2).

Table 2. The growth rate of real wages 2006-2013 years,%

Country	2006	2007	2008	2009	2010	2011	2012	2013
Azerbaijan	11.24	24.22	5.26	6.91	5.28	1.54	-	-
Belarus	17.30	10.00	9.00	0.10	15.00	-	21.5	16,4
Armenia	16.98	17.45	12.78	15.80	2.17	-	9.9	9
Georgia	24.60	21.20	32.10	2.30	0.20	-	13.1	-
Estonia	11.58	13.05	3.20	-4.94	-1.76	0.73	1.4	3,4
Latvia	15.19	19.72	4.43	-6.80	-2.27	0.04	1.5	4,5
Lithuania	16.07	18.23	13.78	1.41	-0.25	-0.05	0.8	3,8
Moldova	14.19	8.27	8.69	8.61	0.74	-0.16	-	-
Poland	3.79	5.34	5.61	1.91	1.42	1.10	-	-
Russia	13.33	17.26	11.47	-3.46	5.21	4.28	8.5	5,4
Romania	11.06	16.19	16.97	-0.77	-2.84	-	1	-
Slovakia	2.49	7.50	3.46	2.97	2.73	-1.14	-1.2	1
Slovenia	3.09	2.55	2.46	2.48	2.85	-	-2.4	-2
Hungary	4.14	0.00	1.32	-3.45	-3.43	1.30	-0.9	1,7
Ukraine	18.41	15.01	6.77	-8.94	10,2	8.93	14.4	8,2
Czech Republic	3.07	4.42	0.71	0.21	-0.69	-6.40	-1.2	-0,3

Note. Prepared by author: [1]

In 2006-2007, the growth rate of real wages of these countries, on average, accounted for approximately 12.09% per year. The relatively lower growth was in Poland, Slovakia, Slovenia, Hungary, the Czech Republic (the average was 3.64%). The highest rates of growth of real wages in this period were in Georgia. The rate of growth of nominal wages in all countries were higher than reality. For example, in Armenia and Belarus are comprised 38-40% [2].

In 2006-2007, the growth rate of real wages, on average, these countries accounted for approximately 12.09% per year. The relatively lower growth was in Poland, Slovakia, Slovenia, Hungary, the Czech Republic (the average was 3.64%). The highest rates of growth of real wages in this period were in Georgia. The rate of growth of nominal wages in all countries were higher than reality. For example, in Armenia and Belarus are comprised 38-40% [2].

In Ukraine up to 2009 nominal wages increased annually. The average rate of growth for the years 2000-2008 was 29.46%. Only in the crisis year of 2009 the growth rate of nominal wages fell to 5.54%, and in each of the next two years are approximately equal to 17.5%. However, years of 2012-2013 the rate began to fall again. This is especially evident in the years 2014-2015.

There is an ambiguous relationship between economic growth and growth in wages. This is explained by other causes. Great importance, for example, belongs financialisation - increasing role of financial activity and the popularity of financial institutions in the national economy. This phenomenon is seen as a key factor of greater concentration of income of the highly skilled workers and therefore falling share of wages of the less skilled.

In the transformation period earnings of employees in most countries were growing faster than the incomes of the owners of capital. This can be explained by the global trend in government policy income distribution and also by the increasing expenditures of owners of capital on technological development [3]. Therefore, the economical and institutional factors are of great importance.

Changes, occurring in the labour market, also play an important role in distribution relationship, in particular, the role of the institutions of the market in the distribution of national income is reducing. In Ukraine, for example, a significant share of workers is employed informally.

### 3. THE BACKLOG OF UKRAINE IN TERMS OF WAGES, POSSIBILITIES AND PROSPECTS OF SOLVING OF THIS PROBLEM

2013-2015 years in Ukraine marked by the economic downturn, due to the aggravation of the socio-political crisis annexation of Crimea, military actions in eastern Ukraine, that manifested in the deterioration of most socio-economic indicators. The decline in GDP in January 2015 compared with January 2014 - 8%; Inflation -3.1% PPI -2.3%. The growth in economy wasn't observed, and the downturn in various sectors of the economy was as follows: housing construction - 2.1%; agriculture -2.4%; industry - 21.3%; retail trade - 22.6%; construction - 36.4%; cargo - 24.2%; passenger - 13%; wholesale - 19.2%; exports of goods and services - 14.6%; imports of goods and services - 28% [4]. The outflow of foreign direct investment in 2014 totalled 11.1 billion USD. State budget revenues -357 billion USD, Growth - 5.2%, the deficit - 78.1 billion UAH. Pension fund revenues - 234 billion USD (Increase - 1.4%), deposits in banks - (-13.1) billion, a decline - 1.9%; bank loans - (-0.7) billion UAH decline - 0.1%. The balance of current account balance negative - 5.2 billion USD. (In 2013, it was a negative -16.5 billion dollars.). Foreign exchange reserves amounted to 6.4 billion USD., In 2013 was - 17.8 billion. USD. (A decrease of 11.4 billion USD). Gross external debt amounted to 135.9 billion USD. (Decline - 1% (on 01/10/14)). The average monthly wage amounted to 3.5 thousand. UAH., Nominal growth - 6.5% real decline - 6.5%. The average pension - 1,6 thousand. UAH., Nominal growth - 14.3%, real - 0.9% (January-August). Over the first 9 months of 2015, the employment rate among working-age population decreased from 57.4% to 56.9%. The highest employment rate was in Kiev region - 62.3%, the lowest - in the Donetsk region 50.6%. Unemployment rate (by ILO methodology) among the working-age population increased to 9.0% (8.9% for 9 months 2014). At the end of December 2015 in Ukraine was officially registered 490.8 thousand of unemployed, or 1.9% of the working population [5].

In Ukraine, the problem of the backlog in terms of wages is associated primarily with the intensification of the crisis tendencies in the economy derived from the results of Russian aggression and serious systemic economic strains that accumulated from the 90s to the present. Some enterprises in eastern Ukraine were forced to close. Worsened employment due to labour migration from the eastern regions related to combat action. Rising energy prices led to a significant rise in public services and rising prices for most consumer goods. Thus, the challenge of survival in difficult conditions raises.

The problem of guaranteeing the workers a level of income, the value of which can provide sufficient subsistence standard of living is very important now in Ukraine. This is the value of the minimum consumer basket and the minimum wage.

To determine the minimum subsistence level in the world, there are several approaches: statistical - involves setting a minimum subsistence level of 10-20% income of the poorest citizens of the state; subjective or sociological - based on the data of sociological surveys required minimum income; Resource method comes from the capacity of the economy of the state to provide a living wage at a certain level; Combined - combines the previous approaches; regulatory method which consists of establishing the value subsistence level through minimum consumer basket. In Ukraine, the basis for calculating the subsistence minimum for the main social and demographic groups of the cost of a minimum set of food products, services and non-food items that are commonly called consumer basket. From the consumer price basket value depends at what level will be set a living wage, and thus all other social standards, guarantees, payments and aid. In this context, becomes particularly acute content and method of calculating the consumer basket and the cost of living.

The current method of calculating the living wage in Ukraine in 2000 was approved by the Resolution of Cabinet of Ministers  $N_{2}$  656 [6]. The calculations of living wage are too imperfect. As part of a set of food standards there's discrepancy between medical standards of consumption and food products.

For all major categories of food, except bread products, there's a significant underestimation of consumption norms of non-food goods and services. Their content does not provide a decent life because they do not take into account the current vital necessary expenses: rent, the cost of education

(pre-school, school, university), medical care, recreation, modern communication facilities (mobile Internet) and so on. Weight structure of consumer basket does not meet the current needs of citizens: the structure of food consumption in 14 years has changed (increased consumption of fruits, meat, less - flour, potatoes). The norms of consumption of non-food products and their service life are extremely outdated, based on the emergence of new products and the almost complete disappearance of the items included in the current set. The norms of usage of set of services, especially in the category "Communications and Information Services", also need to be revised. In addition, a set of content needs to be updated with the addition of new communication tools and therefore their consumption standards.

Throughout the years the necessary ratio between the minimum social guarantees and minimum income wasn't kept. The dynamics of growth of subsistence level and minimum wage in Ukraine is shown in Fig. 1.

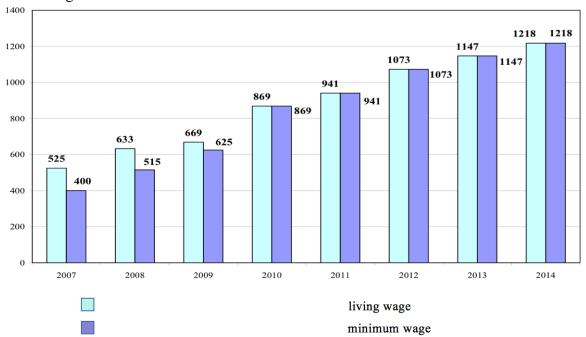


Fig. 1. The dynamics of subsistence level and minimum wage in Ukraine growth, UAH

Note. Prepared by author: [7]

Fig. 1 contains information in the national currency - the hryvnia. It should be noted that its exchange rate relatively to other currencies in recent years is rapidly declining. Over the last 2 years, the hryvnia devaluated in three.

Compared to other European countries minimum wage in Ukraine is very small. Table 3 presents the value of this indicator for Ukraine, the US and some EU member states for the 2002-2014 years in euro.

We see that in Ukraine in 2014 this value was 77.33 euros, as a consequence of the fall of the national currency versus the euro. For the years 2013-2014 in Ukraine employees have become much poorer.

Special studies of the problem in Ukraine are carried out by scientists of the Center of Advanced Social Studies. To significantly improve the Law of Ukraine "On Living Wage" they propose to eliminate a number of shortcomings, including: simplify the definition of a living wage, making it clearer; add the concept of "consumer basket" to the law to avoid confusion with the use of the term; add applications to use its subsistence level for assessment of absolute poverty; give a full list of all social allowances and payments, which are used to establish a living wage, or completely summarize the list; present a complete list of areas in which the state provided social guarantees and standards; replace the required method for regulatory changes with accompanying

statistical principles in forming sets of food, goods and services and in the assignment and approval subsistence level [9].

Table 3. The minimum wage in some countries in the years 2002-2014, EUR

Country	2002	2005	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	1140.24	1210.0	1259.00	1309.60	1387.50	1387.50	1415.24	1443.54	1501.82	1501.82
Estonia	118.24	171.92	230.08	278.02	278.02	278.02	278.02	290.00	320.00	355.00
France	1127.23	1286.09	1254.28	1280.07	1321.02	1343.77	1365.00	1398.37	1430.22	1445.38
Greece	571.71	667.68	730.30	794.02	817.83	862.82	862.82	876.62	683.76	683.76
Hungary	203.93	231.74	260.16	271.94	268.09	271.80	280.63	295.63	335.27	341.7
Latvia	107.86	114.63	172.12	229.75	254.13	253.77	281.93	285.92	286.66	320
Luxembourg	1290.21	144.81	1570.28	1570.28	1641.74	1682.76	1757.56	1801.49	1874.19	1921.03
Poland	217.43	1466.77	244.32	313.34	307.21	320.87	348.68	336.47	289.62	289.62
Portugal	406.01	555.06	470.17	497.00	525.00	554.17	565.83	565.83	697.42	717.95
Romania	50.33	207.86	115.27	138.59	149.16	141.63	157.20	161.91	392.73	404.40
Slovenia	432.6	437.15	521.80	538.5	589.19	597.43	748.1	763.06	783.66	789.15
Spain	515.90	598.50	665.70	700.00	728.00	738.85	748.30	748.30	752.85	752.85
United Kingdo	1109.29	1134.6	1314.97	1242.24	995.28	1076.46	1136.22	1201.96	1249.85	1251.05
USA	1012.90	655.36	677.81	688.81	815.79	872.32	940.48	971.22	952.46	911.22
Ukraine	29.46	54.43	61.33	50.84	64.14	86.17	95.62	104.49	111.45	77.53

Note. Prepared by author: [8].

According to a survey of experts in international human resource portal HeadHunter Ukraine in the near future salary policy in most companies will not change. More than a third of respondents (35%) indicated that they plan to keep staff salaries at the same level in local currency. Almost a quarter of the experts predicted a slight increase in wages. Most companies that can afford the move, working in IT, agricultural sector, wholesale trade and business services [10].

Insufficient wage growth leads to a number of negative trends in the economy and in social life. There is a so-called "cycle of poverty". Here are some of the vicious circle mechanisms that lead researchers. 1) there are specific families which for some reason are living on the brink of survival. It is large, the disabled, single-parent families, young families. Their poverty is reproduced in subsequent generations. Chances of escape from the vicious circle are outside - state, public organizations etc.; 2) low qualification workforce and lack of development of national training systems contribute to low production efficiency, low share of wages in the structure of production costs, inability to pay workers in the acquisition of consumer goods; 3) imperfect institutional mechanisms of regulation of employment does not promote the growth of incentives to work, generate shadow processes, labor migration, etc. 4) poverty causes opportunistic specific type of human behaviour at work; 5) type of forced labor in relation to workers with low wages is not conducive to the development of skills, initiative, productivity, etc; 6) lack of economic incentives to work leads to an absence of market mentality, lack of entrepreneurship and more. The display of social exclusion, along with poverty, is a direct violation of basic human rights - to quality education, health services and health, to decent living, access to cultural heritage, to protect their interests and to participate in the general economic, social, cultural and political life - and a sign of low level of human development in the country. Thus, individuals, groups or entire communities

suffer from a number of related problems such as unemployment, poor skills, low incomes, poor living conditions, high level of crime, family disintegration, etc. [11, p.17].

### 4. CONCLUSION

The lag of Ukraine behind other European countries on the level and dynamics of wages is not only an internal problem of our society. Modern globalization of the economy and social relations determine the need to learn from experience and find ways to provide the necessary conditions for the effective use of labour and decent pay. Multidirectional processes cause this situation. First of all, achievement of high results is based on the effective use of incentives. Cheap labour leads not only to low productivity but also to low quality products, and, as a result, the lack of competitiveness.

Low level of salary is the main cause of unregistered employment, shadow income, a significant reduction in solvent demand, labour migration.

It is therefore extremely urgent task is to reform the wage as a major source of income, together with the reforming of the whole economy, the adjustment of wages to ensure the gradual increase in wages, and creating an effective motivational mechanism, based on a combination of economic incentives and social guarantees. This situation requires effective income policy through: efficient economic restructuring; introducing development of better social standards that will make it possible to ensure the reproduction of working on the basis of family burden; increase of labour costs in the operating costs of sales and services; establishing direct wages depending on the quantity and quality of each employee, his labour contribution; creating the conditions for recovery and stimulating the reproductive function of wages; use economically justified and socially fair legislated wage differentiation, creating conditions for the legalization of shadow incomes; use effective mechanism for indexing wages to inflation protection of workers; introducing economically justified and socially equitable income tax by raising tax rates on high incomes and thus reduce the low income from employment.

Ukraine is facing a difficult and important task of achieving European living standards.

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## DEVELOPMENT OF SMALL BUSINESS IN THE CONTEXT OF CROSS-BORDER COOPERATION

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#### Abstract:

The article studies development directions of cross-border cooperation. It also reveals possibilities of applying foreign experience of the EU investment policy. The article defines influence of the EU investment policy on small business development within the cross-border region.

**Key words:** small business, cross-border cooperation, investment policy, cross-border region

**JEL classification:** F02, M16, M21

### 1. INTRODUCTION

Availability of the border with the European Union provides with unique possibilities as to improving investment support for the region development. Such possibility is created by the cross-border cooperation (CBC). Cross-border cooperation is a very important factor, which under the conditions of economy globalization, on the one part, makes it impossible to establish new near-border barrier, and on the other part, provides with the possibilities of attracting foreign investments into the development of near-border infrastructure. Later on all these will provide with the possibility of gaining certain economic advantages in a competitive struggle.

Advantages of cross-border cooperation, in particular, of European regions as the highest form of development of CBC, become obvious in domestic economy. Creation of conditions for effective functioning of the European regions gives a possibility to apply integration processes with the greatest advantages and to improve coordination of near-border cooperation with neighboring countries. These should contribute to intensification of the regional economic development of the country, inflow of foreign investments, aimed at the development of the regional and general European cooperation.

Cross-border cooperation as a strategic priority of the development of near-border region is specified in the Strategies for Regional Development of Near-Border Regions (Lviv, Volyn, Zakarpattia and Chernivtsi regions) that border with the EU countries (Poland, Slovakia, Hungary, Romania).

One of the priority leverages of the regional policy of Chernivtsi region is a cross-border cooperation. It is provided through establishment of partnership relations between near-border regions, activation of interregional cooperation in all areas of economy, development of a joint development strategy for the regions-partners.

Cooperation with the European partners contributes to economic recovery. Wide and active participation in the programs financed by the EU and aimed at the neighbors directly will be one of the main factors of the Chernivtsi region role in a successful cooperation between the East and the West.

That is why a problem of cross-border cooperation is very topical nowadays. Improvement of conditions of its functioning and applying of activation directions of small business development through usage of investment financing sources.

### 2. ANALYSIS OF THE LATTER RESEARCH AND PUBLICATIONS

Scientific publications pay considerable attention to theoretical fundamentals of investment provisioning of the near-border region economic needs. The works of the following scientists are devoted to the problems of investment and economic cooperation of Ukraine with the EU countries: I.Bahrov, I.Burakovskyi, P.Bielienkyi, V.Heyets, M.Dolishnii, Ye.Kish, Yu.Kozyk, V.Kozyk, P.Lutsyshyn, V.Liashenko, Yu.Makohon, A.Mokii, V.Miklovd, N.Mikula, V.Novytskyi, Yu.Pakhomov, V.Pyla, Ye.Saveliev, A.Filipenko and others.

Notwithstanding this, there are a lot of unresolved problems of methodological and applied nature, which restrain development of the investment support of the economy of the near-border region and restrain development of small business. A possibility to apply foreign experience and peculiarities of investment policy of the EU states requires deep analysis.

### 3. PROBLEM DEFINITION

To study experience and influence of investment policy of the EU on small business development within cross-border region.

### 4. STATEMENT OF BASIC MATERIAL

EU conducts active policy aimed at development of foreign investment within its borders and on the continent in general. Fundamental principles of this policy are orientation towards implementation of long-term investment projects, which contribute to economic growth, unemployment reduction and increase of human capital growth; ensuring transparency of investment through improvement of regulatory basis, stimulation of competition and open access to the investment market; guaranteeing equal terms of conducting investment activity for entrepreneurs regardless of the country of capital origin; preventing from discrimination of foreign investors etc.

Expansion of the EU to the east of the continent raises attractiveness of the Eastern Europe for foreign investors. Moreover, on behalf of foreign investors cross-border regions, established on the line of Ukraine and the EU, possess a line of specific assets. They include qualitative human capital, developed infrastructure, favorable business environment, and comfortable location in the center of the huge Pan-European market, which envisages a high ability of compete with large markets that are being developed due to engagement of technology capacious direct foreign investments during the next years. That is why the role of investment and economic cooperation in cross-border regions under the conditions of the European integration increases substantially nowadays. In particular, this refers to small business, which the most effectively ensures employment of the population in cross-border regions of Ukraine [2, p.89].

One of the most determinant directions, which should contribute to substantial increase of the effectiveness of implementation of domestic economic potential due to coming into force of the economic part of the EU-Ukraine Association Agreement from the beginning of 2016, is represented by the development of domestic entrepreneurship. This Agreement includes many important provisions, which we may and should use in order to contribute to the best realization of this important strategic task [7, p.27].

In particular, the article of the Agreement stipulates cooperation of the parties for the purpose of implementing strategies for development of small and medium enterprises (SME) based on the principles of the European charter of small enterprises, improvement of normative and legal regulation of SME activity, implementation of the experience of innovative entrepreneurship, and

cluster development [9]. These provisions of the Agreement provide with the fundamentals to expand contacts between respective institutions of Ukraine and the EU and separate countries of the European Union, and on the first place of new members, as to introduction of the European experience, training of managerial personnel, organization of trainings and fieldwork for business representatives, engagement of methodological support to establish institutional support for SME (funds, service and advisory institutions), expansion of contacts between private enterprises of Ukraine and the EU etc. It is important that according to the provisions of the Agreement it is possible to suggest expand a share of financing development programs for SMB within the framework of provided technical assistance. Determining priorities of the SMB development, peculiar to the national interests of Ukraine, will provide a possibility to suggest respective program fundamentals of attracting such assistance. Perspectives are represented by the development of cross-border cooperation with large engagement of local and regional authorities into the cross-border and regional cooperation, strengthening of cross-border and regional economic relations and business partnership (articles 446–447 of the Agreement) [9].

Owing to the fact that Romania entered EU new possibilities emerged both for Ukraine and European region. Romania for Ukraine was always more than just a neighbor. It is related with our region through historical, cultural and economic relations. Improvement of economic development within the framework of programs for cross-border cooperation such as: The Joint Operational Program Romania – Ukraine 2007-2013 pp. and The Program for Cross-Border Cooperation Romania – Ukraine of the European Neighborhood Instrument for 2014-2020 is impossible to implement without establishment of investment process for the economic entities. And this is one of the purposes of establishing harmonized cooperation between the EU member states.

Joint Operational Program for Cross-Border Cooperation "Romania – Ukraine – Moldavia" 2007-2013 within the framework of the European Neighborhood and Partnership Instrument provides a platform for implementation of cross-border measures within the context of the European Neighborhood Policy in order to prevent from emergence of new limiting boundaries between EU and its neighbors and to offer countries-partners to participate in various events of the EU. Currently, in more than 7 years after its approval among 1500 project proposals, sent during two competitions, there were selected 140 projects, which obtained financing to perform measures in the interests of the partners and population within the entire region.

Selected projects were implemented by 491 partner out of three member states that focused their work on improvement of economic, social and ecological situation in the territory of the program, within the framework of safe and reliable borders. Given below accomplishments belong to 126 finished projects as of the end of 2015. Based on the results of project implementation for more competitive able near-border economy, 266 SMB used advantages of the economic entities. There were established 44 partner relations between the universities, scientific and research institutions, business and local authorities, 563 persons passed training courses, there were established 5 joint integrated tourist products. 14 projects still remain on the stage of implementation and new accomplishments on the level of the program are expected till end of 2016, when all projects financed within the Joint Operational Program for Cross-Border Cooperation "Romania – Ukraine – Moldavia" 2007-2013 will be implemented [4].

Recently a number of legislative act that substantially changed legal basis of entrepreneurial and investment climate in Ukraine have been passed. However, serious activation of entrepreneurship and investment attraction has not been observed. Instead, a behavior of economic agents has been recorded, which showed opposite effect that cannot be explained by unfavorable macroeconomic conditions.

Effectiveness of the policy for economic reforms and adequate anti-crisis policy is being hugely reduced due to very slow establishment of holistic and systematic institutional environment, which ensures implementation of legal fundamentals in practical activity of the state governance, entrepreneurship and population of Ukraine. Instead, specified actions and reforms allowed Ukraine to move up in the rating Doing Business – 2015 from 112 to 96 position among 189 countries of the world. However, a range of positive steps are being suspended by their selectivity in terms of

practical application and inability to influence systematically transformation of the economy of Ukraine into a new qualitative growth model. In general these changes haven't ensured significant improvement of qualitative and quantitative characteristics of enterprise development yet. In terms of function and procedures the system preserves main previous weaknesses, which may cause disorganization of management system [4].

That is why development of cooperation between the state and business is one of the major conditions for establishing effective investment policy, increase of innovative activity in economy, development of economic and social infrastructure. Main tasks of the investment policy should be participation in the development of state and private partnership, activation of innovative activity in favor of economy development, forwarding of investment flows into priority sectors, creating and improving development of the highest priority for Chernivtsi region.

In existing conditions investments acts as the most important means for ensuring conditions for overcoming crisis by the country; they contribute to implementation of new technologies, modern types of equipment, leading experience of foreign enterprises, managerial methods and production culture, increase of labor productiveness, development of small business enterprises, increase of population well-being etc.

Unfortunately, financial support and provided access for small business enterprises to financial resources still remains a problem issue, as far as banking system suffers from crisis and the government does not have resources for state microcredit programs. Substantial obstacles for engaging financial assistance to ensure effective cooperation and approximation or usage of joint mechanisms for increase of competitive ability are represented by imperfection of the national legislation and legal basis as to implementation of cross-border projects, financing conditions, high level of economic risks in Ukraine, insufficient qualification level of participants and management of program and project process, as well as bad awareness of the population concerning possibilities of external assistance [7, p. 26].

Within the framework of investment and economic cooperation in cross-border regions it is necessary to develop a respective investment support program for small business, which shall consider priorities and objectives of socioeconomic development of the region. We shall believe that for purpose-oriented management of investment processes it is necessary to apply a program and goal oriented approach to the investment activity in the region under the conditions of cross-border cooperation.

Development of economic mechanism for implementation of the finance support program for small business within the structure of investment program for regional development according to the principles of program and goal oriented management should include:

- defining financial and material resources requirement, volume and sources of financing;
- list of measures and schedule of their implementation;
- mechanism for implementing program that considers stages, cost, performers and control of program implementation;
  - assessment of program effectiveness.

Application of program and goal approach to the investment policy in the region will make it possible to use rationally available budget funds, coordinate activity of investment institutions and stimulate development of separate areas of financial market, conduct control and analysis of program realization results.

### 5. CONCLUSIONS

To ensure effective bilateral cooperation both countries should make the following foreign policy steps:

- on behalf of Romania such as: organization of small and medium business within the nearborder territories along with attraction of investments; support for economic and political dialog with Ukraine on all levels; privileges for foods and services exchange; coordination of joint measures against corruption and organized crime; lobbying interests of Ukraine in EU and NATO structures;

- on behalf of Ukraine, respectively, to carry out the following measures, such as: holding political dialog within the framework of implementation of Ukraine's strategy as to the European integration; support for business projects and cooperation of business circles; mutual participation in peacekeeping activities of the UNO and NATO.

In our opinion, stimulation of foreign investment should be based on establishment of flexible system of national priorities, development of approaches to defining degree of participation of foreign investors in projects of small enterprises, necessity for developing separate industries and fields of activity. For purpose-oriented management of investment processes to apply program and goal approach to the investment activity. Also it is necessary to bring investment process into compliance with the standards of market economy and to develop and approve State Strategy for Investment and Innovative Development, as well as Investment Code of Ukraine.

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# APPLICATION OF EUROPEAN STANDARDS OF FINANCIAL STATEMENTS – INFORMATIONAL RESOURSE OF CONSUMER COOPERATION DEVELOPMENT IN UKRAINE

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### **Abstract:**

More than 120 countries use the International Financial Reporting Standards (IFRS) and the International Accounting Standards (IAS). The Association Agreement between Ukraine and the EU obliges Ukraine to consider European convergence of accounting and reporting. Since 2012 for some entities the use of IFRS has been compulsory, but for others – voluntary. This trend coincides with the imperative necessity of the consumer cooperation of Ukraine to reform its multilevel informational system as a key component of its effective management and successful implementation of controlling. It is proposed to start reforming with the introduction of IFRS and IAS. Consumer cooperation represents cooperative sector of Ukrainian economy and is included into different international and European cooperative associations. With its historic mission to meet the needs of its members, socio-economic and cultural development of rural areas, in terms of the crisis it faces the serious problem of the systemic reforming under existing conditions through the innovative development and use of experience of economically developed countries, especially the EU.

**Key words**: European integration, cooperation, innovative development, international accounting and reporting standards, information resources, controlling.

JEL classification: M15, M21, M41

### 1. INTRODUCTION

The implementation of the Association Agreement between Ukraine and the EU (full name in English - Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Ukraine, of the other part) provides a free trade zone, the removal of trade barriers, integration of Ukraine into the European Union's internal market.

The cooperative sector of economy can be one of the first successful European integration projects. The developed cooperative system of Europe covers over 22% of the adult population and is an organic balanced component of the social development. Consumer cooperation in Ukraine already has an international membership. Since 1992 it has been a plenipotentiary member of the International Cooperative Alliance, since 2012 – a member of the European Community of Consumer Cooperatives (Euro Coop), since 2014 - a full member of the European Business Association.

### 2. LITERATURE REVIEW

The problems of International Financial Reporting Standards (IFRS) and International Accounting Standards (IAS) implementation in Ukraine were described in publications of the leading national academic economists: V.Parkhomenko (*Parkhomenko*, 2014), S. Holova (*Holova*,2015), S. Zubilevych (*Zubilevych*, 2014), O. Kharlamova, L. Rudenko (*Kharlamova and Rudenko*, 2014), R. Kuzina (*Kuzina*, 2015). All above-mentioned and many other authors elaborate this subject but their publications are not able to resolve the complex issue of reforming financial reporting in Ukraine, particularly in the sphere of consumer cooperation.

The problems of complex systems management were examined by such scientists as: M.Amper, B.Trentovskyi, A. Bohdanov, Norbert Wiener, L. von Bertalanffy, M.Mesarovich, D.Ekman, A.Borh, O.Lyapunov, I.Poletaev, V.Hlushkov, V.Mikhalevich, I.Serhienko, A.Anisimov, O.Letychevskyi, B.Pshenychnyi, A.Katrenko and others.

### 3. PURPOSE

Formal affiliation with international cooperative organizations encourages and requires the consumer cooperation to provide domestic reforms towards European integration. Thus, it is of prime importance for the multilevel system of consumer cooperation to reform the information system on the European basis as it is the main component of consumer cooperation effective management, innovation development and controlling implementation. This primarily relates to reporting in general and financial reporting in particular.

### 4. RESULTS

Management of cooperative economy is characterized by specific features which are not typical for state, municipal or private entities. The specificity of the cooperative sector has been considered by the author in his works (*Koshkarov*, 2011a), (*Koshkarov*, 2011b).

At present, financial statement (of all types) is the main information interface in a multilevel structure of consumer cooperation in Ukraine (the definition of *interface* is a surface that forms a common boundary between two things or a point of interaction between two components or systems; a set of tools, techniques and rules of interaction, management, control between elements of the system).

Rural consumer society (RCS) in accordance with the statute "... maintains fiscal and accounting records of performance ... Consolidated financial, statistical and other statements are to be submitted to cooperative society, of which it is a member" (*Guide*, 2007). Let's consider the change in the number of accounting reporting forms from lower to higher level (Table. 1).

Table 1. Number of accounting forms for submission to cooperative society of a higher level

(Regulations of Ukoopspilka Board, 2003), (Parkhomenko, 2014), (Regulations of Ukoopspilka Board, 2011), (Regulations of Ukoopspilka, 2015)

Reports	till 1990	since 2003	since 2009	since 2012	since 2015
1. Financial, annual, quarterly	+	+	+	+	+
2. Financial, monthly (interim)	+	-	-	-	-
3. Statistical, annual, quarterly	+	+	+	-	-
4. Operative (management)	+	+	+, -	1	-
5. Internal:					
- number of account forms;	45	28	24	16	14
- including industry report					
(number of industries)	17	7	7	5	6

The volume and structure of information transmitted in the system between the levels of management has a strong tendency to reduction and simplification as well as efficiency elimination.

Since 1990 the performance indicators of the consumer cooperation system in Ukraine have a negative tendency. For instance, let's consider the dynamics of changes for one of the main types of its activity - retail trade (Table. 2).

Informational "hunger" of subsystems of consumer cooperation management system (planning, accounting, control, analysis, regulation, etc.) (Table. 1) leads to their inefficiency and thus to negative consequences. The recourse of volumetric indicators may be one of them (Table.2).

The functional relationship between data of two tables (correlation) requires additional study: which is a cause and which is a consequence ("dependent variable" and "independent" y=f(x) or x=f(y)).

Table 2. Changes in performance indicators of consumer cooperation of Ukraine in 1990-2014

(Kuzina, 2015)

Indicators	1990	1995	2000	2006	2010	2014
Retail turnover of consumer	21280.5	2070	1576.5	2947.9	3661.7	4634.4
cooperation	мln. krb.	mln.hrn	mln.hrn	mln.hrn	mln.hrn	mln.hrn
Share of consumer						
cooperation in trade turnover						
of Ukraine, %	27.2	17.3	5.5	1.7	0.68	0.51
Number of consumer						
cooperative stores, ths	73.6	58.0	26.3	14.7	10.1	6.9
Additional information:						
Total retail turnover of	78338	11964	28757.4	174367	541548	903500*
Ukraine	/8338 мln. krb.	mln.hrn	mln.hrn	mln.hrn	mln.hrn	mln.hrn
* does not include AR of	MIII. KIU.	111111.11111	111111.111111	111111.11111	111111.111111	111111.111111
Crimea and Sevastopol						

Therefore, the formation of a modern informational field in the system of consumer cooperation in Ukraine on the basis of European and world experience can be and should be an effective resource for its development.

In our view, **the legal basis** for introduction of a modern cooperative informational management field is a bylaw according to which the lower levels delegate certain powers and functions to the higher levels under a separate agreement. The model agreement provides, inter alia: joint development of projects of the main directions of economic and social development of the region's consumer cooperation; submission to cooperation society administration or its departments background information materials that are not elements of reporting but are necessary for better understanding of financial and economic conditions in the spheres of activity and for joint processing of proposals and measures aimed at improving the system and efficiency of economic management (*Guide*, 2007).

The organizational basis for introduction of modern informational management field is the openness of the cooperative system, membership in international cooperative organizations and businesses. As a consequence there is a possibility and necessity of IFRS introduction and IAS application. These standards are implemented in most developed countries.

In accordance with the Accounting Directive of the European Parliament and of the Council of 26.06.2013 №2013/34EU the EU Member States have to incorporate the rules of the Directive with their national law within two years. The same problem of harmonisation of Accounting and Reporting Legislation should be resolved in Ukraine as it is an associate member of the EU.

In our opinion the advantage of IFRS and IAS for companies is the possibility to build an industry-oriented system of accounting and choose the composition of reporting articles according to the needs and characteristics of their activity.

On the basis of some excerpts from IAS 1 the author denotes their value for the system of consumer cooperation (*IFRS 1*).

- P.1 prescribes the basis for presentation of general purpose financial statements to ensure comparability both with the entity's financial statements of previous periods and with the financial statements of other entities (cooperative and competitive).
- P.9. Financial statements also show the results of the management's stewardship of the resources entrusted to it.

A financial statement for wide range of users is a statutory provision for shareholders, members of consumer associations, regional local authorities in the context of social orientation of consumer cooperatives activity goals.

P. 13. Many entities present, outside the financial statements, a financial review by management that describes and explains the main features of the entity's financial performance and financial position, and the principal uncertainties it faces.

Consumer cooperative enterprises and organizations through risk management and trend determination can actively respond to changes in the external economic environment as a whole and in terms of processes.

P.14. Many entities also present, outside the financial statements, reports and other statements (such as environmental reports).

Since consumer cooperation is a socio-economic system, the results of its activity are closely related to regional development (procurement of farm surpluses from the public, processing, sales, services providing, development of markets in rural areas, etc.).

P. 25-26. When preparing financial statements, management shall make an assessment of an entity's ability to continue as a going concern - at least twelve months from the end of the reporting period.

Enterprises and organizations of consumer cooperatives are in need of industrial risk management mechanism to eliminate the uncertainties, threats, local and global downturns.

P. 125-126. An entity shall disclose information about the assumptions it makes about the future, and other major sources of estimation uncertainty at the end of the reporting period, that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year. Determining the carrying amounts of some assets and liabilities requires estimation of the effects of uncertain future events on those assets and liabilities at the end of the reporting period.

In the context of above-mentioned issues, some work is underway in the sphere of consumer cooperation. The Consumer Cooperation Development Program at the country level, computerization and the appliance of economic and mathematical methods as well as modern system analysis methods, forecasting, etc. in the process of implementation of the Industrial and Accounting Processes Computerization Program are the basis for reforming the system of consumer cooperation, controlling implementation.

Accounting Law (*Act of Ukraine, 1992*), Regulations of the Cabinet of Ministers of Ukraine, Ministry of Finance and the State Statistics Service impose mandatory application of IFRS, particularly for public companies, loan societies and others. According to the results of comparative economic analysis of cooperation laws and joint stock companies legislation performed by the author (*Koshkarov and Koshkarov, 2011*) we can make a conclusion about the possibility and the necessity for legislative approval of IFRS application at the governmental level or at the level of Ukoopspilka (Ukrainian Cooperative Society). In favor of this proposal it is attested by the global practice of the IFRS spread on enterprises of public interest, which certainly include cooperative enterprises and organizations (the collective form of management for the interests of shareholders and the community).

The economic basis for introduction of modern cooperative informational management field is the cooperation systematicity. According to Article 111 of the Commercial Code of Ukraine: consumer cooperation in Ukraine is a system of self-governing public organizations (consumer societies, their unions, associations), as well as enterprises and institutions of these organizations, which is an independent organizational form of the cooperative movement *Commercial Code of Ukraine*, 2003). According to the dictionary, "society - close unity, the relationship" (*Dictionary of Ukrainian language*). Synonyms - company, partnership, corporation. Also: "System is a set of interrelated elements that form integrity" (*Katrenko*, 2000).

The functions of separate elements create new properties (may create) when they are in the structure of a single system. The functions of elements and the whole system are realized over time through processes, constituents of which are operations with material, financial, human,

informational and other resources. An enormous importance is taken by information flows that accompany not only all other flows, but also describe the system states and relations between the elements over time, have the potential for the system activation and development.

The scientific and technological basis for introduction of modern cooperative informational management field is represented by IT technology that is being implemented rapidly at the fundamental unit of the consumer cooperation - the consumer societies as well as at individual unions or associations of consumer cooperation enterprises. IT-technology provides the possibility to apply modern and efficient methods of system management.

### 5. CONCLUSIONS

- 1. Since Ukraine is an associate member of the EU the issue of harmonization of the Accounting and Reporting Legislation in compliance with the Accounting Directive of the European Parliament and of the Council is of a top priority according to the membership duties and the necessity to harmonize the economic environment between Ukraine and EU.
- 2. Consumer cooperation is being developed as a separate system incorporated into the country's economy. At the same time informational flows remain unchanged and that distorts the information model. In this case the informational resource inside the country and the potential of the European cooperation are not used. Informational flows do not comply with the system requirements to ensure its operational functioning on a real-time basis, development, efficiency, etc. (processes are constant, informational flows interruptible, some of them are missing, do not support feedback vertically). The volume of reporting cannot satisfy subsystems of planning, monitoring, effective analysis. IFRS remove many of these problems and enable the innovative development of the consumer cooperation system.
- 3. According to the system management theory, consumer cooperation is viewed as a system:
- Socio-economic (self-governing organization of citizens which, on the basis of voluntary membership, property and mutual participation, unite for joint economic activity to achieve collective organized satisfaction of their economic and social interests (*Commercial Code of Ukraine*, 2003); it contributes to social and cultural development of rural areas, folk craft and cottage industry (*Act of Ukraine*, 1992);
  - Active (goal-oriented);
  - Open (is being developed);
  - Complex, multi-level, multi-industrial;
- Emergent, synergistic (availability of greater and more effective properties than for the individual elements of the set);
  - Formalized (legally approved);
- Has more than one hundred and fifty -year -old history of development in Europe and in Ukraine.
- 4. For cooperative enterprises and organizations as for enterprises of public interest (entities of public interest) with a collective form of management for the interests of shareholders and communities it is possible and necessary to legitimize the use of elements of IFRS and IAS. IFRS and IAS have more progressive form and content through the use of elements of the economic analysis method, planning, forecasting, monitoring, auditing, etc. elements of controlling method.
- 5. We believe that the next evolutionary step of algorithm "data information knowledge the result" should be performed by the usage of effective methods of system analysis (for example, object-oriented modelling, simulation, rapid development of application methods, etc.) and system management with logical change of requirements to the information field and their implementation with the use of IT technologies (elements of "The Fourth Industrial Revolution" (Industry 4.0), proclaimed at the World Economic Forum 2016 in Davos. The results of such studies are being prepared for publication.

Thus, enterprises and organizations of consumer cooperation have the need, possibility and necessity to apply IFRS and IAS as essential components of economic development of cooperative mechanisms through the usage of information potential. That will allow to remove all restrictions for the required informational field formation and, as a result, to integrate subsequently to business processes into a single channel of the European economy and effectively stimulate the introduction of new management systems (subsystems), including controlling.

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## THEORETICAL APPROACHES TO ASSESS THE IMPACT OF ADVERTISING ON CONSUMERS AND MARKET COMPETITION

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#### Abstract:

In the article we examine theoretical perspectives on the impact of advertising on consumer behavior, entry barriers in the industry, the structure of the industry, the competitive behavior of firms and market power; systemize structure of the research of advertising impact on consumer behavior; analyze the main results of empirical studies of the effects of advertising on the competitive relationship in the market.

**Key words:** advertising, market structure, competition, monopolization, entry barriers, consumer behavior.

**JEL classification:** L10, L12

### 1. INTRODUCTION

In a globalized modern world increases impact of advertising on economic relations. Advertising products allows consumers to obtain important information on product diversity and market prices for specific goods and services, and manufacturers and retailers to expand product distribution channels; influence consumer preferences and hence on market demand; more effectively implement competitive strategies. Advertising as an effective method of influence on consumer preferences, aims to increase demand for products corresponding brand, improving the company's reputation, growth of image, respectively, and attract new customers for their products, create barriers to entry into the industry and the formation of market power.

### 2. ANALYSIS OF RECENT RESEARCHES AND PUBLICATIONS

For a long period, the impact of advertising on the economy was discussed by many scientists, there are many conflicting opinions, statements and models. Most studies of advertising were carried out in the areas of marketing, psychology, sociology and management, and theoretical aspects of this activity paid insufficient attention. Leading marketers P. Kotler and G. Armstrong define advertising as "business activities designed to promote products" or as "marketing communications" [5]. And in the works of leading economists still has not developed a common opinion about the nature of advertising, its definition and the means and methods of the study of its impact on different aspects of the market environment, competition and welfare.

For example, British economist P. Doyle identifies the following reasons for disagreements of opinion other economists advertising: first, the high cost of advertising may partly be the cause of inflation; second, advertising is often deemed to misinforming consumers and negatively affect their preferences; thirdly, some economists believe that the media is too dependent on advertising; fourth, advertising can influence the market concentration and lead to reduced competition [2, p. 572].

Empirical studies of the impact of advertising can be grouped using D. Vakratsas work according to major themes and results (Table 1).

Of course, these researches have some important points, such as the fact that according to the first, advertising is perhaps the only cause of the consumers' brand loyalty and insensitivity to price. However, there are other marketing tools to influence consumers as quality, personal selling, promotion.

Table 1. The results of empirical studies of the impact of advertising on consumer

Topic	Conclusion	Studies
Dynamic advertising elasticities	Advertising elasticities are dynamic and decrease during the product life cycle. Advertising elasticities are therefore higher for new than for established goods.	Lodish et al. (1995) Parker and Gatington (1996)
Advertising response functions, reach, frequency	Returns to advertising are usually diminishing; the first exposure is the most influential for short-term sales or share gains. For frequently purchased package goods, share returns to advertising diminish fast, typically after the third exposure. After the third exposure, advertisers should focus on reach rather than frequency.	Deighton, Henderson and Neslin (1994); Jones (1995); McDonald (1971);
Advertising as a signal of product quality	Increased advertising signals high quality when costs of producing quality are low and consumers are less responsive to advertising.	Tellis and Fornell (1988).
Advertising effects on consumer price sensitivity	Price advertising increases price sensitivity, whereas nonprice advertising decreases price sensitivity. Furthermore, price sensitivity leads to lower prices.  When consumers rely on memory to retrieve product information, advertising increases price sensitivity; when consumers rely on point-of- purchase information, advertising decreases price sensitivity	Kaul and Wittink (1995); Mitra and Lynch (1995).
Advertising and affective responses	Advertising need not be informative to be effective, nor need be verbal only; emotional and visual elements enhance preference.	Krugman (1977); Resnik and Stern (1977);
Brand attitude formation	Brand attitudes are not formed exclusively on the basis of beliefs about the product/brand attributes. They also can be based on emotions. For example, attitude toward the ad is a significant moderator in the formation of brand attitudes.	Aaker, Stayman, and Hagerty (1986); Batra and Ray (1986);
Advertising for search, experience, and ambiguous goods	Advertising is more effective for experience than search (ambiguous) goods. Furthermore, advertisements for search goods contain more product-oriented information than do experience goods advertisements.	Hoch and Ha (1986); Nelson (1974).
Effects of message repetition on awareness, recall, and attitude formation	In low-involvement situations, repetition of different versions of an advertisement prevents early decay of advertising effects. Recall and attitudes can be maintained at a high level if an advertising campaign consists of a series of advertisements.	Calder and Strenthal (1980); Rao and Burnkrant (1991); Zielske and Henry (1980).
Advertising- experience interaction	Product usage experience dominates advertising influence on beliefs, attitudes, and behavior.	Hoch and Ha (1986); Marks and Kamins (1988);

Source: compiled by the author based on [7, p. 31].

In evaluating advertising costs and their impact on the market we must also distinguish between different types of markets. The first group of markets, as determined Comanor W. and T. Wilson, there are markets where advertisements are traded. In such markets news media play a decisive role and advertisers can present demand. Equally important are advertised goods markets, where advertisers are sellers. In both cases, the final consumers are representative of market demand. The difference between these types of markets is important, and it would be wrong to neglect it [4, p.2].

Advertising can strengthen the position of the company in competition, helping consumers to make choices based on better information, but advertising can make competition less perfect, assuring customers the best qualities of a particular brand of product. In this regard it is important to be able to divide advertising into informative and persuasive. As rightly noted by A. Vitrenko "... advertising in modern society has its problems, but it is only a tool for market development and social communication. And just reassessment false as the underestimation of its role and place in society. Advertising only serves new needs and does so or bad or good. It is a tool, a tool in the

arsenal of different systems and can bring good and evil, and at the same time "[9, p. 402]. So, advertising is ambiguous and can carry out a controversial impact on the interests of participants of market relations.

The purpose of this article is to summarize economic and theoretical approaches to determining the impact of advertising on the interests of participants of market relations; analyzing, comparing existing approaches to every aspect of this influence, empirical research.

### 3. STATEMENT OF THE MAIN RESULTS OF THE STUDY

Elements advertising firm behavior including the content, the volume of advertising messages, frequency of exposure and costs form a strategy that would have caused the reaction of consumers, contributed to the growth of sales, formed a commitment to the brand and increased market share. The reaction of the consumer, before forming his behavior is a psychological effect (knowledge, feelings, experiences). It should be borne in mind that consumer awareness is not a "clean sheet" because almost always when shopping it refers not only to advertising messages, but especially to my own experience, which affects his behavior.

To evaluate the contradictory impact of advertising on the interests of participants of market relations should compare existing approaches and directions. D. Vakratsas and T. Ambler, Having reviewed more than 250 scientific articles and books have explored how should still undergo analysis of the impact of advertising on various aspects of businesses. Having defined the main directions of view and adding additional circuit elements give it to Figure 1.

It should be noted that there is a reverse influence consumer behavior for advertising the company's strategy: study changes in demand for products based on price changes, determine the elasticity of demand for advertising made significant changes in the behavior of economic agents.

In the case of advertising is a source of monopoly power, according to L. Telser, there must be a positive relationship between concentration and intensity of advertising. Companies with large advertising budgets should occupy a stable market share, the life cycle of highly advertised products should last much longer than non-advertised.

In our opinion, it is necessary to pay attention to the studies on the elasticity of demand changes on advertising that are based on the classical model of Dorfman-Steiner, which results in the equation:

$$\frac{A}{TR} = \frac{P - MC}{P} \cdot E_A^D = \frac{E_A^D}{E_P^D},\tag{1}$$

, where A - advertising costs; TR - total revenue; P - price of the product; MC - marginal cost; EDA - elasticity of demand for advertising costs; EDP- price elasticity of demand.

This analysis is very interesting and is markedly different from previous models because there are no restrictions on the forms of market presence barriers. But this study does not answer the question of optimal volume of advertising in terms of changes in welfare. However, R. Dorfman and P. Steiner in his analysis used psychological factors, interpreting them through the elasticity of demand. This is a very important innovation in advertising research as important to study this issue, synthesizing psychological approach marketing and microeconomic methods of consumer behavior [8, p. 325]. However, this analysis does not provide a complete understanding of the strategic cooperation between competing firms, the model does not show how firms react to changing prices and differentiating products, changes in competitors' advertising policy [3, p. 524].

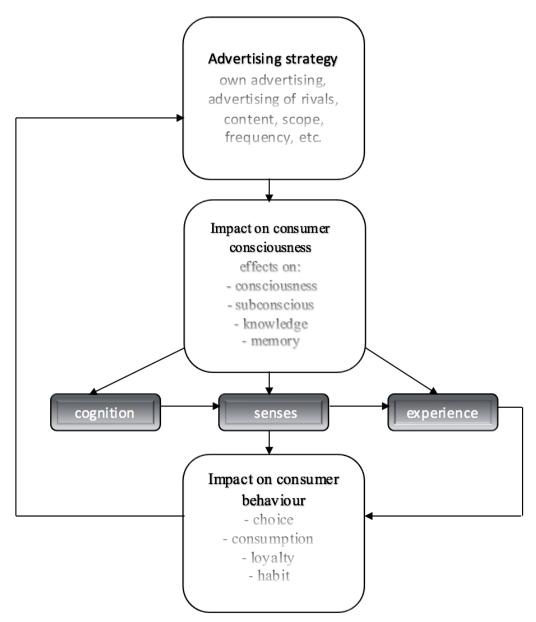


Figure 1. Structure of the studies of the impact of advertising on consumer behavior.

Source: compiled by the author based on [1, p. 26].

Previous studies of the economic impact of advertising presented conflicting views. Some authors believe that advertising creates market power artificially differentiating products and, thus, reducing the price elasticity. Others consider advertising as an effective source of information on existing substitutes, arguing that advertising increases price elasticity.

Thus, all theoretical studies of advertising can be roughly grouped into two groups: 1) advertising as a factor affecting the monopolization; 2) advertising as a factor that promotes competition. Anticompetitive view argues that advertising increases product differentiation in the minds of consumers and allows each company to gain greater degree of monopoly power in the market, and to do so at the expense of consumers. So, we can say that advertising makes demand curve less elastic, allowing the firm to appoint higher prices and earn increased profits. Thus, advertising reduces competition among existing firms and industry, speaking to them as a barrier, protecting established firms from potential new competitors. The other, a competition point of view considering advertising as information that makes the demand curve of any vendor, especially those operating in a monopolistic competition, more elastic, and prices and profits tend to decrease. Rising consumer awareness about the quality of products successfully increased the number of

substitutes and making the industry more competitive. Most of the economic literature on advertising, has been associated with the choice between these diametrically opposed views.

Monopolization	Advertising	Competition
Advertising influences the tastes and preferences of customers, changes the properties of products, the company differentiate products from competitors' products.		Advertising informs consumers about the characteristics of goods and does not change their value.
Consumers are beginning to prefer the brand and become less sensitive to price. It remains only a few substitutes for the advertised product.	Consumer behaviour	Consumers are more sensitive to price and buy products at the best value for money. Only the relationship between price and quality affects the elasticity of demand for the product.
Potential companies that are going to enter the market should surpass the cost of advertising existing companies to gain customer loyalty to their own brand.	Barriers to entry	Advertising enables the emergence of new brands on the market because it can convey information about the characteristics of new products to the consumers.
Firms are insulated from market competition and potential competitors. Growing concentration. The companies with a discretionary power stay.	The structure of the industry and market power	Consumers can compare competing offers easily, increasing competition. Remain firm working effectively unsuccessful leaving the market comes a new company. The impact on market concentration is not straightforward.
Firms can set high prices. No competition is the quality or the difference in prices. Application Innovation reduced.	The market behaviour	More informed consumers are putting pressure on the company to reduce those prices and increased quality. Innovations are possible due to the emergence of new companies.
Due to high prices producers get excessive profits, pushing them to more actively promote their products.	Market conjuncture	Industry prices are reduced. The impact on profits of companies due to growing competition and increased efficiency are ambiguous.

Source: compiled by the author based on [6, p. 97]

### 5. CONCLUSION

In this article we grouped the main results of empirical studies of the effect of advertising in the following areas: the impact of advertising on the elasticity of demand for consumer response, in adherence to the brand, sensitivity to price; advertising research as an information signal about the quality of goods; study of the effect of advertising on demand for goods that the consumer has used and new, known consumer products. Within these areas also studied aspects of barriers to entry to the industry markets, the formation of individual firms monopoly power by reducing the elasticity of demand, which is achieved through the formation of a consumer brand attachment.

It was established that during the investigation still has not developed clear consensus economists and theorists about the positive or negative impact of advertising. It therefore can be roughly grouped study the role of advertising in today's economy in two groups: 1) advertising as a factor affecting the monopolization; 2) advertising as a factor that promotes competition. Most of the economic literature on advertising, has been associated with the problem of choosing between these diametrically opposed views.

According to the first direction, advertising is considered to be a factor that contributes to the monopoly power of individual companies and thus limit the development of competition and the industry. According to a second direction, advertising is informative role, giving consumers the

opportunity to freely choose among the many advertised products, the formation of new companies, the development of science and technology and the formation of a perfect competitive environment.

After a review of research scientists dealing with the process of analysis of impact of advertising on the consumer, we came to the conclusion that there is a reverse influence of consumer behavior on the company's strategy of advertising: the study of changes in demand for products based on price changes, determine the elasticity of demand for advertising made significant changes in the behavior of economic agents.

Today, the researchers of economic impact of advertising have not come to a common conclusion. The market economy is dynamic and full of uncertainties, and, in spite of this, it is necessary to continue to analyze the economic effects of key market elements - such as advertising.

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# ECOLOGICAL PERSPECTIVES IN THE CONCEPTION OF UKRAINIAN AGRARIAN SECTOR'S SUSTAINABLE DEVELOPMENT REALIZATION

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### Abstract:

In the article ecological problems of modern Ukrainian ecological sector are analysed, the main factors of the most important for agrarian sector ecological-institutional determinators are considered. The components of ecological pressure in Ukrainian agrarian management system and ecological recreation perspectives are proved. New approaches to the culture of ecological management are proposed. Ecological perspectives in the conception of Ukrainian agrarian sector's sustainable development are pointed out.

**Key words:** sustainable development, the conception of sustainable development, agroholding, ecological recreation, ecological pressure.

**JEL classification:** O13

### **SETTING OF THE PROBLEM**

Ukrainian agrarian economical sector plays one of the key roles in our country's development. It is stipulated by the fact that this sector ensures food security, delivers raw materials to other economic sectors, guarantees rural area's development and employment, increases country's export potential. Ukrainian agrarian sector is the only kind of economical activity, demonstrating increase both in the conditions of financial crisis of 2008-2009 and difficulties of 2014-2015. At the same time, present Ukrainian perspectives of agrarian sector's development will be greatly predetermined by determinators' coordination of its stability. Especially actual become theoretical grounds and practical development of ecological perspectives in the realisation of Ukrainian agrarian sector's development.

### ANALYSIS OF THE LATEST INVESTIGATIONS AND PUBLICATIONS

Both summits, conferences and documents of international organisations and works of a group of Ukrainian scientists, such as V. Heyets, Z. Herasymchuk, B. Danylyshyn, S. Dorohuntsov, M. Sgurovs'kyi, L. Mel'nyk, V. Trehobchuk, V. Shevchuk are dedicated to the problem of sustainable development. As to ecological perspectives in the realisation of agrarian sector's conception of sustainable development, its enterprises, here we consider a number of weighty works by O. Borodina, Yu. Lupenko, M. Malik, O. Onyshchenko, T. Ostashko, O. Popova, I Prokopa, P. Sabluk, O. Shpykulyak, O. Shubravs'ka, V. Yurchyshyn and many others.

The globality of the phenomenon under analysis, ambiguity of its social comprehension, the necessity to take it into consideration while designing sectoral development's strategic programs and forming institutional providing stipulate the expediency of further scientific investigations in the direction of prerequisite's emphasizing and giving grounds to the perspectives of harmonized realisation of the Ukrainian agrarian sector's sustainable development determinators. From this point of view the theme and goals of the investigation is considered to be actual.

### SETTING OF THE TASK

We try to define ecological perspectives in realisation of Ukrainian agrarian sector's sustainable development conception; work out the approaches of economic regulation's elaboration in realisation of Ukrainian economic agrarian sector's ecologization principles.

### INVESTIGATION LAY OUT

Agrarian sector has been a decisive factor of social development. Modern condition of Ukrainian agrarian sector shows inbalance of its development when the advantage is given to economic component while ecological and social determinators are secondary. On the one hand, the processes of production concentration on the level of agroholdings promote it. On the other hand, small agrarian producers mostly don't have opportunities to keep ecological requirements and social standards. To add, the problem seems to be global rather than concerning agrarian enterprises or national economy. Its solution is possible on the foundations of sustainable development conception. Sustainable development should have balance and combination of such important determinators as economic (sustaining certain profitability levels), ecological (conservation of nature and its recreational ability), social (providing employees' certain living standards nowadays and in future), institutional (sustainable development institutional frames based on adequate institutional providing), and cooperation of the factors above on the basis of systematic approach and synergetic components.

Practical realisation of sustainable development conception and its effectiveness on the country level, and Ukranian agricultural enterprises in particular, requires innovative approaches combined with famous known "classical" methods to manage domestic agrarian household and appropriate regulative providing mechanisms. We can stress on such ecological problems of modern Ukrainian agrarian sector [2]:

- flora and fauna's genetic fund poorness, caused by: introduction of monocultures; urbanization; construction of great water reservoirs;
- soil fertility decrease and degradation through; striving for the high crop capacity; violation of agrotechnical rules; usage of heavy agricultural machines; inadequate melioration;
- industrial soil pollution;
- extermination and degradation of forests and reduction of their biovariability;
- excessive use of chemicals in agriculture (40% are assimilated by the plants, causing the increase of nitrates in food stuffs later, and 30% causing water pollution);
- water resourses degradation;
- reserve funds development problems;
- recreational resourses development problems.

Despite some positive changes reflecting general approaches to Ukrainian sustainable development global strategy adaptation (concerning institutional providing, - the aims of millenium development are worked out [2], some legal and normative-legal acts are adopted

and amended) – practical implementation of approved Ukrainian national ecological policy conception to 2020 [3] and basic foundations of sustainable development are not effective so far. The causes of the above mentioned concern different aspects – general ecological, social, economic, institutional, organizational, informative, technical, technological and political as well. To our mind, the most important ecological institutional determinators for agrarian sector are:

- a great number of multiscale ecological pressures and challenges, both constant and changeable;
- transformational changes of agrarian management forms and conditions;
- some agricultural violations, and those of live-stock farming and crop-growing agricultural creation principles;
- the problems of working out assessment criteria of agrarian raw materials to standardized demands and certified qualitative parameters, ecological in particular;
- heterogeneous ecological decisions and low efficiency of ecological reforms on the level of separate regions and agrarian enterprises as managerial entities.

The components of ecological pressures in the system of domestic agrarian management and perspectives of ecological recreation are presented in Table 1.

Table 1. The components of ecological pressure in the system of domestic agrarian management and perspectives of ecological recreation

Condition and directions of agroecological measures				
Theoretical grounds	Practical providing			
Condition and perspectives	of agrarian management of nature			
- Agricultural ecological problems -	- soil protective agriculture, antieruption			
man caused pollution and soil	measures and soil fertility			
eruption;	recreation;			
- the pollution of hydrosphere as a result	- rational consumption of water in irregation			
of irrational consumption of water in	process;			
agriculture and pollution of ground/	- recreation of optimal ecological condition of			
subterranian waters;	ground and soil waters;			
- plant growing ecological pressures –	- optimal agrolandscape structure;			
monoculture planting, decrease of natural	- effective combination of natural and agrarian			
biovariability;	ecosystems;			
- challenges in the process of cattle-	- increase of cattlebreeding activity on the			
breeding management as a result of	basis of selection – adapted cattle species;			
cattle species disbalance, fodder basis	cattlebreeding culture increse;			
chemical processing;				

#### Forms and methods of agrarian management - working out large scale ecological projects - great farms - agroholdings with intensive agrarian management and nature protecting measures as to the agriculture, plant-growing, cattlebreeding; challenges' level decrease on the basis of - farms (according to their size, quantity ecological management; of workers); - rational utilization of territorial natural - households resourses potential; the development of ecological rendering alongside with basic kinds of activity

With the purpose of practical realization of sustainable development it is necessary to use new approaches to the culture of nature utilization in Ukrainian agrarian sector on the basis of such priorities:

- only ecologically safe both for environment and consumers of the resourses (reflecting modern European approaches in particular) is economically grounded;
- optimal usage of all interrelated resourses natural, man caused, managerial. informational in the system of agrarian management;
- efficient interrelation of agricultural ecological-economical and social determinators (expansion of the sphere of service rendering of necessary parametres for further progressive agrarian development founded on ecologically dynamic constants);
- implementation of new forms and methods of agrarian management, their effective combination with traditional ones (thus, development of ecologically perfect alternative agriculture should be combined with intensive management, plantgrowing in particular).

The above suggested approach defines the necessity to reform agrarian relations in Ukraine in the way of required ecological determinators. It's about the increase of national ecological doctrine workability in the system of agrarian management, providing and combining of ecological-economical reforms in the country on the level of agriculture, processing branches, industry, transport, trade, social activity into one common stream of ecological motivation and responsibility. Common ecological problems are those connected with technological pollution of the air, water resourses, lithosphere, soils in particular, despite different causes and ways for dangerous contaminants getting into above mentioned natural environment.

Utilization of different resourses in agrarian environment should be ecologically stipulated taking into consideration different factors of abiotic, biotic and anthropogenic origin. (Thus, natural-climatic conditions influence the conduct and productivity of agroecological systems and their components – agricultural sorts and agrolandscapes in general, grassy phytocenoses, forests etc.).

Table 2. Perspective principles of nature management in agrarian environment

Optimal	Non-optimal			
nature management	nature management			
Use and repro	ocessing of natural resourses			
Highly effective agrarian management with the use of necessary quantity of resourses	Characteristic features of different kinds of resourses, natural in particular (biological, climatic, mineral etc.) deplete or change			
Use and protection of natural life standards				
Great changes of natural resourse potential don't take place. Natural oblects or complexes efficiency is kept (increased in some cases)	Utilization of natural objects on the whole and their recreational, aesthetic functions in particular is getting worse.			
Changes of natural system ecological balance				
Productivity of natural complexes – ecosystems of different origin and complexity level is maintained. It is the basis of natural balance recreation.	Bioecological system balance is disturbed, environment looses its ability to selfregulation – selfpurification, selfrecreation.			

It should be considedred while designing regional programs of agrarian sector sustainable development, taking into account climatic changes (warming effect) in particular. We consider social ecological culture to be very important in this context. It is

simultaneously the feature of ecological actions in society and the indicator of further sustainable development perspectives, the system of agrarian management in particular.

New approaches to the culture of natural utilization in agrarian environment – consumption with simultaneous recreation of natural-resourse potential should be realized on the basis of optimality. The realisation of this principle in agrarian management should be correlated with the notion of ecological optimum as the most favourable conditions for vital functions of organisms in general or for separate processes (Table 2).

Table 3. Regional-territorial principles use perspectives in the system of agrarian relations

Reginal principles of agrarian	Territorial principles of agrarian		
management	management		
Adoption of common decisions and	Common projects, derected on agriccological		
agroecological initiatives concerning regional	regeneration and perspectives of separate		
eco-economical integral, progressive	territories and water areas on the account of		
agricultural development as complex	motivational strengthening – economic, social,		
management subjects	moral-psychological		
Development of microregional entities –	Use of cluster technologies will balance the		
agrarian provisional clusters as	development of rural territories, it will help		
geographically concentrated and managerially	to create new infrastructure in in rural		
interrelated enterprizes, important for	region – increase of working places quantity,		
competition and economic increase in	widening of main and additional services, in		
agrarian enterprise activities, those in	the form of ecologically pure management in		
depressive territories in particular	particular, development of 'green' tourism		
	etc.		
Coordinated approaches to nature	Common nature protective measures in the		
management on regional level, based on	form of landscape optimization – natural and		
common ecological values with simultaneous	agrarian in common complexes with perfect		
accents on the peculiarities and territorial	structure, progressive development and		
ecosystem functions	aesthetics		

To implement ecological initiatives concerning nature management and agroecological transformations it's necessary to take into consideration regional-territorial principles as a complex basis of modern domestic agrarian management from agroecological balance point of view. This mostly reflects the sustainable development strategy (Table 3).

### **CONCLUSIONS**

Stipulation of ecological parameters perspectives in providing national conception of national agrarian enteprises sustainable development covers theoretically defined and practically directed agroecological measures to improve nature management system, agrarian management forms and methods from ecological security point of view and gaining the level of ecological perfection. The above mentioned goals demand new managerial decisions as to their balance, attaining the state of optimal nature management – providing, use and recreation of resources in the system of domestic agrarian management.

Thus, on the basis of above mentioned principles and ecologically regulated mechanisms in the system of agrarian management effective usage of natural-resource potential is possible. Here it is necessary to involve both internal and external reserves, increase of managearial decisions efficiency, motivation of domestic agrarian enterprises'

activity principles and results, allowing to form balanced parameters in multilevel realisation of the Ukrainian sustainable development sector conception.

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## FACTORS AND WAYS OF CROSS-BORDER COOPERATION DEVELOPMENT OF BORDER REGIONS OF UKRAINE

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### **Abstract:**

The paper justifies that cross-border cooperation (hereinafter — CBC), as part of state policy, now holds a high position in the system of priorities of both socio-economic development and European integration of Ukraine. But in Ukraine it is a typical situation when decisions, taken by state administration bodies regarding the development of CBC, do not fully take into account the real situation in this area, because they does not rely on a deep knowledge of the subject in sufficient volumes. The adverse conditions and obstacles of CBC development in the border regions of Ukraine were found, based on the results of the sociological and expert research (public opinion research of the border areas inhabitants, experts, representatives of civic organizations, regional development agencies, scientists, entrepreneurs, officials of local government agencies and local self-government bodies). The obtained results helped the authors to provide a rationale for the priority actions to be implemented to enhance CBC based on the research findings.

Key words: cross-border cooperation, border regions, priority measures and ways of development, factors and obstacles.

JEL classification: H10 Z30 Z10

### 1. INTRODUCTION

CBC, as part of state policy, now holds a high position in the system of priorities of socioeconomic development of Ukraine. The existing problems are discussed more and more actively at different levels of government, starting from the President of Ukraine and ending with local authorities, and prospective proposals regarding the development of CBC are formulated for both western and southern borders. At the same time, in Ukraine it is a typical situation when decisions, taken by government, do not fully take into account the real situation in CBC area. This leads to a certain declarative public policy and its inconformity to the interests and needs of the relevant institutions and ordinary people who carry out the practical implementation of cross-border projects.

A huge amount of scientific publications, political debates, civic initiatives, as well as numerous legal acts of central, regional and local authorities concern with the problems of CBC development. The CBC as an essential attribute of effective partnership between Ukraine and the EU is constantly mentioned during the proceedings of joint working groups and committees, as well as by the representatives of the European Union and members of the delegations of the European states. The works of M. Dolishnii, P. Belenkyi, Z. Burechko, N. Mikula, A. Mokiy, S. Pysarenko, V. Tkachenko, O. Topchiyeva, L. Yaremko and other national scientists are devoted to the studying of the problem of cross-border cooperation.

### 2. THE ESSENCE AND CHARACTERISTICS OF CROSS-BORDER COOPERATION: ASSESSMENT OF THE RESPONDENTS

A sociological and expert survey were conducted in order to study the current state of affairs in the field of CBC of border regions of the country (the case of Lviv region), based on the assessments of its direct participants — residents of border areas, experts, representatives of civic organizations, regional development agencies, scientists, businessmen, officials of local government agencies and local self-government bodies.

The results of the surveys revealed the following: the understanding of the specific of CBC is almost equal (Table 1). The most common interpretation of this concept is the realization of joint projects by NGOs using grant resources and financing of corresponding activities by the European Union. However, it is worth noting that in this case the contradiction of the use of the term *CBC* in this perspective occurs when the thorough analysis of the institutional support of collaboration processes is made, which today is at a critical pass and in fact prevents the formation of effective relations with the EU member states.

Table 1. Distribution of respondents by the familiarization with the term "cross-border cooperation"

	Total	Are you familiar with the term cross-border cooperation and its meaning?					
Showings		I hear this for the first time	I have heard this term, but I hardly know what it means	Yes, I know the specific nature and key problems of CBC	I know this term very well and am familiar with key aspects of CBC development	I'm not only familiar with CBC agenda I'm but also its active participant	
Number of respondents, persons	250	37	103	73	27	12	
Weight percentage, %	100	15	52	29	11	5	

The answers to the question regarding the identification of the factors of the most negative impact on the development of Ukrainian-Polish CBC as of today (Figure 1) should be considered as an important part of the study.

According to the answers to these questions the conclusion can be made that visa regime and other regulatory restrictions still have the huge impact on the development of CBC. What is more, after Poland's accession to the EU and the introduction of a Schengen visa the importance of this factor has increased significantly (almost by half).

The respondents also have noted the increase of the negative impact of the complicated border crossing procedures on the development of CBC that is explained both by the objective difficulties, caused by more strict regime of border control after Poland's accession to the EU, and subjective factors coming from the underdeveloped border infrastructure and weak staffing of relevant services, first of all customs and border services, in terms of growing traffic and people flows, who are going to cross the border. It shows the necessity to develop a network of border crossing points at the Ukrainian-Polish border and significant improvement in their technical equipment and staffing.

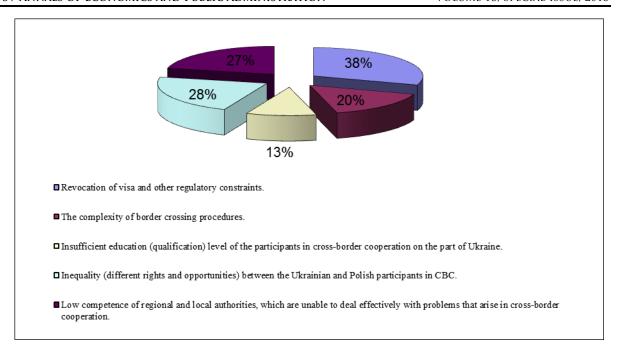


Fig. 1. Distribution of respondents according to their vision of the factors that have the most negative impact on the CBC development

According to the respondents, low competence of regional and local authorities, which cannot solve effectively the problems that arise, also have stable negative impact on cross-border cooperation in recent years. Moreover, the negative impact of this factor increases, which may indicate an attempt of the people to shift the responsibility on the authorities' officials, including local ones, for the complication of visa obtaining procedures and border crossings.

At the same time, the respondents noted the growth of the education (qualification) level of the CBC participants on the part of Ukraine, namely the reduction in the percentage of negative influence of this factor on the intensification of cross-border activity. This trend can be regarded as positive, since the transition of Ukrainian regions to the more civilized forms of cooperation with its European partners should be considered in the sphere of raising the qualification level of CBC participants.

However, the most unexpected result is a superior point of view about decrease of the inequalities between the Ukrainian and Polish participants of CBC, despite the existence of the asymmetric visa regime between Ukraine and Poland, as well as the constant criticism in the mass media and at the mundane level of the infringing the interests of the Ukrainians in obtaining visas and crossing border. This can be explained primarily by the fact that the abovementioned inequality concerns, first of all, the participants of "shuttle trade", which importance in today's cross-border cooperation, according to respondents, is not decisive.

The logical conclusion, obtained through questioning, is that the main directions of solving the CBC problems in the short term are the opening of new crossing points at the Ukrainian-Polish border and simplification of border crossing procedures (43%) and establishment of a simplified border crossing procedure for residents of border areas (36%) (Figure 2).

Educational dimension of the reform of CBC area plays also an important role TCS as suggested by the percentage of respondents who mentioned introducing retraining programs and the implementation of educational projects for residents of border areas in order to create the civilized business system in the border regions (26%).

At the same time, one can positively consider a small quantity of respondents who tend to think about tackling the CBC issues in line with the egalitarian approach, in particular through the introduction of visa restrictions for entry into Ukraine for foreigners or of special status of depressive territories and corresponding benefits for residents of border areas.

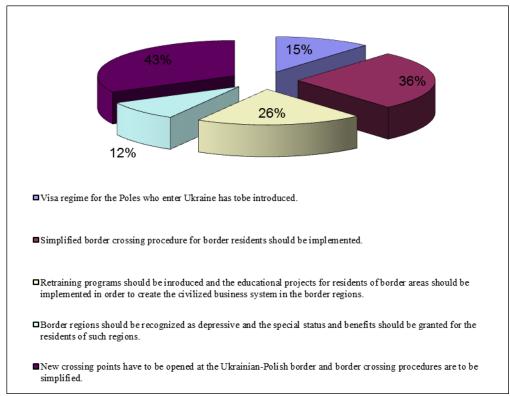


Fig. 2. Distribution of respondents according to their vision of the main ways for the tackling CBC issues between Ukraine and Poland in the nearest

In general, the results of the survey suggest the need to reform the infrastructure and staffing of CBC system in order to enhance its effectiveness and the intensity of the impact on the international activities of the regions and European integration of Ukraine. In addition, the results of the expert survey (opinion of independent experts — representatives of civic organizations, scientists, who specialize in CBC problems, officials of local authorities, entrepreneurs who have experience of implementing cross-border projects) reveals some regularities and obstacles of CBC development of border regions at the present stage of European integration of our country.

### 3. THE MAIN DISADVANTAGES OF INSTITUTIONAL AND REGULATORY SUPPORT OF THE CBS SYSTEM OF UKRAINIAN REGIONS

It should be noted that the institutional and legal and regulatory support system of CBC of the Ukrainian regions has not been completed so far. Despite the fact that this area is regulated by a significant number of both international and national legal acts (The European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities, which Ukraine acceded to in 1993, the Law of Ukraine "On Transfrontier Co-operation", State program of cross-border cooperation development for 2007-2010, Program of Euro-regions development and many other regulatory acts, adopted by the highest state authorities in Ukraine), the main problems of their integration and implementation are:

- the established practice of unfair execution of acting laws and state programs, unequal understanding of the certain legislative acts not only by the ministries and departments but also local administrations;
- dissemination of the regulatory functions, related to the development of CBC area, between the various public authorities;
- preservation of the practice of excessive administrative impact on regional development, in particular its cross-border component;

- lack of criteria for evaluating the effectiveness of CBC, which leads to disorganized formation of regulatory support and prevents to subordinate all legislation to achieving a single strategic goal;
- insufficient level of the provisions of regulatory acts (in particular, the provisions of the Law of Ukraine "On Transfrontier Cooperation") on the course of processes in CBC; fuzzy mechanism of allocation and the use of money for the CBC development; lack of attention to such forms of CBC promoting as legal, organizational, informational and analytical, methodical, marketing and others.

Besides that, there are some shortcomings of the institutional support of the promotion system of CBC development in the border regions of Ukraine, such as:

- central government authorities, in particular ministries and departments, do not consider objectively in their rule-making activity those problems and the real processes that occur in the CBC of Ukrainian regions;
- local authorities and local self-government, as well as Euro-regions, which concentrate at the regional level, do not have sufficient rule-making capabilities because the administrative system of Ukraine today is so centralized that the regulatory acts of the regional government cannot significantly influence on the CBC development;
- lack of self-organized institutions as an element of institutional support of the CBC system in general. Most people either are not united in such organizations or do not expect significant assistance from them, they are deprived of appropriate administrative and financial leverages, and NGOs work primarily in as contractors for donor organizations for implementing the relevant cross-border projects, performing rather quasi- entrepreneurial function than the role of self-governing institutions.

### 4. CONCLUSIONS

Having regard to the above, based on the results of the sociological and expert surveys, the priority efforts to overcome the obstacles that exist on the way of the CBC development of the Ukrainian border regions with their partners from the EU countries, as well as to boost cross-border activities at the level of local communities and make them more civilized, it is necessary to make efforts in five key areas:

- 1) Improvement of the efficiency of the Foreign Ministry and the diplomatic corps of Ukraine towards providing the CBC a special status in the EU-Ukraine partnership policy. It concerns both the liberalization of visa obtaining procedures and border crossing for the Ukrainian participants and the implementation of special programs aimed at the development of infrastructure of border areas. In addition, special attention should be paid to a substantial increase in the number of educational projects which are carried out within the framework of the EU Neighbourhood policy and stipulate further training of senior officials of local self-government bodies and small enterprises in the border regions of Ukraine, as well as getting new, marketable specialities for the residents of border areas of our country;
- 2) Development of a system of permanent partnership relations and business communications between government, business and civic society, on the one hand, and the central, regional and local authorities, on the other. This would allow to discuss in a constructive manner and to overcome timely those problems, which have a destructive impact not only on the deepening of CBC of border regions, but also on the economic development of Ukraine as a whole;
- 3) Significant increase of training and educational components of the CBC of the Ukrainian and neighbouring EU regions in the weight and importance, especially in terms of the adaptation of Ukrainian residents of border regions to the new requirements of cooperation with the European partners in the context of the neighbourship of our country and the EU. Both officials of local authorities and self-governing institutions, and academic institutions and educational establishments of the border regions should be actively involved in this work, especially those that are financed from the state and local budgets;

- 4) Liberalization of economic policy in general and its external economic component in particular. First of all, it concerns the simplification of procedures for the creation of new enterprises and the reduction of fiscal and administrative and bureaucratic burden on their activities for the purposes of reaching fuller entrepreneurial potential and raising civic engagement of the population. This will allow to create favourable conditions for enhancing cross-border business and to stimulate the formation of new civic organizations in the borderland, which will be accompanied by their increased cooperation with foreign partners;
- 5) Carrying out the administrative-territorial reform aimed at considerable decentralization to bring the budget system and the government system in Ukraine to the European standards, based on the principles of subsidiarity and solidarity.

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# THE PROBLEMATIC ASPECTS OF POSITION DISBALANCE OF UKRAINE AND ROMANIA IN INTERNATIONAL RATING ESTIMATES

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### Abstract:

The article explores the trends of Ukrainian and Romanian competitiveness development, based on competitiveness ratings, that are calculated both by governmental and non-governmental world institutions. The main problems, that hinder and slow down the development of competitiveness were discovered, the positions of Ukraine and Romania in world ratings were analyzed, the recommendations for intensification of country's competitive positions in general were provided.

**Key words:** competitiveness, rating positions, Ukraine, Romania, development.

JEL classification: A10, B40, N10

### 1. INTRODUCTION

The exit of national economies from the crisis encourages the search of effective tools of intensification of production activities based on upgrading the production capacities of the enterprises. Under the current global conditions the active implementation of government's innovation policy in the national economy is the determinant of its competitiveness, and consequently should imply to entreprises` innovative capacity improvement, their ability to reach the higher level of functioning, expansion of innovative production and strengthening of competitiveness on local and foreign markets.

The dynamism of economic development observed in recent years indicates that among the main factors of increasing the competitiveness, the introduction of effective mechanisms for implementing innovation policy is the determining one. This is confirmed by the data of the Global Competitiveness Report. Today in the world there are many rankings of competitiveness, which are calculated both by governmental and non-governmental international institutions. The most common ones are:

- KOF, Index of Globalization;
- Global Peace Index GPI:
- Ease of doing business index;
- Index of Economic Freedom;
- Press Freedom Index:
- The Global Competitiveness Index;
- Corruption Perceptions Index, CPI;

- Human Development Index, HDI;
- The Global Innovation Index.

#### 2. METODOLOGY OF FORMING OF WORLD INDICES

Let us consider each of these indices.

1. Index of Globalization is calculated by the american magazine «Foreign Policy» with the help of specialists of consulting and analytical agency A.T. Kearney for 207 developed and developing countries.

The index determines the degree of globalization of separate country through disaggregation of the process into separate components. The index shows the political, social, economic and technological integration of the country into the world community.

Overall, 17 different criteria are monitored. The level of international trade and investment, participation in international organizations and programs, including the UN mission, the development of international tourism, the number of telephone calls from abroad are among them.

Three criteria that determines the Index of Globalisation are given to the level of development of the Internet in the country:

- -Number of users.
- -The number of hosts.
- -The list of friendly services, through which the communication, information search, and cash transactions.

Index of Globalisation measures the level of personal contacts outside the country by combining data on international telephone calls, tourism, remittances and other international transactions.

According to the index Ukraine occupies position 47, and Romania -3 37, indicating a high level of integration of society.

2. Global Peace Index – is an attempt to measure the peace in countries and regions. This index is a product of the Institute for Economics and Peace, designed in consultation with the International Panel on world peace institutes and research institutions based on data collected by the Department of Research of «The Economist». List was first published in May 2007. The list includes 162 countries. Factors examined by the authors include internal factors such as the level of violence and crime in the country and factors in external relations countries such as military expenses and wars.

According to the Index, Romania occupies the 26 position, Ukraine -150. One of the most disturbing trends observed in this study is a sharp increase in the number of countries suffering from the terrorist threat.

3. Ease of doing business index – an annual inquiry of the World Bank. The project provides a possibility to objectively evaluate the various regulations that govern the business of the country. It also allows you to analyze the enforcement of these regulations. Geographically, the study covers 189 countries and some individual cities at the subnational and regional level.

The point of greater attention of the project is the activities of national SMEs and evaluation of regulations governing their activity throughout the life cycle.

For the first time this index was calculated in 2002. It is based on ten indicators (which are the methodology of Doing Business Project): business creation, the work on building permits, connection to electricity, registering property, getting credit, protecting investors, paying taxes, international trade, providing contracts, closing company. Singapore became the leader of ranking 11th time in succession. It is followed by New Zealand, Denmark, South Korea, Hong Kong and UK. Finland closes the top ten. Ukraine in the new ranking has taken 83 place (risen by 13 positions). Overall, this result – the best from 2006. Regarding our geographical neighbors, Poland takes the best position (25th), followed by Slovakia (29 place), Romania (37 place), Hungary (42 place), Belarus (44th), Russia (51 place), Moldova (52 place).

However, this rating does not always reflect the real economic situation in the country due to the complex and ambiguous methodology, but getting good rankings helps to attract external financial resources.

- 4. Index of Economic Freedom is composed by an American think tank «The Heritage Foundation» and the newspaper «The Wall Street Journal» and in accordance with the methodology, report in 2015 was formed according to the second half of 2013 and first half of 2014. The main components of the index are 10 freedoms:
  - 1) freedom of business;
  - 2) freedom of trade;
  - 3) Tax freedom;
  - 4) freedom from government;
  - 5) monetary freedom;
  - 6) freedom of investment;
  - 7) financial freedom;
  - 8) property rights protection;
  - 9) freedom from corruption;
  - 10) freedom of employment.

All countries are divided into types such as «free», «mostly free», «moderately free», «mostly unfree», «repressional».

In the Index of Economic Freedom 2015, during the year Ukraine's position dropped by 7 points. Now Ukraine takes 162 place out of 178 countries and according to the classification it is a country with repressive economy, neighbouring Bolivia (163) and Birma (161). Due to almost all the hallmarks, situation here became worse, except freedom from corruption and financial freedom.

Romania fell into the category of «mostly free» and ranked 61 position. By such criteria as freedom of property rights, investment freedom and freedom of public expenses, Romania has the largest advantage.

5. Press Freedom Index – a relatively new global ranking which highlights the negative impact on freedom of information and its main carriers by armed conflict. The positions of some countries have declined because of too broad interpretation of the national security abuse, detrimenting the right to provide information. The media organisation consider this trend becoming increasingly dangerous in the world and threatens even democratic countries.

Finland leads the Press Freedom Index the fourth consecutive year. After it, same as previous year, it is followed by the Netherlands and Norway. Ukraine takes 129th place, and Romania -52nd.

The index highlights the negative correlation between freedom of information and open and unannounced conflicts. In an unstable environment media becomes strategic objectives for groups or individuals who, contrary to the International Covenant, try to control news and information flows.

6. The Global Competitiveness Index is composed by World Economic Forum,ranking countries in terms of economic competitiveness and contains 114 indicators for 140 countries, with input from the statistical data and surveys of business leaders.

Due to the index, Ukraine took the 79th place, 3 points worse than last year. The lowest ratings comes from the indicators such as the macroeconomic environment (134th among 140 countries) primarily because of the great inflation jump; legal independence (132 place), loss of business due to the threat of terrorism (133), protection of minority shareholders (134), wastefulness of government expenses (134).

Top position are in the block «Innovation», which reflects the high innovation potential of the country: the presence of scientists and engineers, the quality of scientific research institutions, the number of patents.

This is due to the Soviet past of Ukraine, including the high demand for engineering personnel and a large number of scientific institutions. However, the methodology for compiling the index, unfortunately, does not account for the quality and efficiency of institutions and

professionals, and practical need of inventions. Linked with innovative, educational block is also one that leads, occupies 34th place in higher education and vocational training

Romania's position is much higher and reached 59th place.

The lowest ratings in the indicators such as legal independence and the stability of banks.

Top position of Romania are in the effectiveness of antitrust policy and the quality of roads.

7. Corruption Perception Index – an annual ranking of countries of the world, reflecting the assessment of the level of corruption perception analysts and entrepreneurs on a ten scale and composed by Transparency International since 1995.

Today Ukraine ranks 130 among 167 countries, describing the lack of effective changes in 2015 in the fight against corruption.

The main reason for this is the monopolization of businesses, the inability of long-term planning and a high level of public corruption. However, there is hope that in the report for 2016 the situation has improved.

Positions vary considerably in Romania and are higher almost twice. The Corruption Perceptions Index is 58th position, indicating the presence of effective methods of fighting the corruption. This indicator has improved especially after the entry of Romania to the EU.

8. Human Development Index – is the integral index, calculated each year by the United Nations for interstate comparisons and determine the standard of living, literacy, education and longevity as the main characteristics of the human potential of the study area.

Thus, the key indicators in compiling the index are:

- life expectancy;
- the literacy rate of the population;
- standard of living, estimated by GNI per capita at purchasing power parity (PPP) in US dollars.

According to the index, our state ranks 81st, and Romania is ranked 52nd position among 188 countries. Both countries are among the countries with high human development. This result can be reached due to the high level of education.

9. Global Innovation Index is compiled by the World Intellectual Property Organization, Cornell University and the international business school Insead. According to this index, taking into account 79 indicators in 2015, our country ranked 64 among 141 countries. While in Romania this index is 10 points higher.

**International Global Indices** No **Positions of countries in 2014-2015** Romania Index of Globalization (207 countries) 47 37 The Global Peace Index (162 countries) 150 **26** Ease of doing business index (189 countries) 83 **37** Index of Economic Freedom (178 countries) 162 61 5 Press Freedom Index (180 countries) 129 52 6 Global Competitiveness Index (140 countries) **79** 59 Corruption Perceptions Index (167 countries) 130 58 8 Human Development Index (188 countries) 81 52

Table 1.Ukraine and Romania in international rating estimates

Compiled by authors basing on [1-9]

The Global Innovation Index (141 countries)

In 2015 both Ukraine and Romania had the greatest increase on the following parameters:

- human capital and research;
- education:

9

- business environment;
- intangible assets;
- knowledge workers.

Maximum observed decrease in position comes from such indicators as political

64

54

environment, the general infrastructure, online creativity.

According to another global innovation index, compiled by «Bloomberg», in 2015. Ukraine took the 33rd and Romania 21st – among the 50 most innovative, and the best (fifth) position in Ukraine was in terms of «higher education» and in Romania – in «business environment».

These ratings confirm once again that Ukraine and Romania have considerable innovative potential that is not used.

Studies of such information helps to determine the place of Ukraine and Romania in international rankings (Table. 1) and analyze the nature of the identified processes and patterns.

#### 3. CONCLUSIONS

All of the indexes indicate that Ukraine happens to be in the condition of economic, political and social instability for a long time. Currently, some steps have beed made in the promotion of our country in international rankings. This is mentioned in the Strategy for Sustainable Development «Ukraine-2020» [10].

As for the ranking position of Romania, it is in the «middle ground», but in general to promote international rankings in both countries the following measures are necessary:

- detailed study of international ratings methodology and the development of the concepts of changes needed to correct the worst positions where possible;
- effective anti-corruption policy —one of the most difficult areas, because the high level of corruption is an obstacle to improving Ukraine's position in almost all rankings;
- implementation of tax reform deregulation, increasing protection of property rights as key to strengthening the position in rankings in the Ease of doing business index, Index of Economic Freedom, Global Competitiveness Index, the Global Innovation Index, etc.;
- an effective policy to promote Ukraine and Romania on the international scene starting with the country's exports and cultural values;
- allocation of «growth points» which are innovation focused, and enhance the development and support of innovative entrepreneurship.
- Promotion of Ukraine and Romania in international rankings should not be an end in itself, but only an additional option for positioning in the world and improve investment attractiveness.

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### TECHNICAL AND PRACTICAL IMPLICATIONS OF SHORT SELLING

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#### **Abstract:**

This paper aims at providing insight into some of the implication of short selling for markets, investors as well as regulators. Findings show that capital flows are adversely affected by strict regulation and bans of short sales, while market liquidity, and bid-ask spread can be improved by allowing short selling. Additionally portfolios that incorporate short selling strategies can have lower volatility in returns. The informational content of short sales can provide important feedback for informed investors and lead to better price discovery.

Key words: short selling, market makers, portfolio management, stock market regulation

JEL classification: D47, D53

#### INTRODUCTION

Over the last three decades of capital markets experienced a dramatic resurgence and expansion without precedent. Both the number of stock exchanges and their capitalization rose substantially, punctuated by financial crises in certain places. If in the past the markets were dominated by transactions concentrated in a few financial centers, now more and more flows occurring in local markets, with specific rules and practices, highlighting the emerging markets. This article aims to analyze the situation of global capital markets regulations and practices with reference to short-selling and some implications of these transactions in local economies, especially for attracting foreign capital.

A study conducted in 2004 by professors from Yale and Davis (1) show that about 93% of total market capitalization in the world has the potential to be sold short, but in many areas is very difficult or unused operation in practice. Numerous other studies have shown that markets without short selling are characterized by a weaker diffusion of information and therefore errors in pricing. (2) For this reason markets are more exposed to extreme price declines and investors who rely on the fundamental efficiency of markets will prefer those where the trading environment is fluid and transparent, and information flows freely. Thus, empirical evidence has shown that international capital flows are directed towards markets where rules and laws allowing the highest efficiency.

### REALTIONSHIP BETWEEN CAPITAL FLOWS AND SHORT SELLING REGULATION

From the data collected about short selling practices of investment banks, regulators institutions, specialized publications and financial data form a picture of the situation short selling in 59 countries. Parameters to be taken into account are: existeţa of regulations, changes in these regulations, major restrictions and expert opinion on the impact of such changes. The data shows interesting findings such as Singapore where short-selling is practiced although it is not allowed formally numerous countries where short selling is allowed, the argument increase liquidity, but is less used like Turkey because of the manner in which a loan is charged as as a short-term gain, or countries such as Estonia, capitalization lower than where authorities consider the risk of creating bubbles too high to allow accompanied by such financial transactions.

The compilation of indices to simulate portfolios of securities to were sold short, compared to others without such positions, during the period between 1989 and 2002 shows that there are significant differences of performance, especially in terms of volatility. Annual standard deviation for non-short index is 24%, while short index is 19% and the inclusion of US actions volatility decreases to 16% over the same period. In addition to the stability of markets and volatilities recorded, institutions that regulate financial systems are very interested in how it affects international capital flows in and a domestic market. Investors may be attracted by the opportunity to hedge short selling in markets with higher pressure allowed but sale is a reason to prefer markets with restrictions. Empirical evidence suggests that, taking into account the informational efficiency of markets, easing regulations reduce capital outflows from the domestic market, while imposing tougher reduce capital inflows in a market. There are numerous factors that influence international financial flows, and therefore should be considered three types of risk: political risk, economic risk and financial risk. The study by Bris, Goetzmann and Zhu are based on observations of FDI, realizing regression models for different outputs and inputs, taking into account the three types of risk mentioned above. It selected a set of countries that have changed their regulations on short selling period, thus testing the efecele these decisions. The conclusion, even after are considered risk factors is that deregulated markets attract capital in this respect compared to the other, outflows are more pronounced in conditions of low political risk and economic and financial high. Although net flows increased slightly in terms of deregulation, the complexity of factors that influence foreign investment, statistical significance is limited.

Another strong argument in favor of allowing short selling's is the added liquidity that is supposed to confer markets. With the collapse of international credit many markets in 2008, many institutions have banned short selling operations in order to protect the industries most affected in terms of uncertainty especially in the financial sectors of banking and insurance. So many stock exchanges for a number of titles have been banned shorts, meaning that from a certain date (19 September in London) could no longer open short positions. The decision was taken despite the fact that the evidence was inconclusive on the liquidity and volatility. (3) The London Stock Exchange has commissioned an independent study to examine the effects of the decision on market liquidity. The report examines the liquidity of the stock around the FSA's decision to ban shorts, one month before and one after. The first important discovery is increasing the spread to restricted shares 140%, from 15 basis points from 36 bps. For debt control, where the regulation has not been implemented in practice, increasing the spread was only 56%. Depth market deteriorated in both cases, but more pronounced (59% versus 43%) for shares with restrictions. The number of transactions fell by 10% after the ban while for the control actions increased by 50%. Also recorded a volume decrease of 21% after the ban while the control units increased by 42%. Results from two separate regressions show that liquidity decreases seen major changes occur independent of the market and increased volatility. The models are statistically significant and clearly concludes that the shares have low liquidity after the ban short-selling, but may be explained by the volatility higher specific period.

This information is verified by the academic study done by Professor Ian Marsh, Cass Business School which examines the impact of restrictions on short selling in different countries. The study identifies significant evidence indicating a change in yields due to restrictions and price behavior analysis on the different markets where nature was also different restrictions, did not show any effect in downward likelihood of massive price declines. Also, regression analysis suggests that changes in yields actions were caused by factors other than short selling operations with no evidence of systematic impact of restrictions.

Both of the above work are cited by a memorandum of the International Association of loan securities (International Securities Lending Association) addressed the British Parliament which holds that price changes are caused by changes in fundametele listed companies and not by the actions of groups restricted investors that short selling does not have caused the collapse of

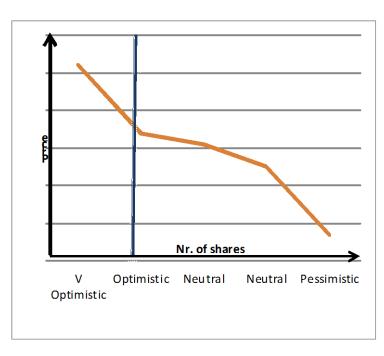
quotations of banks since 2007, which have continued to decline even accentuated, and after the ban short-selling, the lack of possibility to hedge brought additional costs to market participants. Thus the memorandum proposes that future legislation on financial markets to pursue clear objectives and follow strict consultation and analysis. To reject allegations that banks quotations collapsed due to short sales, the Association provides data showing the shares borrowed in parallel to the share price, proving that at the time of the percentage borrowed significant fall was small. Also, the memorandum claims that shorts helps regulate a price equilibrium faster response new information or fundamental changes, decreases the possibility and probability of bubbles decreases the intensity and even the likelihood of crash sites and equilibrium price can be adjusted to a higher amid investor confidence in the mechanisms regulating, requiring lower yields relative risks.

The relationship between volume and yield, a study by Henry and McKenzie examines the impact of short-selling market in Hong Kong. (4) Unlike other academic papers, it considers potential sources of non-linearity and asymmetry in the modeling process. Because with the drop in the price of shares, the share of debt in relation to the capital increase in a company, the risk associated increases and a drop in market volatility also tends to increase. Analyzing the activity of short sellers, in particular in regard to volumea, it has been concluded that markets overreact to good news or bad. This does not indicate, however, as more theoretical work suggests that the volume push prices in one direction or another, but there is a two-way relationship between volatility and volume, noting the existence of an asymmetry in the sense that the volatility associated with a decrease higher than that associated an increase of similar magnitude. Also innovations both positive and negative ones seem to be exacerbated by short selling.

A study by researchers at the University of Sydney on the impact of uncovered short selling ("naked shots") on returns, volatility and liquidity, with evidence from the stock exchange in Australia shows that allowing them does not correspond with better efficiency of markets but with a increase in volatility. Also, this work shows that liquidity deteriorates by increasing the spread between bid and ask and falling market depth, justifying the measures in the authors' opinion makers who have limited shorturile uncovered.

An answer 100% in one direction or another remains difficult to offer because the distance between correlation and causality is sufficient to conclude generally valid and still divergence of opinion even among experts makes a decision to be hard to get.

#### RESTRICTIONS ON SHORT SALES AND EFECTS ON INVESTORS



Standard financial theory is conceived in an abstract world in which it is assumed that investors are able to open short positions as easily as those long, which are unrealistic assumption. For most institutional investors short selling is not allowed and individual traders are often afraid to bet against the market. Also there are many institutional obstacles such as the need for borrowing or rules "uptick" and in a market with such restrictions, even long investor strategy should be different. Essentially we can show that in a market in which shorts are restricted are not efficient and therefore the analysis and selection of shares can be profitable, inefficiencies are often forms of overvaluation of shares identifiable as publicly available information analysis of a small number of titles is a more effective strategy and therefore preferred, often avoiding waste and finding good sales momentum is what stands out from the rest of a successful investor. Also in contradiction with standard financial theory, we believe that not all investors are equally informed and that there is difference of opinion among them. In addition, the standard assumption is that when the price does not reflect reality, the transactions of informed investors tend to balance price. This theory is correct in the undervalued securities, but not for the overvalued ones for the simple reason that most holders often do not have sufficient securities to sell them and without access to short selling other participants cannot correct price. The implication is that we can identify overvalued shares to public information.

If we look at the mechanism of supply and demand we notice that the intersection curve of investor demand, which depends on the degree of optimism or pessimism are willing to pay more or less for a title, with the offer, a vertical line because the number of shares issued the company is fixed, it takes place at a price that is situated in the upper area, where the number of investors are more optimistic than the number of shareholders. This condition is easily met. When some investors are not aware of certain information and become overoptimistic, they will exert even greater control over the price. If the pessimists could easily sell short, then it could meet the demand and price of optimists would balance. Artificial creation of shares through short selling does not substantially alter the supply curve, failing totaling on average only 1% of total shares and 2.8% for the first 5% of companies with high short interest. (5) Thus we can explain why there are companies that are and continue to be overpriced.

Of course we can meet and converse situation when pessimistic investors do not realize the potential of a title. As is extreme understatement, the profit potential increases in same rules as the percentage of the portfolio allocated capital increase resulting in the need for a much smaller number of investors to correct price. For this reason, the probability of identifying an undervalued strong action is reduced and investment Raises candidates have focused on eliminating the most overvalued.

Also if we look at the time evolution of prices in the presence of uninformed investors we discover a curve of expected prices above the forecasts of informed investors. Under a theoretical limit that short-selling could place, the price continues to rise, and therefore, although we agree that the title is overvalued, is not a good candidate to be sold short, unless the premium is excessive. Besides the definition of such action is that the yield is below the average of others with similar profile of risk. Thus we can explain why short positions opened on actions hi-tech in 2000, although over-valued, caused huge losses to investors who estimated fair value. A number of academic papers began to observe these phenomena and discuss the limits of arbitration. As long as there are enough optimistic investors, the price will be high. If we assume that a company has 100 million shares and an investor has on average in 1000, it requires 100,000 optimistic investors to sustain the price at a high level. If the number of investors in the economy is 10 million, then it is necessary that only 1% to be overoptimistic. Also, a large number of them are using naive formulas of growth extrapolation to estimate the price of a share. Numerous studies have shown there are no correlations between yields of past years and growth rates of income per share in the future. (6) In addition studies have shown that investments in companies with high projected growth had poor yields. Between 1987 and 2002 one fifth of the companies with the most generous projections reported negative returns (-0.6% compared to the S & P 500 9%). A company with strong growth expected to have revenues of \$ 1 per share next year, and a rate P / E of 40 would be valued at \$ 40. If receives only \$ 0.5 then the status can be lowered at a P / E of 20, lowering felt the price was double, \$10. Such disasters makes the performance of a portfolio to decline significantly. Not taking into account a possible low probability negative event, such as a mistake in marketing or fraud, can have the same effect.

A strong argument that supported claims that shorting is restricted in practice is that the investor can not use the amount from the sale of short. For large institutional actors, some of that cash can be used in low-risk investments, the yield being below market. Theoretically buying cheap and selling dear principle can be violated if the yield reinvested cash generation is greater than the

possible loss sustained by short position. For an action expected yield of 0%, short selling to unblock an amount of money that can be invested or used to give a leveraged portfolio without the need of a margin. Meanwhile, the marginal cost of necessary expertise to identify a good candidate for short selling is small since it is a waste of effort identifying candidates for long positions. But most often the justification of short positions is to reduce risk (beta having negative) and to hedge against a decline rather moderate risk bond purchases. Therefore, if the institutional investor receiving cash, and the action is not labeled as "special", with borrowing costs high (average 8% of the total shares offered for loan) (7), short positions in the portfolio can be profitable Whereas management their cost will not add too much.

Another restriction at the expense of these operations is the risk of claims, usually in declining markets, when institutional holders will liquidate its portfolio and price action is highly sought after rebate decreases or becomes more negative. The investor loses not only declining, but costs of trading commissions deducted from the return operation. Also rules "uptick" proved that the implementation of short orders is much weaker, which further reduce the yield strategy. Legislation toll is still an impediment to that, at least in the United States, regardless of how much is kept short position, capital gains taxes are for the short term.

Since shorting is considered speculative, most insitutions are prohibited these operations, about 70% of US equity managers having access to such strategies, and less than 10% of those eligible even using them actively (8). Also no derivates products are not used by 80% of mutual funds. Therefore, arbitrage portfolios found in academic works which present long positions to short positions funded with an initial investment of capital than can be eliminated. Federal Reserve margin rule reinforces this fact resulting in the decision to keep a cash amount equivalent short position, greatly limiting the freedom to devise a strategy for arbitration. In terms of collateral, very low return on cash generation from the sale of short makes the strategy is no longer as attractive in the absence of option hedging and portfolio risk reduction.

The conclusions of these multiple considerations. First, short selling can not remove the overstatement, which makes the number of suitable candidates short-selling is not as high as anticipated. Immediate implication in portfolio construction by a manager is that, in contrast to a simple index, the profit potential in following a selection can be very high if one takes into account the right time to sell when prices are substantially overstated. A diversified portfolio can easily avail the elections lucky, but no selling at the right time can mean a return to price originally anticipated by analysis, not justify such an active portfolio management in opposition to indexing. Immediate implication is that over-valued securities should be excluded from the portfolio, and will constitute the most often not good candidates for short. Based on these considerations and asymmetries and errors in the way it sets share price can develop investment opportunities capable of providing competitive returns.

#### THE CONTENT INFORMATION OF SHORT SALES

Companies and their management would prefer that the share price to be high for many reasons such as "stock options", the risk of aggressive acquisition or ease of obtaining financing. For this reason we believe that there are powerful incentives to generate an asymmetry in how information appears legitimate organization, meaning that positive information appear much easier, because the management will draw attention to each incident positive that has been neglected market (new products in development, a solution to operational problems, etc.). Basically we can never expect a company to disclose negative information, such as the lack of sustainability products, comparative disadvantages to competition or simply because they made mistakes of management.

If brokers discovers that a company is undervalued expect to publish information confirming this, because in the end to receive purchase orders for that share of investors who informs. The downside is that the presence of restrictions on short selling means that information about a overvalued company not influence many, whereas few investors are holders of action. Also

brokerage companies that employ analysts and investment banks and publishing news with negative connotations does not attract business, yet a cause for discouragement. And investors are encouraged that once accumulated in a position to communicate this action, because entry of other investors will push the price higher, thus increasing its yield. Short Selleri also have reason to disclose negative information, but considering the small percentage among investors, the impact is much smaller. The media, as a key player in how information travels, is also inclined to assist in removing underestimates because a large percentage of news is base on press releases and not on independent investigations, hence their nature tend to be optimistic. This asymmetry of information is still a strong argument in support of the hypothesis that it is very difficult to find undervalued companies using public information.

Considering that one of the indicators to watch is investor EPS or earnings per share, companies will be inclined to artificially increase earnings. As part of the cost of capital is calculated using share price, if it is too high results in the cost of capital and the company risks of over inevesting. Capital is easily caught when the market is up.

Technical analysts on Wall Street looked to the high interest short (eng "short interest") as a sign "bullish", whereas most academic studies predict yields in decline or even negative, thus signaling a feeling "bearish". One argument is that given the high cost of these operations, those who initiate its operations supposedly superior ordering information. On the other hand, a short position means a latent demand in the future, you will be covered, the technician actually identifying a "short squeeze". But if short interest indicator contains really useful information was and is a controversial issue, especially because information on short transactions do not provide substantial evidence.

US exchanges, NYSE, AMEX and NASDAQ for example compiles information on short interest for each company for the 15th of each month, or as if 15 is not working day. While the operation is not an exotic usually associated with short interest is not high, the vast majority of shares average is 0.5%, only the most sold share approaching to 5%.

View, generally accepted technical analysts that interest which registered a growth or already has a high value translates into a buy signal assumed that: 1. The positions reflect the latent demand that will generate pressure to buy in the future, 2. the high value of short interest reflects an excess speculative long been associated with decreases in the price to recover, 3. It is necessary that traders are relatively poorly informed. From this point of view, it is indeed risky because it can attract buyers to force the coatings with substantial losses, investotorii analogous to those less informed buying in times when the market is pregărește to touch highs. Interest accumulates in time, and it is therefore essential when investor open position, sooner or later.

The first studies that wanted to test these assumptions shows that interest short contains no information about yields future action, but the action in high yield (small) an increase (decrease) in interest short in the next month, helping to stabilize price by adding pressure on the price after they grew. (9) Moreover, a short position in the shares with the highest short interest offering better yield than one long in shares with the lowest short interest, provided that the seller have the cash from the sale. But much of the possible relevant information which may be identified in this indicator is obscure operations hedging and arbitrary acquisitions and mergers (eg. long position in target acquisition and short who make the purchase), and the existence of options distorts and more information. The above results are confirmed by Brent Morse and Stice in 1990 confirming that the changes in interest short may provide future returns, but after substantial increases in prices and interest is increasing, which is in direct opposition to the view of analysts techniques that increase in short interest in declining markets. They also noted that shares the highest rate tend to have higher beta coefficients, options and convertible securities tradable listed. The conclusion is that short selling site reflects hedging and arbitrage and not the actions of speculators, especially as a hedging techniques to sell short shares that you own already to defer capital gains next year ( "shorting against the box") distorts and more information.

The existence of stock options is an alternative to short selling, sometimes cheaper by selling CALL and buying PUT, which means that often negative information about a company are

found quickly in volumes of trading options and quotation first. Therefore, such actions are traded options do not show significant reactions to the announcement of large increases in percentage interest short, while the behavior of those who have no option is marked by a movement negative small, but significant statistically. The introduction of marketable options have the effect of significantly increasing the percentage of short interest and the impact on prices comes as a result of traders who sell options when buying PUT and CALL, do hedging by short selling. Again, in contradiction to the technical analysts view is that the non observation on options tend to offer negative returns in the months after the notice high levels of short interest, and most academic papers indicating this phenomenon. Although two managers capital (10) tested this assumption in 1994 through a survey, giving a yield of 1% above the S&P 500 with a short position in shares which have recorded the largest percentage increase interest short, which would indicate that interest must accumulate indefinitely until there is a correction, and therefore anticipate short-term yields using this indicator has no chance of success.

Changing the perspective in one longer term, interviews conducted by Asquith and Meulbrook with managers of investment funds reveals that establishing positions large hedge using put options for action hard to borrow is, surprisingly, more costly and offer liquidity weaker than short-selling directly. Also more aggressive actions to selling pressure not listed PUT options and a maturity that there is a major drawback for investors who speculate a decrease in the action. From this new perspective, anticipating long-term yield is not affected by the presence of options, and the empirical results are in favor of the assumption that a large percentage of interest is a sell signal reflecting an overvaluation of prices. Apparently traders running short operations targeting highly liquid shares for which prices have risen too much in comparison with the performances of the company's core. For an index of shares with average short interest of 2.5% yields were 6.6% for the first year, -8.8% for the second, third -7.3%, and 11.2% after, hence the obvious conclusion that a high signal is pessimistic long-term. Price drops are much higher as beta greater and greater divergence of opinion, but it remains difficult to operate because of the costs and trading risks that short selling imposed. However, the fact that yields are negative indicates that corrects accumulated short sales prices in the company's core qualities direction, but the dilemma arises when the best time to open a position. Acting early is certainly less costly, because no action yet to register a big demand loan, but can become very expensive if it takes until it becomes negative yields, with the risk that they may not materialize at all.

The most important factor in the accumulation of short interest is a low ratio between the fundamental value of the company and the share price or as alternatives book value to price and cash flow to price. These companies consistently experience poor yields in the future becoming targets short selling. The criteria they avoid action refers to the small size of capitalization and weak institutional ownership, high dividends, book value ratio at low market justifiably high potential for growth. Other factors that influence interest are turnover of the company, and its overall size, the volume of put options traded and fundamental trading strategies and predicting future operational performances. The indicator is sensitive to innovations both favorable and less favorable hedging is associated suggesting that, while seen in the past is associated with the overvaluation of securities.

In connection with the assumption that short selling helps companies identify over-valued, Karpoff and Xiaoxia make three key observations.(11) For shares that have been identified and sanctioned by the SEC (Securities and Exchange Commission) as misconstruing the financial statements, overestimating results, interest short rise steadily 19 months before the estimation error to be made public, and quantitative growth is positively correlated with the severity of the error. Meanwhile, the speed at which the error is publicized is positively related to the level of interest short, and the most important aspect is that short selling does not generate a downward spiral in the price once bad news becomes public, but operate and indeed the level decreases with level error of interpretation. These observations suggest that short-selling can anticipate an eventual discovery of inappropriate financial behavior of the listed companies providing incorrect information to investors.

Conclusions regarding the information content of academic opinions favoring short sales and disproves the classical techniques that analysts still have found no evidence. Accumulation of short interest level is an indicator of poor performances in the future, although hedging activities detract from the quality of this statement. The risk of short squeeze is still present, and the only reason to open a long position amid a large short interest is whether the investor anticipates this phenomenon.

#### CONCLUSIONS

The difficulty of short selling operations is greater in practice than in financial theory, especially because of the many restrictions and market imperfections but it is proven that for a portfolio manager performance can be improved by these practices. Successful strategy involves eliminating companies often overvalued or expected poor performance and the opening of short positions may reduce the risk of a portfolio. Methods to identify actions appropriate to be sold short and founding an investment decision include the detection of clues accounting problem verdict, analysis of core especially related to creating economic benefit in conjunction with dynamic revenue estimating the degree of implementation of the information in market price and the general evolution of the industry sector and the wider economy. Technical analysis is not a proven solution, but it can help guide strategy while or confirmation of market movements.

At the same time the economic implications of short selling for the investor and for the economy claimes attention of authorities to regulate these matters. Decisions to block or limit shorturile not have the desired effect, in some cases exacerbating the already precarious situation of financial markets. Research has indicated that allowing these operations have a beneficial effect on market efficiency, liquidity and price adjustment, larger price volatility in certain circumstances. Also a scholar transparent and accessible framework encourages foreign investment and enhanced business opportunities. Analyzing the situation short selling by the investor does not offer considerable opportunities for the production of clear predictions, but their investment behavior should be adjusted and the mechanism of decision should take into account factors other than the absence of short selling.

The bottom line is that reducing obstacles to short selling is imperative in any market, including emerging markets or small as the one in Romania. Arbitrage and market making institutions can function better while smart investor can take advantage of the fact that there is a discrepancy between prices and actual market denominated assets and business actions that they represent.

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### **SECTION 2**

# MANAGEMENT AND BUSINESS ADMINISTRATION

#### STRATEGIC DECISIONS, INFORMATION AND KNOWLEDGE

#### Abstract:

Through this study, the authors intend to approach the issue of types of knowledge (tacit and explicit) reported to the extensive knowledge pyramid proposed by Apurva and Singh. It is envisaged that they have an extremely important role in the economic development of large corporations. Starting from the idea that this knowledge covers the correlation of social progress with economic progress, it shows that their level is achieved in conjunction with several factors. Our approach is to provide a relatively complete picture of the meaning / usefulness of the information provided by knowledge and their role to solve economic problems by using decision-making systems.

**Key words:** Knowledge, inventions, innovations, tacit, explicit, experience, intuition

JEL classification: M1, M15

#### 1. LITERATURE REVIEW

Starting from the 80s to the present, the market value of a company was started to be given more frequently asset value non tangible available to that organization, assets that can be summarized by the term "knowledge" (inventions, innovations, patents, trademarks, designs, symbols, execution skills of employees, employees' cognitive skills, creative ability of employees makers vision, experience etc) [2].

Knowledge Management (KM) is a relatively new concept, and it occurred in connection with a wide variety of schools of thought that attempt to explain this concept. Among them, we can mention those related to information theory, developed by Tom Davenport and Larry Prusak (they discuss the conversion of tacit knowledge internal external knowledge encoded, etc.) [3]; Hirotaka Takeuchi and Nonaka Ikujiro proposing more strategic guidelines and models of the Acquisition KM / knowledge conversion [10].

One of the major classifications on sharing knowledge is the knowledge in the following two categories: [4], [5], [6], [8]:

- Explicit knowledge gained rational knowledge that can be transferred through the usual processes of teaching, learning, communication, etc; they can be removed from the holder and processed in various ways at the organizational level (knowledge that can be found in textbooks, encyclopedias, databases, etc.);
- Tacit knowledge is knowledge of the non rational, such as knowledge derived from experience or intuition of the individual, in which case the transmission and processing them become relatively more difficult (we know intuitively and from experience how to achieve various actions or to behave social context, but it is sometimes difficult to explain verbally how fulfilling those actions.

The process of converting tacit knowledge explicit knowledge and vice versa takes a spiral of learning in modern business organizations; He was shown for the first time by Professor Japanese Nonaka Ikujiro (in literature KM was imposed so-called model Socialization, Outsourcing, Combination and Internalization (SOCI) converting knowledge from tacit to explicit and vice versa; it stages of Socialization, Outsourcing, Combination and Internalization of knowledge; in at each stage members of a group / organization teams can foster through a KM strategy in the process of creating new knowledge)[12].

We want to note that both the model of conversion of knowledge and different ideas promoted by Professor Nonaka generated a strong interest in areas like logic, knowledge management, systems engineering, mathematical modeling etc. [12]. Over the decades, a large number of other researchers have extended and amplified the issue of sharing knowledge and tacit knowledge explicit linking together powerful organizations subject life and computer networks (Internet, intranet, etc.) [2].

#### 2. THE INFORMATION AND MANAGEMENT LEVELS

From a management perspective applied since the 1980s until today, they have become extremely familiar phrases such as knowledge management, learning organization, human capital, intellectual capital, intangible assets, information revolution, e-learning, business process reengineering etc [7], [11].

Without developing much idea invoked in Figure 1 we present information role for the 3 hierarchical levels of the company organization chart:

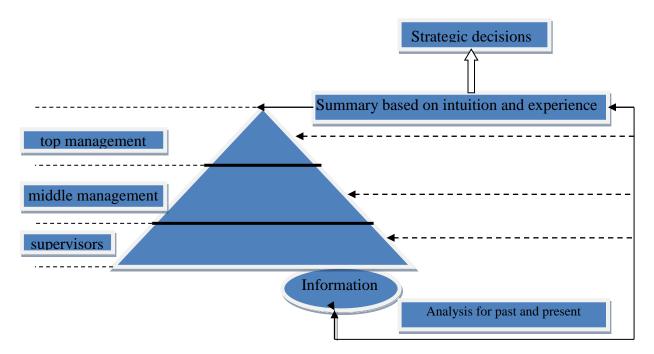


Fig. 1. The information and hierarchical levels of management

Source: Adapted Iancu E, (2011) - Sisteme expert in contabilitate și informatică de gestiune, Ed. Politehnica, Timișoara

From the perspective of the objective sought by this paper, we managed to briefly argue (as shown in Figure 1), we believe, deep connection that exists between information, hierarchical levels of management and information support underpinning strategic business decisions.

Company Management is based largely on information when adopting different strategies; But he relies equally on intuition and experience gained over decades, that the tacit knowledge that are difficult to quantify and mathematically modeled.

#### 3. WORK PRINCIPLES IN THE DEVELOPMENT OF DECISION SYSTEMS

The starting point in developing methodologies for achieving information systems decision resulted largely from stating the objectives sought to be solved by some kind of system. While some were structured working principles underlying computer systems design methodologies, as follows:

- easily acquisition of knowledge by expressing as directly as possible expertise obtained from human experts; this expertise can be measured type (when it comes to information

- or data) or non-quantifiable (you need to rely on fuzzy logic to transfer knowledge in a readable form);
- Knowledge efficient operation of the collection placed in the database;
- easily to bear the full range of operations on knowledge (adding, changing and removing them), according to the manner in which it is structured database when designing the system.

Issues mentioned above can be summarized in a graphical form as shown in Figure 2.

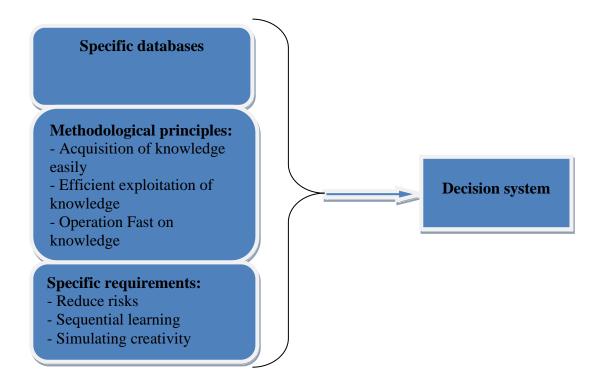


Fig. 1. Principles of work and requirements in system design

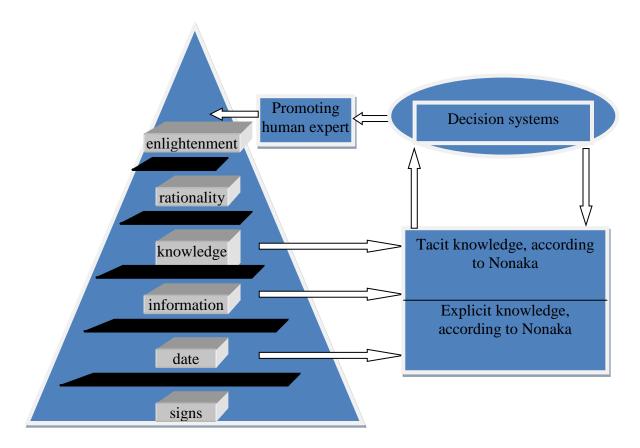
#### 4. THE KNOWLEDGE AND DECISION SYSTEMS

A conceptual dimension of knowledge economy requires new ideas and approaches from policymakers. Innovation and technology adoption, information infrastructure, adoption, adaptation and use of knowledge in domestic economic output will result in a higher value-added goods and services.

Given the classifications above, we understand that different databases that support various types of expert systems (data being processed feedstock such a tool), including expert systems applied in the economy, including ultimately tacit knowledge and explicit in different proportions. In fact, as they are synthesized and processed various information in the internal structure of an expert system (the internal structure is its inference engine), it becomes increasingly difficult for the researcher to clearly differentiate between data, information and knowledge. To the extent that we accept the ideas of Nonaka and other analysts [12], is perhaps preferable, we believe that future developments on IT to focus predominantly on tacit knowledge and explicit (including the idea of favoring processes outsourcing knowledge, social knowledge to which we referred above) [4], [5].

On the other hand, it must be concluded that various tools becoming more efficient, which are provided successively by researchers (notes available including expert systems in economy) have a major role and undeniable to promote human decision maker in the process approximation of its absolute knowledge. In the sense that we propose and Apurva and Singh, what we called absolute knowledge actually is, we believe, a fair equivalent for what the authors invoke call "winsdom" and

"enlightenment"[1]. When referring to the knowledge pyramid structure proposed by Apurva and Singh and can be reformulated as suggested graphically in Fig. 3.



**Fig. 3. Potential development of decision systems by recourse to two types of knowledge** Source: Adapted Iancu E, (2011) - Sisteme expert in contabilitate și informatică de gestiune, Ed. Politehnica, Timișoara

Obviously, we mean that what we have called "absolute knowledge" has always been and will remain a major challenge in the future, an ideal which the individual strives to approach gradually in the process of knowledge; indeed achieved this goal but it will not be possible at least for the foreseeable future for humanity [9]. As it emerges basic idea proposed by us in fig. 3 appreciate, however, that the potential development of decision systems in the future may include two distinct bases of knowledge, namely:

- A knowledge base that includes exclusive knowledge of the category called explicit knowledge (in this category include relatively quantifiable data, such as accounting information we process in November after the proposed expert system);
- A knowledge base that includes exclusive knowledge of the category called tacit knowledge (this category includes data relative non quantifiable, such as information from the experience of an accountant who takes the data from the balance sheet or balance, experience the decision-maker superior etc. in this case is necessarily resorting to fuzzy logic to allow the data to be processed simultaneously with the previous base by expert system).

All processes of purchasing, processing and conversion of knowledge to which we referred above will be greatly enhanced when users turn to computer networks.

In our opinion, decision systems can be defined as an operative tool that processes the explicit knowledge and tacit knowledge, a problem associated with highly specialized, intelligent solutions to provide human expert; taking account of these solutions, human expert would be able to gradually approach the so-called "enlightenment", that is the highest form of understanding for the problem.

#### 5. CONCLUSIONS

Recognizing the importance of Knowledge Management will spur organizations understand the added value of information resources they own and find effective ways to reuse knowledge. How about 70% of organizational knowledge is kept in the minds of employees (tacit knowledge) and only 30% as outsourced (explicit knowledge) is necessary to "capture" the minds of employees, innovative ideas of individuals, groups and archiving in electronic form to provide total mobility.

The power of knowledge and the fact that the business environment is guided by a new motto - "Knowledge is power" - reflects current period of transformation in the economy, namely that top positions are occupied by those who have the knowledge (knowledge).

The solutions offered by Knowledge Management applications provide a major support and intercede transforming information into knowledge through action. The challenge maximum for a manager nowadays is managing to make a profit in the context of global competitiveness of outsourcing, partnerships inter-organizational, the labor migration, testing time-saving and various threats from both internal and external company. Despite these factors influence the course and conduct of business, managers must plan and implement the most appropriate KM practices allowing the company to operate efficiently and minimize information loss and "deposits of knowledge" held.

We conclude that the "raw material" that supports the achievement of decision systems consists of a large volume of information, which includes both explicit knowledge and tacit knowledge.

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## PERSPECTIVES ON WORK ETHIC. AN INTERCULTURAL APPROACH

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#### **Abstract:**

In the last decades major changes have occurred in most European countries, in the structure of work and in the work environment of the companies. The composition of their workforce has changed (McMurray & Scott, 2013). Workers worldwide have become more mobile and distances and physical space are not anymore an obstacle in workforce mobility. Employees moving freely from a cultural space to another are carrying with them their homevalues and the cultural settings that are influencing their way of working and behaving. In the last years researchers from different cultural spaces have analyzed the specificity of this influence upon work ethic. The paper will present a synthesis of these findings and will underline the cross-cultural approach and the influences upon the construction of Work Ethic.

**Key words:** work ethic, international human resources management, influences of ethnicity and cultural values upon ethic of work

JEL classification: F23, J24, J61, M12, M54

#### 1. INTRODUCTION

Diversity is an important issue in today's organizations and the dynamism of current world will lead continuously to multicultural organizations. Human resources specialists will need to give more attention to intercultural knowledge and mutual understanding of different needs and values of the employees, in a multicultural approach of Human Resources Management (HRM). The contribution of Hofstede (1980, 42) brought to the attention of management practitioners the connection between management and the cultural environment and the Strategic human resources management (SHRM) involves today "knowledge about a country's business culture and the ability to develop appropriate skills are a source of competitive advantage" (Hirt and Ortlieb, 2012). Further discussions related to globalization have lead to the development of international human resource management (IHRM) that emphasizes the importance of cross-cultural knowledge in global organizations.

The concept of "national responsiveness" is not a reality only for multinationals. It should also be a long-term goal for companies working with migrants, that must as well grasp the relevance of cultural differences in the work-environment.

The article will provide a narrative analysis of the studies that aimed to emphasize the connection between ethnicity, cultural values and the work ethic. Migration and the new "multiculti" profile of organizations will change the balance of debate on the field of convergence-divergence theory in HRM in the favor of divergence, meaning that the companies will need to have tailored measures for induction (and management) of human resources coming from other countries.

The article is describing the dilemma of the role played by the cultural background of employees and the connection between the values associated to the ethic of work and ethnicity. As well, is analyzing the mechanism of construction of work ethic, in a descriptive model that should be further developed and completed by additional research.

#### 2. PROTESTANT WORK ETHIC AND CULTURE-DEPENDENT VALUES

Max Weber has developed the Protestant Work Ethic (PWE) in 1904 and 1905 as a "multidimensional construct" (McHoskey, 1994) and stated that the capitalism development needs a

specific type of personality, based on certain beliefs and ideas. The protestant ethic "emphasizes characteristics such as hard work, soberness, frugality, sexual restraint and a constrained way of living life" (Bell, 1978). Weber's concept has influenced profoundly the theory of work ethic. According to Bozkurt et al. (2008, 743), "the Protestant Ethic and the Spirit of Capitalism" was meant to deliver a response to the Marxist materialism.

From the writings of Weber, the complexity of the work ethic has changed, but his contribution known as the "Protestant work ethic" (PWE) continues to be marked as key factor in the success of capitalism in western European society (Van Ness et al., 2010).

An important further development of PWE was done by the contribution of Mirels and Garrett that have developed in 1971 a PWE scale that includes 19 items. According to Bozkurt (2008, 756), the specialists are recognizing the PWE scale of Mirels' and Garrett's as the most reliable instrument for measuring the PWE.

The scale was further intensively used by researchers in order to identify and compare the PWE items in different cultural spaces and to analyze the relationship of PWE and ethnic identity. Furnham (1993) had in focus 13 countries for analyzing and measuring the PWE specific items. The results are interesting and emphasize a connection between the degree of economic progress of the residence countries and PWE scores: "rich/developed tended to have lower scores than the poor/undeveloped countries" (Furnham et al. 1993).

The results are corresponding with the opinions of Daniel Bell (1978), cited by Bozkurt (2008, 750), that mentioned that "the Protestant Ethic was eroded before the 1960s, being undetermined by capitalism itself and being replaced by a reliance on hedonism as a prevailing value of our age". Bell was a visionary that understood that the work of ethic was diversified by a hedonistic motivation: the pursuit of pleasure and self-gratification as way of life. Already since 1979, Beit-Hallami has concluded that the PWE scores reflect "elements of social and cultural background" (Bozkurt, 2008, 754).

Following the synthesis made by Bozkurt, we have depicted in table no. 1 a general descriptive framework that shows the differences of work ethic perception, according to the cultural space of respondents.

Table no. 1. Findings related to PWE values, correlated with the cultural space

Comparative studies	Lower values of PWE	Higher values of PWE
Heaven, 1980	American respondents	white English-speaking South Africans
Furnham and	British	Malaysian
Muhiudeen, 1984		
Furnham	British people	Indian people
and Rajamanickam, 1992		
Ali et al., 1995	Canadians	Americans
Baguma and Furnham, 1993	Britons	Ugandans
Daguma and Purmain, 1993	Diffolis	Ogandans
Niles, 1994, 1999	Australian students	Sri Lankan students
Furnham et. Al., 1993	British, Germans, New	Indians, South Africans, people from
,	Zealanders	Zimbabwe
Tand et al., 2003	Employees from the United	Chinese employees in Taiwan
,	States and the United	1 7
	Kindgdom	

The studies presented above show slight differences in PWE of respondents from different countries, confirming the opinion of Dell: respondents from developed countries are balancing the

orientation to hard work with appreciation of self-gratification and other hedonist values. As general conclusions, the students from less developed countries have a stronger commitment to the work ethic, according to PWE items.

There are limited studies about the PWE in Islamic countries, but the scores presented in existing researches, like many relatively less/late developed countries, are higher than Protestants and Catholics, contrary to Weber's thesis discussed in the theoretical framework. Arslan (2000, 2001) examined the work ethic characteristics of Protestant, Catholic and Muslim managers and found out that are differences between Muslims and other groups (Arsalan, cited by Bozkurt et al., 2008, 755). The Muslim managers showed the highest PWE endorsement, followed by the Protestant manager. We could assume that the level of economic development has more to do with endorsement of PWE than the religious beliefs. The cultural space is the one that in determining the general framework where the individual is formed, influencing the ethic of work and the values associated to the work commitment.

#### 3. WORK ETHIC AND INDIVIDUAL ORIENTATION TO WORK

Ethic is defined as an internal set of moral codes and rationalities, based on written norms or by norms dictated by society (McDougle, 18). The work ethic is a term that sums up the secret recipe and combination of important values associated with the character and conscience of employees that are translated into a specific behavior that is beneficial to them and to the organization.

According to Van Ness (2010) the main question that remains without an answer is "why some people have more important work and are more conscientious than others."

In previous pages we have concluded, by analyzing the researches undertaken, that the cultural environment of employees is relevant for their work ethic orientation. The cultural values and values related to ethnicity are relevant, through orientation to hard work, empathy for other, sense of sacrifice or orientation to self-gratification.

According to Van Ness et al. (2010) additional values are associated with work ethic: integrity, sense of responsibility and emphasis of quality, discipline, sense of teamwork.

The work ethic is often defined by association with a number of other values: 'hard work and diligence', 'being reliable', 'having initiatives', 'pursuing new skills' according to the guide Work Ethics Professionals for Development (2012, 1). The work ethic concept is used by some authors (Woods, 2012) as work performance, being under the influence of personal issues, job suitability, motivation to succeed, working condition, job training and performance feedback. As well, Miller has in 2001 associated following values to ethic of work: 'great value on hard work', 'autonomy', 'fairness', 'wise and efficient use of time', 'delay of gratification' and the 'intrinsic value of work', mentioning that the "current conceptualizations tend to view work ethic as an attitudinal construct pertaining to work-oriented values" (Miller et al. 2001, 4).

The elements contributing to the work ethic could be figured in a conceptual model, a descriptive model based on qualitative assumptions about constructive elements of work ethic and their interdependence (figure no. 1).

The basic values related with work ethic are learned and interiorized during early family education and school education and are transformed in beliefs and intrinsic assumptions. The concept of work ethic is hard to explain, because it involves a hidden part (dependent on the consciousness of individuals, intrinsic motivations) and an observable part, at the level of behavior, as seen by others. Campbell and Zegwaard (2012: 1) have identified two parts involved in the ethical practice: the person and the collective that are negotiating positions in a specific context.

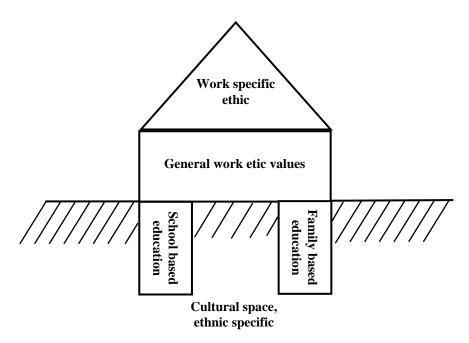


Figure no. 1. Conceptual model or work ethic

The work ethic, as pointed in the figure above, is determined by the general work ethic values and by job-related work ethic. The ethical values learned and practiced in the family and school education, are indirect influenced by the cultural space and type of ethnic specific values. Rizzardi (2005, 42, cited by Campbell and Zegwaard, 2012, 1) had pointed out the need to think of work ethics in different terms, depending on different types of occupations. They have brought as examples the lawyers and the values associated with this profession in the USA: character, competence, and commitment.

The theory of human resources dealt more with the ethic codes in business or with ethical practices at the workplace, and less with the work ethic. The ethical behavior is seen as a result of a confrontation between the ethical values of the individual and the work environment and the work context that leads to a chosen action. According to the above-mentioned model, in recruitment phase, the work ethic should be as well investigated, as other items relevant in the selection of new employees. Of course that the motivation and organizational culture and leadership can both optimize the work ethic, but the recruitment could optimize the quality of new selected human resources, the work ethic being dependent on the employees' own personal characteristics, values and needs.

According to Goldthorpe (cited by Mullins, 2010, 47) work ethic, called "orientation to work" could be instrumental, bureaucratic and solidaristic. Each type of individual orientation has some characteristics, centralized in the table below.

Table No. 2. Individual orientations to work

	Instrumental orientation	Bureaucratic orientation	Solidaristic orientation
Valuing work	Work is not a central life issue, but just a means to an end.	Work is a central life issue.	Work is associated with group activities; Work is more than just a means to an end.

Meaning of work	There is a calculative or economic involvement with work.	Sense of obligation to the work; Positive involvement in terms of a career structure.	There is an ego involvement with work groups rather than with the organisation itself.
Relation between work and non-work related activities	A clear distinction between work-related and non-work-related activities; Primary concern for economic interests as payment and security.	A close link between work-related and non-work-related Activities.	Non-work activities are linked to work Relationships.

Source: elaborated by the author, according to orientation to work theory of Gordthorpe (Mullins, 2010, 47).

Mullins has also structured the opinions of another important author (Bunting, cited by Mullins, 2010, 16). According to him, the ethic of work is different and dependent on the choices that the employees can make: "some people in poorly-paid jobs requiring long hours do not have any choice, for the majority there is a degree of choice in how hard they work. People make their own choices. If they want to work hard, or if they wish to opt out and live the good life, it is up to them".

#### 4. CONCLUSIONS

We could conclude that the work ethic is like a solid construction at the adult age that is perceived in the work behavior. Has a solid basis consolidated through education, by the values achieved from early stages of work-life, developed with the support with the work ethic values delivered by family and school education, consolidated through early work experience. The fundament is given by cultural national identity and ethnic context that is influencing the development and formation of the future employee. Finally, the work ethic has two important components that define the work performance of employees: general work ethic and job-specific work ethic requirements.

The question that is still waiting for responses is that the work ethic is followed by companies in practice, or is just a general description used by companies for sending a message to their employees that is important to comply with high standards of honesty, to be correct, not to cheat on work, to work hard.

The ability of employees to interact with other co-workers and customers with different cultural background is a must (Kramar and Jawad, 2012, 64). Moreover, managers are travelling across countries and continents. People are mobile, in search of a better work place, forced to immerse in new cultures. More and more, "the ability to recognize and use cultural differences as a resource for learning and to design action in specific contexts" is described as being nowadays a core intercultural competence. In the next years the HRM theories will follow the challenges raised by the mobility of human resources and the context of multi cultural organizations. The HR function within the company should be adjusted to the intercultural profile of the employees, assuring in this way the proper emotional fit of new employees and the performance wanted by organizations.

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# TRAINING OF MANAGERS – SUPPORT FOR EXERTING A STRATEGIC EFFICIENT MANAGEMENT

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#### **Abstract:**

Managers are an important component of human resources in a company, bringing a decisive contribution to the establishment and achievement of company's objectives.

In managerial training a special role is played by the change of ideas and experiences with managers from economic environments with different degrees of development, facing with the same type of problems, by holding round tables and seminars. These events may be important opportunities for the Romanian managers to get in direct contact with all the novelties at international level of improving their own knowledge and skills.

In the context of global development of economy the roles and tasks assigned to managers of corporations have changed as well. Consequently, at present the success of an enterprise depends decisively on the managers' quality.

Key words: managers, performance, leadership, development, emotional intelligence

JEL classification: M10, M12

#### 1. INTRODUCTION

Managers are an extremely important component of human resources in a company, their contribution to the establishment and achievement of the company's objectives being obviously essential. In the literature, the definitions given to the manager or managing framework by remarkable specialists differ, two approaches being mainly taken into consideration: (Nicolescu, 2004)

- the first one includes in the category of managers not only the so-called managing staff but also specialized people; this is the approach Peter Drucker opts for;
- the second approach analyzes the functions held by managers within organizations and emphasizes that the area of competences, tasks and responsibilities assigned to managers is higher as compared to that of doers.

Together with the global development of economy, the roles and tasks of managers of corporations have changed as well. Lately, in western economies, competition is focused on corporative strategies and on operational excellence as well, which is based on department managers' promotion who know the company very well and are capable of putting successfully their knowledge into practice. Consequently, at present, the success of an enterprise depends decisively on *managers' quality* (Coates, 1997).

Although there is in the literature a multitude of opinions on the factors influencing the efficiency of management, two approaches draw especially the attention: the strategic-economic conception exposed by Michael Porter, in the work Competitive *Advantage*, and the approach of managerial style made by Peters and Waterman in the work *Search of Excellence*.

Thus, Michael Porter in *Competitive Advantage* considers that industrial profitability is essentially determined by five forces (suppliers, new market competitors, existing competitors, buyers and supplanters) whose power differs at industrial level. Also, this author analyzes the positions held by the companies carrying on their activity in the same industrial areas, by specifying the generic strategies used by managers to obtain the competitive advantage. Bu the experience of these companies has shown that generic strategies have influence the Western managerial practice as managers were encouraged to develop uni-dimensional strategies and neglected the role of operational excellence as an important means of creating the competitive advantage (Porter, 1990)

Peters and Waterman, in the work *Search of Excellence*, analyze the employees' importance of motivation, managers' role and functioning of real feed-back in an organization. Therefore, it is absolutely necessary for department managers to understand the employees' role in the achievement of operational excellence.

The approach of human resources implies giving special attention to the particularities of human resources within modern organizations: (Nicolescu, coord, 2004):

- ➤ Human resources are the organization, being one of the most important investments of an organization;
- ➤ Human resources are unique as regards their growth potential;
- Managerial decisions on human resources are difficult. Special attention should be given to moral and ethics principles which lead to the understanding and promotion of an ethical managerial behavior so as the managerial decisions in the field of human resources not influence directly the employees' activity. Thus, managers must underlie the decisional process on ethical behavior, which involves in the relationships with the employees the following aspects: correct and equitable treatment, honesty-based communication, responsibility towards the organization, law abidance.
- ➤ Human resources are an essential human potential to be determined, motivated and trained to get totally involved in the achievement of organizational objectives;
- ➤ Human resources are resistant to change, though in various situations have high adaptability.

#### 2. HIGH PERFORMANCE MANAGEMENT-MANAGERIAL INSTRUMENT

Performance management is a continuous and flexible process which has in view the continuous growth of performance, by creating a shared vision on the organization's goals and objectives, involving both managers and employees in achieving the results aimed at. (Fletcher, 1993).

The work at high level management has in view a multitude of processes being reciprocally inter-conditioned and having a major impact on the organization individual's performance. "The improvement of skills and the catch of employees' enthusiasm", motivational factors, learning processes that must take place at all levels, have the role of mobilizing the employees towards the achievement of visible progress. (Stevens, 1998).

Modern organizations must conceive and formulate their strategies in such a way that the development of a high performance culture be stimulated. Of the elements defining such a culture we mention:

- > Clear defining of the objectives that the employees have to attain;
- > Efficient leadership to mobilize the employees;
- ➤ Promotion of positive attitude to stimulate the employees;
- ➤ Development of continuous learning processes, with special stress on the managing skills of own activity and employees' capacity of team work, at all levels of organizations in view of performance growth;
- ➤ Employees' reward and motivation depending on the contribution brought by to the achievement of objectives accordingly to the standards established.
  - The exerting of highly performing management must turn practically the organization into an"ideal employer", where the employee should be enthusiastic about and dedicated to his work.

Therefore, an essential role is played by managers who due to their position within organizations must be capable of exerting efficient leadership at all levels so as to make employees feel appreciated, productive and listened; offer each employee learning and training possibilities and opportunities; create a productive climate which allows the maintaining of equilibrium between work and personal life.

A component of performance management has in view the planning of performance which involves the informing of employee on the performance standards to comply with, activities and competences specific to the position held within the respective organization.

The success of an organization is decisively determined by "the recruitment of some keymembers, capable of bringing significant contribution to the capability of the company of creating value" (Scarborough, Elias, 2002). In this sense, at present more and more companies are aiming at getting the status of ideal employer in order to draw persons capable of acquiring high performances. Therefore, in order to draw and keep highly potential employees an organization has to practice highly performing management, offer its employees interesting activities and freedom of action and provide them with career opportunities.

Assessment of human resources' performances is based on approaches from the field of cognitive psychology, learning theory, social psychology. In the assessment process, the assessor who is usually the department or compartment manager holds the central position. There is a multitude of factors that may influence the assessor in the assessment process such as: demographical factors, psychological factors and professional factors (Pitariu, 2000).

Demographical factors differentiate the assessor as regards age and sex. Most studies have drawn the conclusion that women as assessors give higher grades in the assessment process as compared with men (Pitariu, 2000).

Psychological factors classify assessors depending on personality and cognitive variables. Assessors who are self-confident according to studies are more authoritarian in assessing their employees, as compared with the assessors who are confident in their own forces. Cognitive variables identify the degree in which assessors are capable of perceiving the multidimensional behavior from the psychological point of view. Specialized studies show that complex assessors from the cognitive point of view are less indulgent.

**Professional factors** identify assessors depending on their professional features, the assessor's position, the assessor's interaction with the person assessed and profession. (Pitariu, 2000). In the assessment process, an important role is held by experience and professional competence as well as by the managing capacity of the grading process. Based on the results obtained from practice, it has been observed that assessors who have high management professional experience know better the professional requirements of a job and the way in which the person assessed complies with the specific demands of a vacancy.

In practice there arises more and more frequently the question regarding the extent to which the level of professional competence influences assessment. Finding the answer to this issue has shown that in the assessment process there is no conformity in the grading system between weakly-trained professional assessors and the highly trained ones from the professional point of view.

The studies in the field have shown that in the assessment process managers are more exigent in grading as compared to the colleagues of the person assessed. Therefore, there can be significant differences in the assessment process determined by the position held by assessors as against the person assessed. It is necessary for the assessor to know well the requirements of the position held by the person assessed their qualities and skills. In this sense, research has highlighted that the most accurate assessment is made by the managers who have collaborated with the person assessed.

At present, performance management is a managerial instrument which helps managers in the management of employees' activity and it is based on a set of flexible principles aiming at the change of the employees' behavior, "freedom of choice in terms of task fulfillment, effort, creativity and productivity".(Purcell, 2003)

#### 3. MANAGERS' DEVELOPMENT

#### 3.1. Activities of managers' development

Managers' development contributes decisively to the economic success of organizations by their continuous training and retraining. A few directions to be taken into consideration for the managers' training are mentioned in the literature (Tamkin, 2003):

- > Training and stimulation of the employees to get performances in the practical activity;
- ➤ Leadership of employees and performance management by maximizing performances;

- ➤ Efficient collaboration with colleagues from other departments, application of efficient leadership to increase the capacity of dealing with problems and finding solutions from new perspectives;
- ➤ Making partnerships with the organization's internal and external clients based mainly on their needs.

On the whole managers' development is a process coordinated and developed within organizations. Therefore, each organization must decide both the efficient managers' profile to ensure the fulfillment of strategic objectives accordingly to the maximum standards of performance and the modalities in which the managers in question can be attracted. It is required for each organization to be capable of analyzing the present and future managerial needs, assessing its present and future capacity and efficiency regarding the persons assigned to hold the position of manager as against the organization's necessities.

Formal approaches of managers' development have in view the following aspects:

- > Development at the working place;
- > Development based on the experience acquired within the organization at the working place;
- > Training by participating in various courses inside or outside the organization;
- > Self-development by participating in continuous learning programmes which allow managers acquiring new knowledge and labor skills.

Mangers' development based on competence requirements aims at the competences the organization decides that managers should have in their endeavor of fulfilling strategic plans such as:

- ➤ Strategic capacity involves knowing the economic environment in change, development opportunities of products and markets, evolution of competition, identification of the strengths and weak points in the own company;
- ➤ Capacity of change management implies acknowledgement and acceptance of the need of change, reduction of employees' resistance to change;
- ➤ Team management involves the practice of efficient leadership, based on team spirit and good collaboration with the employees;
- ➤ International management involves good knowledge of cultural diversity, the capacity of carrying on activities in different cultural contexts.

#### 3.2. Emotional Intelligence and leadership qualities

Managers' development must also have in view the concept of emotional intelligence which essentially aims at the following aspects: (Goleman, 1995)

- ➤ Correct management of own feelings
- ➤ Capacity of self-motivation, creativity and maximum use of own potential to achieve the objectives;
- ➤ Capacity of empathizing with the organization members and establishing efficient and collaborative relationships.

A good leader must have a high level of emotional intelligence. In this sense, the following components of emotional intelligence are relevant: (Goleman, 1995)

- *Self- control* refers to the capacity of controlling one's own behavior, the will to pursue the fulfillment of objectives, exigency and dynamism. This component is associated with the following competences: self-control, integrity and honesty, initiative and adaptability, tolerance of ambiguities, change-openness and a strong desire of achievement;
- *Self-consciousness* which involves the capacity of becoming aware of own states of mind, emotions as well as their impact on the people around. This component is associated with three competences: self confidence, correct self assessment and emotional discernment;
- Social discernment which implies the capacity of empathizing with the people around depending on their behavior. The competences associated with this component are: empathy, the skill of

attracting talents, organizational discernment, and intercultural sensitivity, respect of diversity and clients' serving;

- Social skills which refer to the capacity of initiating and keeping contact networks in order to determine the organization members to get the results wanted, the capacity of building efficient relations. There are five competences associated with this component: exerting of efficient leadership, efficiency in change management, conflict management, influence/communication, team building and management.

Peter Drucker shows that managers should be assigned to support all the employees who work with them and render their self-development efforts productive. (Drucker, 1995). Managers are not inborn but helped by the organization develop. (Mc Gregor, 1960) The role of a company is that of providing optimum conditions for the development acceleration, and these conditions are actually part of the organizational climate and managerial style at the superior hierarchical level.

Successful managers have obvious qualities of efficient use of their knowledge and skills and play a wide variety of managerial roles within organizations (Nicolescu, 2004). A study made by a consulting company in the USA identifies the following essential qualities of a successful manager (Nicolescu, 2004):

- ➤ The capacity of establishing a clear direction of action, by defining individual and group performance objectives and standards for employees;
- ➤ Availability for open communication with the employees and other managers—situated at different managerial levels in order to create organizational cooperation climate;
- > Capacity of training and supporting people, fact which involves cooperation attitude, efficiency in problem-solving tactfully;
- ➤ Skill in objective appraisal of the employees' performances and establishing rewards depending on real performances of the employees;
- ➤ Capacity of making continuous controls to eliminate deviations and fulfill objectives accordingly with the performance standards established; continuous informing of the employees on the requirements that they have to focus on in their activity;
- ➤ Potential of selecting the most skilful persons for the organization staff, fact which involves the knowing of the requirements of vacancies and implicitly the behavioral profile and skills of the persons aimed at;
- Capacity of realist assessing of the financial implications of decisions made;
- > Open spirit, receptivity to new ideas and flexibility;
- > Capacity of communicating the employees clear decisions;
- ➤ Ethical integrity, transparency and honesty in the relations with the employees.

  The literature in this field has identified other qualities of a successful leader as well: (Constantin, 2002):
- ➤ Vitality, physical resistance, enthusiasm for work and passion;
- ➤ Intelligence and problem-solving capacity;
- ➤ Courage, determination, firmness;
- ➤ High self confidence;
- ➤ Capacity of adapting the managing styles to situational factors within the organization;
- > flexibility, creativity and perseverance in the overcoming of obstacles;
- behavior towards solidarity and collective progress;

The performing functioning of an organization depends also on the managers' managing style. Managing style is ,, the practical way of assigning a role, so of effective transposition in behavioral plan of the exigencies deriving from the status of leader' (Zlate, 2004)

Many managing styles are framed in the literature. Depending on the manager's personality the following managing styles are determined: authoritarian, democratic and permissive.

The authoritarian style is specific to the manager refusing any suggestion made by his employees. The manager who adopts this style is concerned about the role achievement and the control of the way in which the assigned tasks are carried out; he gives unlimited trust to the organizing measures in view of objective achievement. As consequences, the authoritarian manager

triggers his employees' non-expressed resistance, determines the occurrence of apathy and employees' diminishing of interest. Such a manager has the tendency of exaggerating the critical attitude, leading to the employees' loss of professional interest. The persons having such a managing style are dynamic, active, creating around them a climate of conflicts and tensions. These leaders have generally very good opinions on themselves, high self-confidence degree and are firmly convinced that the superior management positions belong naturally to them, them and only them being skilled and capable of bearing properly these responsibilities. Being convinced of their own superiority, they have the tendency of maintaining their own opinion which they impose in decision making. In case of failure, managers of this style will look for external explanations. They will do their best to reduce their own responsibility, making responsible of it his subordinates. Avoidance of admitting their own responsibility for a failure situation reduces their chances of making a realist image of the events and identifying the corrective measures to be taken for future similar situations. Considering themselves perfect, they do not accept the idea that they can make mistakes and they will not be concerned about identifying the negative effects of their own behavior.

The democratic style is specific to managers who provide participation: to subordinates both when establishing the objectives and task assigning. The democratic style leads to the reduction of inter-personal tensions, the subordinates' active participation and increased interest in task fulfillment.

Permissive style is characterized by avoidance of any intervention in the organizing and coordinating of a group, the stress being laid on the spontaneous intervention. The efficiency of this leading style is significantly influenced by certain situational factors (for example the competences specific to the vacancy, organizational climate, the employees' expectations) which must be taken into consideration by manager in their managing activity (Pastor, 2005)

In this context, in the analysis of the styles of situational leadership, special attention should be given to the employees' development levels (competence and involvement capacity) which are determined by the relation *competence* (which may be superior, limited, weak) – *involvement* (which may be superior, variable and weak) (Pastor, 2005). From this combination of four steps of analysis of situational leadership can be identified: directive style, training style, supporting style and delegating style. (Pastor, 2005)

The directive leadership style specific to the first level (weak competence-superior involvement) is based on the following aspects: (Pastor, 2005)

- it identifies the tasks and objectives to be achieved;
- it defines the subordinates' roles, showing the way in which these various tasks must be fulfilled;
- it communicates the employees the solutions and decisions made;
- > Employees are not encouraged or motivated.
  - The "training" leading style, specific to the second level (limited competence- weak involvement) has in view the following: (Pastor, 2005)
- ➤ It keeps the control of decisions;
- ➤ It promotes fulfillment of objectives;
- ➤ It takes into consideration the suggestions made by subordinates;
  - The "Supporting" style specific to the next level (superior competence- variable involvement) promotes the following:
- ➤ In the process of decision making participate the subordinates as well, the leader being responsible of putting decisions into practice;
- ➤ Subordinates' efforts are supported and encouraged;
- ➤ The existence of a climate favoring conflict-solving.
  - Delegating leading style, specific to the last level (superior competence- superior involvement) corresponds to subordinates who get high performances in their work; they identify the problems their organization is facing with and get involved in problem-solving, bearing responsibilities in task fulfillment.

#### 4. CONCLUSIONS

Due to their position, managers play an essential role within the organization; the quality of their performance determines decisively the organization's performances as well. The leadership style differs from manager to manager depending on their temperament, professional training and experience. Therefore, managers must create by an open attitude in their relation with the employees a climate of reciprocal trust, based on team spirit which determines maximum performance. (Nicolescu, 2004)

In managerial training, an important role is played by the exchange of ideas and experience with managers from the West, as well as with those from the East and Central Europe, who are facing the same type of problems, by holding round tables and seminars and which are actually opportunities for the Romanian managers to come into direct contact with the professional issues existing at the international level and improve their own knowledge and skills.

Human resources by their input contribute generally to the achievement of strategic objectives of modern organizations. In this endeavor, managers have the decisive role of managing correctly the labor force within the organizations they manage, of creating a competitive environment which stimulates the continuous increase of individual and organizational performances.

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# FACTORS OF COMPETITIVENESS OF UNIVERSITIES UNDER GLOBALIZATION OF EDUCATIONAL MARKETS

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#### **Abstract:**

We define modern requirements for university education, factors affecting the competitiveness of universities under globalization. The role of Ukrainian universities in ensuring of the competitiveness of the national economy is characterized. We propose to take into account the national peculiarities of social development in developing competitive strategies of universities.

**Key words:** competitiveness of university; competitiveness rankings of universities; standards of higher education; Competitiveness strategy of university.

#### **JEL classification:** I230

#### 1. INTRODUCTION

The development of market relations in Ukraine is changing the role and importance of higher education institutions, forced to adapt their activities to the needs of the market leaders in providing innovative development of national economy, to be responsible to society for the quality of training, their compliance with the current requirements of economic development, contribute these university institutions in the development and reproduction of the human capital, increasing innovation and technological potential, as well as the efficient use of public funds.

In the process of post-socialist market economic transformation of the global education market increased competition due to new opportunities of national universities to offer educational services and increasing of demand for education received abroad. Initially, the defining characteristic of growing demand for overseas education in Ukraine are such as cost and terms of training and accommodation of students, availability of entry with simplified rules to obtain an applied knowledge and to a first job abroad and so on. Only to a limited number of applicants falls a chance to study in prestigious universities with the highest world level and first places in the ranking of competitiveness.

However, dynamic changes in technology, communication, access to information, provide national universities chances to improve their competitiveness.

#### 2. MODERN UNIVERSITY EDUCATION REQUIREMENTS

Such well-known centers as The Center for Studies in Higher Education at UC Berkeley, The Center for International Higher Education (Boston College), The Center for Higher Education Policy Studies (School of Management and Social Sciences at the University of Twente) The Center for World-Class Universities of Shanghai Jiao Tong University, QS (London), ARWU (Shanghai), Times Higher Education (London), The Top American Research Universities (USA) and others conduct researches of competitiveness.

The modern concept of international competitiveness of universities is the idea of "quality engine", according to which the University should supply itself with "premium fuel" that consists of teachers, researchers, students, available resources and the ability to attract income from tuition,

endowment grants and to commercialize research results through patents, licenses, royalties, whether in the form of targeted state appropriations, etc. [1].

Great importance is attached to ensure a high level of internal academic quality through the involvement of the most productive in research terms professors and teachers, talented students, and creating best quality of academic and cultural environment of the university, as well as effective administrative management [2, p. 7-8].

American scientist F.Altbah identifies key characteristics which a university should have:

- Providing breakthrough research, that can be accepted by the scientific community worldwide, assessed and distributed;
- Availability of first-class professors who are considered to be the main link in the system of university research;
- The adequacy of resources and favorable conditions of work at the university, which allow the most professional teaching stuff consisting of professors and lecturers;
- Academic freedom and atmosphere of intellectual excitement that should prevail in the university environment;
- A transparent and effective system of university management, monitoring scientific community the university academic life (practices and procedures of students' entry to university, training programs, qualifications and criteria for awarding degrees, making appointments for new professors, the main directions of academic work);
- Adequate facilities for research, availability of best available university world-class equipment, laboratories and libraries, which generally allow creative research, to establish an innovative process of teaching disciplines. [3, p. 5]. Current requirements relating to the status of the institution, guaranteeing such guarantees as graduates continued access to social prestige and income [4, p. 1-2].

The defining determinants of competitive status of universities are the research level or the competitiveness research. A. Tech in his paper "Research competitiveness and national policies in science" (2001) defines it as follows: "on the one hand, the answer is simple: more grants, larger grants and more money for research. But while for university administrators and politicians these categories are goals to be achieved, for the teaching staff and researchers they are rather the ways in which they can provide more research results, publications, including the most cited, and achieve a greater degree of recognition of scientists and institutions that they represent "[5, p. 7].

The competitiveness of universities is due to competitive advantages in scientific research, educational services and implementation of important social problems of society. The great importance in keeping the high competitive status is the nature of competitive advantage, that is achieved by higher education institution by certain factors. In international university competition for leadership the most defining factors are:

- high-performance intellectual capital that can generate unique results of scientific research (talented researchers, teachers and students);
- developed material-financial and infrastructural framework that provides high-performance research and highest educational standards;
- transparent and efficient management system based on the principles of academic freedom and university autonomy, so active all domestic productive capacity of universities;
- institutional and financial support from the government, aims to promote the modernization of the university sector, the development of a globally competitive university institutions.

Current evaluation of Ukrainian universities is focused not only on determining the quality of education, but also on calculation of the impact of universities on economic development through: a comparison of revenues and expenses of universities with a ratio of funding from public and private sources, the structure of expenditure on education and the proportion of schools in GDP; characteristics of universities as employers estimate the number of employees at the university and jobs, employment among university graduates; taking into account innovation, including the innovative research and implementation of the results, creating an innovative ecosystem of platforms for interaction between investors and researchers, etc.; positioning universities as a factor

of development of the region or city from the analysis of the impact on employment, the development of local small and medium enterprises, attracting students to the region, visitors activities organized by the university, promoting community [8].

### 3. THE ROLE OF UKRAINIAN UNIVERSITIES IN PROMOTING NATIONAL ECONOMIC COMPETITIVENESS

In the ranking of global competitiveness of 140 countries Ukraine occupies 79th place, including in terms of coverage of higher education - 14th place, according to the university and business cooperation in research and development - 74 place; the availability of scientists and engineers - 29 place, the number of patent applications - 50 place [8]. In terms of global innovation index Ukraine in 2015 Ukraine occupied 64 place, spending on education 6.7% of GDP (18th place in the ranking). The number of graduates of technical specialties is 25.6% (20 place), the costs of research and development - 0.8% of GDP (44th); Hirsch index (number of citations) - 43 place.

In the ranking of innovative countries (Bloomberg) in 2015 Ukraine ranked 33 place. The share of the state budget in the structure of university funding is 69% [6]. Total expenditure on higher education in Ukraine in 2014 amounted to 2.9% of GDP, public spending - 1.8% [7]. Higher education institutions 69% have mastered the state budget and 31% of private sector [6]. The proceeds of Ukrainian universities consist almost 100% only of state funding and tuition fees.

In the world ranking only 6 Ukrainian universities are represented. They took places starting with four hundred:

- 1. Taras Shevchenko National University of Kyiv took 421 place.
- 2. Karazin National University of Kharkiv 481 place.
- 3. National Technical University of Ukraine "Kyiv Polytechnic Institute" 551 place.
- 4. State University of Sumy 651 place.
- 5. National Technical University "Kharkiv Polytechnic Institute" and Donetsk National University, who shared the 701 place in the rankings.

Rating of higher educational institutions "Top 200 Ukraine" - 2015 was carried out using an aggregate indicator (integral index), which is formed on the basis of indicators of direct measurement (80%), expert assessment of the quality of training university graduates representatives of employers and the academic community (15%), and using international scientometric and web metric data (5%). The integral index is represented by three components: quality of scientific and educational potential, quality of education, international recognition. First place in this ranking took: Taras Shevchenko National University of Kyiv, National Technical University of Ukraine "Kyiv Polytechnic Institute", Karazin National University of Kharkiv, National Technical University "Kyiv-Mohyla Academy", National University "Lviv Polytechnic". Yriy Fedkovych National University of Chernivtsi took 26th place.

Determination of the integral index of quality of higher education, which is their rating, primarily due to the need of mutual recognition of study programs and universities in the Bologna area. It also caused by labor market needs, with the aim of targeting graduates of various universities, and students and their parents in the choice of future studies. Continuous determination and publication of university rankings and generating healthy competition among them, thereby increasing the quality of their work.

In market terms the problem of universities "survival" has economic meaning. Expenses of Ukrainian universities consist 67.7% of public funds, 1.1% - of private firms and 31.2% - household spending. Of these, 90.2% (or 30 422 939.2 thousand UAH.) goes to education services; 0.9% - administrative services, utilities, finance, travel, construction and maintenance (capital expenditures); 4.7% - for food services; 1.7% - on financial services (population transfers, scholarships, subsidies, current transfers, capital transfers); the rest - equipment, books and stationery, medical and transport services [6].

The competitiveness of universities depends largely on the potential employment opportunities

for graduates. From universities of Ukraine in 2014 graduated 484,482 persons, of which 27.7% received direction to work. However, there is a lack of specialists training structure to needs of the labor market, that leads to difficulties in employment of youth and growing youth unemployment. According to the State Employment Service as of July 1, 2015 the number of people who were unemployed and registered in the State employment service within one year after the end of higher education institutions amounted to 5.4 thousand. Of the total number of graduates had education more than a third qualification of junior specialist, one in four - specialist, 18% - masters and almost 19% - bachelor. One in three unemployed from among graduates educated in "Economy, Commerce and Business", 15% studied the field of "engineering", almost one in ten - in "law", in the areas of "medicine" and "humanitarian science" had the education to 7% of graduates [8].

In 2013 Ukraine has become a leader among the countries participating in the Bologna process in the share of persons with higher education: in 25-34 degrees with 54.2% of citizens. In comparison, only 37.3% of Europeans in this age graduated from universities. However, even in the presence of diplomas, ukrainians indicate the presence of a number of acute problems, recognition of diplomas majority of higher education institutions in the world; teaching mismatch to market requirements; low quality of education; student government inefficiency.

Ukraine has a high rating in certain areas of education. According to the findings of the latest global competitiveness report Klaus Schwab (The Global Competitiveness Report 2014-2015), in he quality of mathematics education Ukraine occupies 30 place in the world. Singapore ranked first. With a large margin Ukraine advances countries, where often ukrainians go to study - Austria took 37 place, Sweden - 49, Poland - 50, Russia – 59 place. The relatively high position - 43 place - Ukraine took in general global talent Index (Global Talent Index). This score indicates good prospects in terms of innovation and high level of intellectual capital.

Of great importance is the development of forms of interaction between business and universities, creating research laboratories, centers of knowledge parks; cooperation of institutions supporting entrepreneurship of universities; a fund research (co-financing business); development of training programs; evaluation of the quality of training and so on.

# 4. CONCLUSION

So, the question is to improve the quality of education. According to the Berlin Declaration, accepted on 19 September 2003 by the Ministers of Education of the Bologna process member countries ENQA, "standards and guidelines for quality assurance of higher education in the European Higher Education Area" were developed [9]. This document is going be the basis for the construction of internal and external evaluation and quality assurance and accreditation of education in Ukraine.

In Ukraine, the most important processes that will influence the content and structure of higher education in the near future include:

- 1. Globalization of education will lead to a need to review the principles of existence and ideas about the role of specific regional universities and higher education systems. Global standards, that represent global and regional rankings of universities, lead to standardization requirements.
- 2. Universities make transition from elite to mass higher education. This is an objective requirement of time. However, this trend may mean some reduction status of most universities. Therefore, an important area to maintain their competitiveness must be the development and dissemination of new technologies, that are changing significantly, and also the teaching methods. These changes require a substantial rethinking of the place of universities in society, forms and methods of work, structure and content of educational, scientific and other applications.
- 3. To improve its rating and maintain competitive advantage universities have to form a competitiveness strategy. The objective basis of this strategy should be the strategic analysis of internal strengths and weaknesses of the university and external factors that can contribute (create additional opportunities) or restrict (threaten) efficient development.

- 4. Managers must clearly understand the purpose of the University, its values, strategic objectives, indicators against which progress will be evaluated to realize the benefits it can position in the educational market compared with competitors.
- 5. Under current requirements, universities should be the centers of culture, knowledge and research that create, study, evaluate and transmit culture through research and education. Their important tasks also include: spreading knowledge among the younger generations; providing future generations of education and training; preserving the traditions of humanism.
- 6. National competitiveness evaluation of universities should be based on maintaining their specificity that can provide competitive advantage of these universities. Thus, the European Association for Quality Assurance in Higher Education (ENQA), which includes 40 agencies from 20 countries [10], characterized by a diversity of political systems, higher education, socio-cultural and educational traditions, languages, aspirations and expectations. That is why it is impossible to match the quality, standards and quality assurance from the standpoint of a universal solution for all. In formulating standards as well as recommendations preference should be given to general principles rather than specific requirements. This may be universally acceptable at the initial stage and actively promote the convergence of various professional communities that make up the European Higher Education Area. Common standards should be widely percepted at the national level in most countries of the Bologna process.

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# **SECTION 3**

ACCOUNTING - FINANCES

# INDICATORS THAT CAN BE USED TO MEASURE PERFORMANCE IN THE INTERNAL AUDITING ACTIVITIES

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#### Abstract:

Internal auditing has evolved from an approach based essentially on accounting aspects to a profession oriented towards management of entities and essentially destined for them. Modern internal auditing provides services that incorporate the examination and appreciation of regulations, performances, risk management and governance of all kind of property types – public or private bodies. The financial aspects represent just a part of the internal auditing view. In this paper, we will try to submit a series of indicators that can be used to measure the added value generated in an entity. Internal auditors provide to managers the information they need in order to download their responsibilities. Internal auditors are vitally involved in aspects that address to the risks and governance of the organization.

Key words: internal auditing, added value, performance, objectives, management

JEL classification: G34, M14

# 1. INTRODUCTION

Generalized uncertainty, a phenomenon which today's managers are confronting with as part of their professional lives, makes impossible the anticipation of the way the business environment will evolve or what the consequences of their decisions will be. Worldwide, internal auditors practice their work differently, depending on the extent of the audit dictated by the management. Many auditors work under the direction of senior management, which may vary from the economic director to the general director. Others are directly subordinated to the audit committee of the management board. The audit committees are a key element of corporate governance, providing to management an independent assessment of the level of implementation of the risk management processes and internal control, of the quality of the financial results, of the internal audit and its correlation to the external audit. Through the results of the action taken, the audit committee allows the persons in charge with the corporate governanceto estimate the quality of management and development perspectives of the organization.

Of course, not a single set of standards can tell managers how to use internal auditing. But in order to be seen by a third party as doing a professional activity, an internal audit job needs to demonstrate that it complies with standards, namely Standards on Internal Audit developed by The Institute of Internal Auditors (1). The leader of the internal audit function need to elaborate and update an insurance program and quality improvement that will cover all the aspects of the internal auditing activities and that will allow the constant surveillance of its effectiveness, thus covering:

- the way the internal auditing structures are organized
- the management of the internal auditing activity
- the planning activity of internal audit
- the code of compliance with methodology and procedures in the ongoing of internal audit missions, as well as the ethical code of conduct of internal audit
- the quality of the internal auditing reports
- the follow-up of the implementation of recommendations made in the audit reports
- organizing the reporting system of the internal auditing activity

The internal auditing standards contain the attribute standards, performance standards and implementation standards.

- attribute standards target the characteristics of organizations and persons which have internal auditing activities.
- performance standards describe the nature of the internal auditing activities and present quality criteria so these activities can be measured.
- attribute and performance standards are applied to internal auditing services in general.
- implementation standards apply; particularize attribute standards and performance ones to specific missions (for example a fraud investigation, a self –assessment project).

The most important result of these is that management needs to be sure that if the auditors report something, then it must be true, valid and objective. These attributes must never be compromised. Internal auditors are members of the management team and need to act like the manager. They needn't be part of any illegal or inappropriate activity. When such an activity is encountered, it must be reported to the organization's authorities.

Under the Ethical Code, internal auditors do not have the responsibility to report to third parties unless they are required by law to do so. Debatable cases need to be handled with care with the organization's legal department.

# 2. RESEARCH METHODOLOGY

Research methodology can be assimilated to a structured and coherent system of rules, principles, methods, instruments and know-how for the sole reason that its basic elements are complementary and have effect only they are used in the right combination and effectively. The scientific research appears to be an interface between theory and practice. It is based on good theory, which it inspires from, borrows and used concepts, rules, procedures or instruments in order to know better reality, so search and find solutions, answers or explanations to theoretical or applied issues.

Scientific research methodology, which is at the foundation of this paper, is based on the fundamental type of research, which tries to make a survey of the main approaches, ideas and opinions of some specialists from the international published literature, also, seeking to offer a perspective upon the discussed issue. We have examined the opinions and information provided by the published literature and international standards of internal auditing using the descriptive method. We used the inductive method, as well as the deductive method. The final porpoise of this research is so that we will be capable to draw a few relevant conclusions about the performance level in the internal auditing activity, from an approach from the international to the domestic, at the same time also identifying the factors that will influence the future evolution of internal audit.

Essentially, the real world is the beneficiary of the results of the research, but also it is a provider of the many issues it is called upon to solve. The real reference is the most important, maybe even the only one, if we were to admit that the theory, in its whole, formed as result of the need to solve specific problems and later to generalize. The pure deductive actions have maybe reached this level after a first stage of linking theory to reality through a few fundamental postulates that have become axioms through the fostering of an unanimous believe of their irrefutable validity and without proof.

Scientific research is basically never either pure perfect or perfect homogenate from a certain point of view. Only the intelligence, education or future experience of the researcher will manage the knowledge and the search.

### 3. THE ADDED VALUE OF INTERNAL AUDITING

The recent definition of internal audit given by IIA includes the mention added value. One of the ways that internal auditors add value is by assuring that the results and recommendations which they present have a positive impact on the organization. Also they need to be sure that their contributions are understood and appreciated by the others. The results of the auditing may describe:

- actions that needed to be made, but were not made;
- forbidden actions;
- inappropriate actions;
- unsatisfying systems;
- risk exposures that need to be considered.

When we talk about internal auditing, it is hard to try and quantify the added value of the audited entity. Of course, we can consider as being added value the change of mentality of those being audited, the recommendations about the assessing of risks and reorganizing the management control system, but these are hard if not impossible to quantify. We can identify four factors that leave a significant mark on the added value of the internal auditors of the informational systems, and their organizations. (Roth, 2003):

- A profound knowledge of the organization, including its culture, key players in its activity, as well as the competitive environment in which it acts;
- The courage to innovate in such a way that the interested parties of the organization are not expecting;
- A very good knowledge of the practices of the internal auditing profession, in general, and of those about added value, especially;
- Creativity manifested through innovation adaptation to the organizations' conditions, obtaining favorable results, which can overcome expectations of the interested parties of the organization.

Internal audit needs to find the answer to the question: Which is the most efficient method to evaluate added value? The value that de internal auditing function adds to the entity means specific proceedings, criteria of measuring them. Roth J. has identified five characteristics which the ideal auditing department needs to fulfill, as its real provider of added value quality, thus:

- The improvement of the personnel's experience in the auditing department: implies that the organizations require more and more tangible added value, that needs to be quantifiable, as a result of the auditing activity, opposed to the value that some of the internal auditing profession initiators can offer;
- A stimulating working environment: this characteristic promoted the idea that talented and motivated internal auditors, from the internal auditing department, are more easily bored, and want work that can offer them challenges. That is why a special attention needs to be given to, encouraging and even to rewarding constructive creativity of the auditors, contributing in this way to the added value of the organization, in which that department works.
- The alignment from a organizational point of view: it means that some of those bigger auditing departments, which have two or more auditing managers, normally should align their organizational structure to the one of the bigger organization that it is part of;
- Achieving a quality assessment of risks and on time: auditors fulfill their objectives, if they consider to revise the management activity plan, but also have meetings and sittings with each and every executive manager, usually once a trimester, in order to always be informed about the evolution of the organization's strategies, as well as the eventual changes that might occur in the risk profile of the organization;
- The matrix approach of the auditing services: auditing departments, the real added value providers, have evolved from the "assessment function", to a more broad significance fulfilling gradually a "insurance and consulting" function, and offing, at the same time in the supplying of the traditional internal auditing work, a wide range of auditing services.

Table no. 1. Quantitative performance indicators

Table no. 1. Quantitative performance indicators						
Indicator	Intent	Goal				
1.Compliance to the initial planning	To measure the realization degree of internal auditing activities which are being done accordingly to the ones planned and approved by management.	To have a higher than 80% of the missions in the initial planning.				
12. The time needed to do the audit	_	To spend 80% or more of the days with auditing activities.				
	To determine the importance the management gives to internal auditing function to some special needs.					
1 0	To determine the degree of fulfillment of the recommendations from the internal auditing reports.	* '				
	To measure the aim and feasibility of the internal auditing recommendations.	0 to 6 months (20%) 6 to 12 months (50%) 1 to 2 years (2%) 2 years or more (5%)				
6. Potential material benefits of the recommendation.	To measure the monetary savings.	To have savings after at least 3 years (when it applies)				
7. Cost per hour for the internal auditing work	To determine the cost per hour for the internal auditing work.	Under the market price.				
	To determine the conformity with the time budget for each mission	100% (variation accepted up to 10%)				
-	To determine the conformity with the period of time allocated for the sending of the project report to the clients.					
10. Internal auditing resources	To determine the proportion in which the organization's resources serve the internal auditing function.					
needed to finish the report	To assess the time spent from the ending of the auditing to the sending of the auditing report project to the clients.	Three weeks or less				
12. Personal development	To assess the time allocated to professional development to insure the best quality of instruction of internal auditors	Between five and seven days per year per auditor.				

Source :adaptation after Gagné Pierre, 2010

Another range of determinant factors in the added value providing is the one identified by Walz A.:

• Efforts being made to increase the market value of organization;

- Reducing costs of the internal auditing function, because every reduction of costs is seen as a determinant factor in the increasing of value;
- *Improving work productivity* and providing the same services with less resources (lower costs);
- Adopting more efficient auditing techniques through learning of some cutting-edge which will determine a higher added value;
- Adopting some better auditing strategies, through the redesign of the internal auditing plan in order to obtain a higher efficiency, if it is necessary and if in this way a better coverage of the auditing fields is being made with lower costs.

A few relevant guidelines that auditors need to consider, in order to be able to make recommendations that are real generators of added value (standard 2020 C1):

- To consider the ways the audited organization creates value, they need to be a supportive and not prevent it;
- To promote the positive changes. We can often see the case when the auditor's recommendations become value destructive because they have a view of "to do business as it is used to", seeking to maintain the existing practices and procedures;
- *To be future oriented.* A recommendation that prevents issues is much more valuable than one that corrects a current problem;
- To be oriented towards the using of technological developing power. Successful organizations win competitive advantages through applying of technology information systems.
- To offer improvements that will help the organization to be more competitive in the field it activates. The result of some of these recommendations take into account reducing of production costs, improving the production quality or improving the organization client's satisfaction.

We have identified twelve quantitative indicators in the published literature that measure the way the internal auditing function has an impact over the entity, over the internal management and over the obtained performances.

The question that may arise is "how could audit contribute to the improvement of efficiency and effectiveness of risk management, control and processes of governance?" In our opinion, a possible answer might be that internal auditing needs to analyze the organizations' operations and transactions, so it may be capable of identifying risks that can be generated from those transactions and operations, also being capable of identifying those controls that diminish those risks.

# 4. CONCLUSION

The issue of measuring the performances of the internal auditing function acquires more and more significant meanings, and internal auditing needs to be capable of overcoming a significant challenge, in other words to find a method, the best and the most pertinent to measure performances and quantify the progress it has registered in the fulfillment of its aims and goals. Internal auditing needs to find the answer to the difficult question: Which evaluation and measurement method of performances is the most efficient and most relevant? We can propose ten universal business risks:

- wrong entries and/or information;
- inacceptable accounting principles;
- the business interruption;
- the changes in the legal department or illegal actions;
- high costs;
- foregone or lost revenues;
- the loss or destruction of assets;
- competitive disadvantages and/or public non-satisfaction;
- fraud or conflict of interest;

- inadequate management policies and/or decision processes.
- In conclusion we can say that aspects that need to be considered are:
- Managers need to establish and communicate the value they want from internal audit and monitor results;
- Internal auditing need to convince directors, managers and administrators how they think they can provide added value;
- Internal auditors and managers need to find methods, objectives and measuring systems to demonstrate their value;
- Council directors need to declare what they think the role of internal auditing is and directors need to share information and exchange opinions with the sole purpose to appoint a common vision upon the major risks that influence the entity.

Thus, although the diversity that characterizes the conceptual approach of the added value, if the internal auditing function wants to truly extent its contribution, then: it needs to resolve this challenge to measure the added value and to show management that it can create real value from all the activities it involves.

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# THEORETICAL AND METHODOLOGICAL PRINCIPLES OF THE STRATEGIC FINANCIAL ANALYSIS OF CAPITAL

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### **Abstract:**

The article is devoted to the theoretical and methodological principles of strategic financial analysis of capital. The necessity of strategic financial analysis of capital as a methodological basis for study strategies is proved in modern conditions of a high level of dynamism, uncertainty and risk. The methodological elements of the strategic financial analysis of capital (the object of investigation, the indicators, the factors, the methods of study, the subjects of analysis, the sources of incoming and outgoing information) are justified in the system of financial management, allowing to improve its theoretical foundations. It is proved that the strategic financial analysis of capital is a continuous process, carried out in an appropriate sequence at each stage of capital circulation. The system of indexes is substantiated, based on the needs of the strategic financial analysis. The classification of factors determining the size and structure of company's capital is grounded. The economic nature of capital of the company is clarified. We consider that capital is a stock of economic resources in the form of cash, tangible and intangible assets accumulated by savings, which is used by its owner as a factor of production and investment resource in the economic process in order to obtain profit, to ensure the growth of owners' prosperity and to achieve social effect.

Key words: capital, asset financing policy, strategic financial analysis, strategy, structure of capital.

JEL classification: G31, G32

# 1. INTRODUCTION

The development of a market economy, dynamic changes in the external and internal environment increases the responsibility and autonomy of entities in the preparation and decision-making, including the size and structure of capital. The level of economic growth in the long term and competitive advantages increasing of any business entity depends on the choice and substantiation of an effective strategy for managing capital. All this shows the importance of strategic financial analysis of capital as a methodological basis for study strategies.

Issues of the strategic financial analysis of capital are considered in the works of many national and foreign scientists, including I. O. Blank, T. M. Kovalchuk, H. Yu. Kramarenko, V. O. Podolska, L. S. Sytnyk, O. O. Tereschenko.

Unsolved part of the problem is that in the scientific literature the theoretical and methodological principles of strategic financial analysis as a function of financial management are not justified, the nature of capital as an object of strategic financial analysis is not grounded.

The purpose of the research is to develop theoretical and methodological foundations of strategic financial analysis of the company's capital, to justify its methodological elements, to clarify the nature of capital as an object of analytical knowledge into consideration the achievements of world and national analytical science.

Methodological and information basis of the scientific research is the works of domestic and foreign scientists, materials of periodicals on the subject.

Methods were used: abstract and logical method, comparison, generalization.

### 2. RESULTS OF THE RESEARCH

Today there are different approaches to understand the essence of the capital of the company, which is one of the most important categories of economics. Transformation of socioeconomic relations and development of economic science led to the existence of significant differences in the interpretation of this notion (table no. 1).

We have established that there is no consensus about the category of "capital" in the scientific literature nowadays:

- in financial management capital is viewed as a combination of means in monetary, tangible and intangible forms, invested in the company for financial and economic activity and obtaining profit, that is capital is identified with enterprise's assets [3; 4; 5; 10];

Table no. 1. The approaches to the definition of company's capital by various authors

No	The author	The definition		
1	2	3		
1	I. T. Balabanov	Capital is the part of financial resources. Capital is money in circulation and revenues they bring from this circulation [1].		
2	O. I. Bidnyk	Capital is the property belonging to persons or entities in the moment and clearly separated from the income derived from that property for a certain period [2, p. 134].		
4	I. O. Blank	Capital is a stock of economic goods obtained by savings in the form of cash and real assets, attracted by its owners in the economic process as an investment resource and factor of production for profit, its operation in the economic system is based on market principles and associated with factors of time, risk and liquidity [3, p. 277].		
5	I. V. Ziatkovskyj	Capital is an investment in assets that are held by the company and which is sufficient for the economic and financial activities and profit obtaining [4, p. 33].		
6	L. O. Kovalenko, L. M. Remnova	Capital is material means and the money invested in the company for the purpose of business activity [5, p. 248].		
7	H. Yu. Kramarenko, O. Ye. Chorna	Capital is the financial resources of a company needed for the organization of its business activity and used in economic exchange to produce revenues and profits [7, p. 333].		
8	V. O. Podolska, O. V. Yarish	Capital is money available to the company for its activities in order to gain profit [8, p. 202].		
9	V. V. Seleznev	Capital is a mutually increasing value, which serves as a certain amount of money spent on means of production and wages, and then during the sale of manufactured goods again turns into money, but in increasing number [9].		
10	L. S. Sytnyk	Capital - the total value of assets in cash, tangible and intangible forms, invested in the formation of its assets in order to gain profit [10, p. 132].		
11	H. V. Telnova	Capital – the sources of assets, i.e. by its economic content the capital makes it clear from which sources (own or borrowed) generated assets of the company and how the company depends on external funding [11, p. 143].		
12	O. O. Tereschenko	Capital is requirements of property displayed in the assets certified by passive side of the balance; it shows the sources of assets acquisition financing [12, p. 22].		

Source: Own elaboration

- capital is viewed as the sources of the business assets formation in accounting [11; 12];
- from a legal standpoint capital is the property that defines the limits of material liability according to company's obligations [2];
- some scholars identify capital as the financial resources necessary for the organization of business activity, which are used to produce revenue and profit [1; 7; 8];
- supporters of the value approach consider that capital is value which is capable to create a new (added) value [9].

Analyzing in detail the definitions of capital we consider that capital is a stock of economic resources in the form of cash, tangible and intangible assets accumulated by savings, which is used by its owner as a factor of production and investment resource in the economic process in order to obtain profit, to ensure the growth of owners' prosperity and to achieve social effect.

Thus, capital is a complex economic category, its investigation requires the introduction of a systematic approach, which provides that strategic financial analysis should be a continuing process at all stages of the capital circulation (the formation of the required amount of capital for the effective strategies implementation; the optimization of the capital structure in the process of its using; the identification and elimination of defects in the enterprises' activity, the substantiation of the areas of capital reinvestment to ensure the effective functioning of business in the long-term perspective).

The strategic financial analysis of capital includes following interrelated elements: object of investigation, the indicators, factors, methods of study, the subjects of analysis, sources of incoming and outgoing information.

The object of strategic financial analysis of capital is its composition and structure, sources of formation and the level of efficiency.

In order to study the objects of strategic financial analysis of capital a system of indicators is used. Since there are different approaches to define the essence of capital in the scientific literature, a single methodological approach to the development of a system of indicators of strategic financial analysis is not produced by economists. This led to the fact that a system of indicators adequately characterizes this complex object analysis is not formed. Therefore, different methodologies allocate various number of indicators, some of which are overlapped or reversed. There is no consensus about titles of specific indicators (the same indicator has different titles or for the same title different methods of calculation are offered), which complicates the interpretation of the analysis' results in practice.

The research of different techniques of capital analysis allowed to distinguish the following main areas of building the system of indicators of capital's strategic financial analysis:

- the dynamics of correlations among the groups of financing sources of economic resources and the assessment of financial risk;
- the assessment of average value of capital and value of its parts;
- the determination of efficiency of capital which is grounded on indexes of the profitability and turnover:
- the justification of optimal balance among the individual components of economic resources and sources of funding (it is based on the choice of assets financing policy, assessment of liquidity and solvency, confrontation of components of company's capital and size of current and non-current assets).

During the research it is found that for a comprehensive study of capital the following system of indicators is used, which can be structured into the subsequent units (figure no. 1).

The strategic financial analysis involves a comprehensive and organically interrelated consideration of all main blocks of indicators, but the final assessment of the success of the company will be focused on indicators selected as the key.

Any indicator is influenced by the factors that constitute it and stay with it in a certain dependence (functional or stochastic). Factors are the elements or causes that affect the indicator or indicators [6, p. 154]. The system of factors affecting the size, structure and efficiency of the enterprises' capital is classified by place of occurrence (the internal factors, the factors of microenvironment and the factors of macroenvironment) and by the economic substance (the commercial and legal factors, the economic factors, the organizational and managerial factors, the market factors, the social factors) (table no. 2).

Researching and measuring the impact of factors on the size of the studied index is an important issue of strategic financial analysis methodology.

The more detailed is the investigation of the factors influence on rate of a indicator, the more accurate are the results of the analysis and evaluation of the quality of the company performance.

In the process of strategic financial analysis of capital the following methods are used:

- the traditional methods (allow to determine the current level, the state and structure of economic phenomena);
- the methods of the determined factor analysis (they are used for quantitative measurement of factors' impact on the change of indicator's rate in the presence of strictly-deterministic communication between them);
- the stochastic factor analysis methods (they are used to determine the influence of factors on the indicator in the presence of stochastic dependence);

- the forecasting methods (used to establish future trends and patterns of the company's activity, predictions of future events in view of the influence of factors both internal and external environment);
- the performance optimization techniques (used to select financial strategy of the company in a high degree of uncertainty and risk, to find the best ways of the implementation of strategic objectives, to select the best variant of alternative actions);
- the methods of positioning and environmental analysis (used to diagnose the influence of external and internal factors on the capital efficiency of the company, to determine competitive positions, to select priority areas and activities, to assess the effectiveness of strategic decisions regarding capital structure of the company).

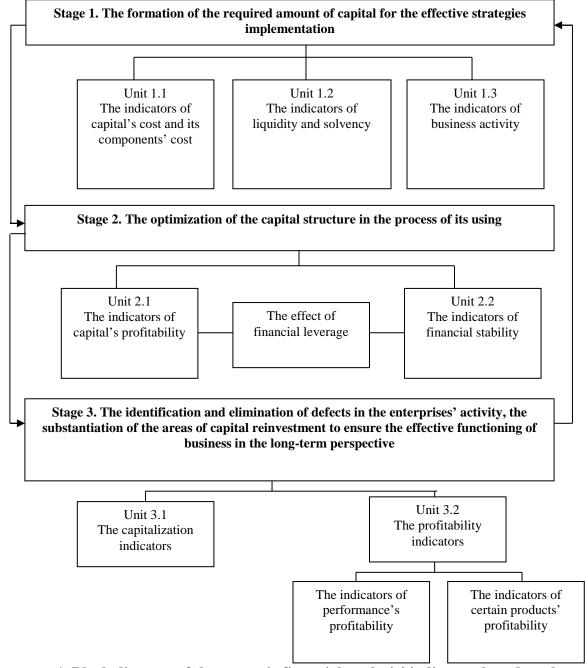


Figure no. 1. Block diagram of the strategic financial analysis' indicators based on the stages of capital circulation

Source: Own elaboration

Table no. 2. The classification of factors determining the size and structure of the capital of the company

The internal factors					
1 1		-	nents of the minimum amount and the order of formation of own capital;		
legal factors requires		-	nents regarding loan capital.		
I he economic tactors		- ,	by size; form of ownership; economic sector; types of economic activities; stage of ecycle; level of profitability.		
managerial factors infor		informat	of enterprise activity's organization; financial mentality of owners and managers; ational support of enterprise activity; promptness and efficiency of decision-making; aships among managerial levels.		
			The external factors		
The factors of microen-vironment	The market factors		Commodity market conditions; financial market conditions; treatment of creditors to the enterprise; availability of financial market resources.		
The factors of macroen-vironment	The commercial and legal factors		Organization of state administration in business; application of standards and limits; creation of investment, tax and other privileges; the provision of grants, compensations and subsidies.		
	The economic factors		Rate of inflation; unemployment rate; stability of national currency; phase of the economic cycle; the refinancing rate of central bank; country's investment attractiveness.		
	The social factors		Social stability; level of criminalization and corruption; purchasing power of the population.		

Source: Own elaboration

The subjects of strategic financial analysis are managers of different hierarchical levels of an entity.

The correctness and effectiveness of the conclusions based on the results of strategic financial analysis of the company's capital directly depend on the quality of its information support – optimal set of accurate, relevant, internal and external information about the subject that is the object of collection, registration, transfer and conversion for the purpose of qualitative analysis and development of effective managerial decisions.

All information sources for strategic financial analysis are divided into regulatory and planning, accounting and external accounting.

The regulatory and planning sources of information include all types of plans that are developed by the company (strategic, prospective, current, operational, financial plans, business plans) and regulatory materials, estimates, contracts, wage rates. The information obtained from regulatory and planning source in comparison with the accounting information provides quantitative confirmation of the achievement of the entity's objectives.

The accounting sources of information – all the data contained in the accounting documents (including source documents, registers, ledger), statistical and operational accounting and reporting of all kinds (financial, statistical, tax and internal).

The external accounting sources of information – documents regulating economic activity (at the national level – laws, codes, orders, regulations, instructions; at the enterprise level – the founding documents, staffing, organizational structure of management, order on accounting policies, job descriptions) as well as the data that characterizes environmental conditions (data from State Statistics; information published by specialized periodicals, publishing houses, trading houses, stock and currency exchanges, unions; information provided by consulting firms, information desk and other specialized organizations, exhibitions, fairs, exhibition catalogs, advertising competitors and suppliers; financial statements of providers and competitors; electronic information sources, materials of marketing surveys; personal contacts). Because of the complexity and instability of the environment, its principal influence on the formation and development of the financial capacity of entities in market conditions, increases the importance of timeliness and completeness of the

information about macro factors and factors of immediate environment for the implementation of business strategy.

Comprehensive investigation of all sources of information will eliminate the separation of analytical conclusions and provide effective decision-making.

# 3. CONCLUSIONS

The theoretical generalization and new problem solving of the strategic financial analysis of capital is performed in the article. It allows to improve its theoretical and methodological principles. Methodological elements of strategic financial analysis of capital are theoretically grounded on this basis. This will contribute to its integration with the requirements of strategic management and create preconditions for its implementation in enterprises' practice.

It is proved that the strategic financial analysis of capital is a continuous process, carried out in an appropriate sequence at each stage of capital circulation.

On the basis of the generalization of approaches to determine the essence of company's capital we tried to form own approach to understand this notion according to the needs of strategic financial analysis.

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# METHODOLOGICAL ELEMENTS OF SITUATIONAL ANALYSIS

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### **Abstract:**

The article deals with the investigation of theoretical and methodological principles of situational analysis. The necessity of situational analysis is proved in modern conditions. The notion "situational analysis" is determined. We have concluded that situational analysis is a continuous system study which purpose is to identify dangerous situation signs, to evaluate comprehensively such signs influenced by a system of objective and subjective factors, to search for motivated targeted actions used to eliminate adverse effects of the exposure of the system to the situation now and in the future and to develop the managerial actions needed to bring the system back to norm. It is developed a methodological approach to the situational analysis, its goal is substantiated, proved the expediency of diagnostic, evaluative and searching functions in the process of situational analysis. The basic methodological elements of the situational analysis are grounded. The substantiation of the principal methodological elements of system analysis will enable the analyst to develop adaptive methods able to take into account the peculiar features of a unique object which is a situation that has emerged in a complex system, to diagnose such situation and subject it to system and in-depth analysis, to identify risks opportunities, to make timely management decisions as required by a particular period.

**Key words:** situation, situational approach, managerial function, situational analysis, diagnostic, evaluative and searching function.

**JEL classification:** M41

# 1. INTRODUCTION

In the conditions of high-degree external and internal dynamics, the management of business organizations generally referred to as open socio-economic systems, is complicated by emerging problem situations that often grow into crises. Different problem situations arising in a complex system call for different approaches and solution methods thus limiting the use of modelbased managerial decisions. Problem situations are almost impossible to avoid since, given the country's unstable economy, every company is forced to fight to keep its business afloat and search for new opportunities to remain competitive. Situational analysis when used in company management is regarded a most effective tool to deal with the problem. Situational analysis comprises a number of elements and an overall and complete view of the subject organization and its functioning. It helps to efficiently deal with a particular problem situation and find an adequate solution to the problem. [1, p.112]. Thus, building up a management system able to respond swiftly to situation changes and take timely measures to prevent them requires the use of the analytic function and situational analysis potential. Based on a deep understanding of a particular situation and its dynamics, situational analysis should will offer a range of decisions, help to select the most practical line of action from multiple options, make the most effective management decision that will produce maximum possible effect in a given situation, and help develop a system of measures aimed at ways to prevent crisis situations.

Theoretical, organizational and methodological issues of situational analysis have been tackled by both national and foreign scholars: P. Brown, V. D. Gladkov, T. B. Ivanenko, J. Maheim, R. Rich, Ye. G. Novitska, S. I. Liapunov, V. M. Popov, V. V. Filipov, Yu. D. Yurskyi, A. Shapiro and others. However, despite the significance and effectiveness of situational analysis, the scope of its application has not been determined to date (the issues that have been made subject of thorough research efforts are those related to the use of analysis in cases of recurrent situations for long-term business planning and strategy development purposes); its role as a management function is not yet ascertained, its theoretical and methodological foundations are not yet determined; its structural components are not yet identified, no unified methodological approaches are developed (situational

analysis, when adequately used is not always based on a systemic approach); its organizational problems still remain to be solved for which reason situational analysis has not found practical use.

# 2. RESULTS OF THE RESEARCH

According to Situational Theory, business organizations are treated in the analysis process as open systems that actively interact with the external world. System elements, in their interdependence, interact with each other in a complex way; they interact with external environment elements as well. Such interrelations result in particular situations. Hence, stable and substantial cause-and-effect relationships between interdependent elements of the system. Each situation arising in the complex dynamic system is pre-determined by system elements, by their interrelations existing at the current moment but are products of past events. Such interrelations develop both in time and space. Every new situation the system faces is the result or a feature of the system's functioning.

The objective process of the formation of a qualitatively new system (a situation) brought into existence by changes in elements' interrelationships causes a rapid increase in the entropy of the system as due to the lack of analytical knowledge of the common patterns of their systemic manifestations, their interrelations and their influence on goal attainment. Therefore, the system approach that develops into the situational approach allows to ascertain the unity of the system's interrelated elements that have resulted in a situation, while the situational approach allows to build up an adequate system to deal with the situation. When making management decisions regarding a situation one needs to determine how it influences goal attainment and the results of the business organization's performance, or on the whole system. The solution system must ensure that the appropriate changes take place to adapt the system to the situation brought into existence. Thus, the situational analysis and the system analysis are closely interrelated. The above points provide a substantial ground for defining theoretical and methodological foundations of situational analysis.

Parting from the objective need for situational analysis in situational management, we have concluded that situational analysis is a continuous system study which purpose is identifying dangerous situation signs, a comprehensive evaluation of such signs when influenced by a system of objective and subjective factors, a search for motivated targeted actions to be used to eliminate adverse effects of the exposure of the system to the situation now and in the future and the development of management actions needed to bring the system back to norm.

Thus, the situational analysis should be considered as a system study that allows, as based on the cause-and-effect logic, to reveal, identify and comprehend in due time, signs of irregularities (problem situations), create an ideal qualitative and quantitative representation, or a model, analogical to the whole or to a part of the real thing, that shows the real interrelations between the factors that have brought the situation in existence, determine in terms of quality the influence of the factors on the situation, determine the correlation of the changes taking place in the cause-and-effect relationships between the hazardous factors and the system, reveal changes in the system as caused by the negative influence of the situation now and in the future, work out effective decision regarding each situation.

It is our opinion that situational analysis has three main functions: problem diagnosis, problem evaluation and problem solution searching. Diagnosing a situation means identifying irregularities that already exist or can come into existence in the future. Diagnosing is done on the basis of features common only to this or that irregularity type, determining the nature of the irregularities revealed, taking measures to prevent the irregularities from developing into permanent bottlenecks and thus to keep the system healthy again. Diagnosing is done through a study of cause-and-effect relationships between problem situation and the tactical and strategic objectives of the business organization. The essence of such relationships is as follows. On one hand, there are causes (a system of interrelationships) responsible for the emergence of a problem situation. On the other hand, there are consequences, or effects of the causes. A consequence always has a new feature that its caused did not have. But there is no consequence without a cause. The same cause

does not necessarily lead to the same consequence. This is predetermined by the third component – the cause-and-effect relationship. In doing diagnostic analysis one should identify the conditions that enhance the action of factors leading to problem situations and those that help to eliminate the causes. Thus diagnostic analysis is a problem prevention tool used to eliminate certain signs of the system's poor health before the system gets out of control. Knowing the state of the system at a given moment and identifying problem areas by signs inherent in particular situations, that slow down its development now or will slow in down in the future allow to develop information support for situational analysis as based on relevant information that has essential significance for problem solution at a given moment, and contribute to swift and effective management decisions. The above points lead us to conclude that it is problem diagnosis that problem solution starts from. Problem diagnosis enables us to prevent irregularities, eliminate their causes thus creating conditions for using perturbation control. Diagnostic studies more often than not call for further research [2, p.78].

The methodological principles of situational analysis are based on the dialectical method of cognition that requires a system study of the object of interest with its various relationships, interactions, its constant motion and changes. In view of fact that situational analysis is an uninterrupted process closely observing the state of the system, or the business organization, at a given moment, its methodology should follow the logic of the object of interest. The above considerations and the logic and methodology of scientific cognition that is treated as goal-oriented cognitive activity involving the subject of cognition, cognition methods, goal-oriented cognitive activity by specialists, and cognition process results. The main structural components of situational analysis are: objects, a system of performance indices, factors influencing the object of interest, frequency of analytical assessments, research methods, subjects, sources of incoming and outgoing information. Situational analysis facilitates the study of objects in their current state and development as characterized by their relationship - objective and subjective, internal or external, essential and non essential, simple and complex, inherent and random, causal and uncommon, permanent and transient, permanent and temporary, direct and indirect, recurrent and non recurrent, by interactions between objects, relationships (interdependence of a certain system's elements), unity and struggle of opposites, transition from quantity to quality and of quality to new quality. Analysis enables us to comprehend the internal sources of object motion and development, provides sources of identification of economics hidden in economics itself. The these reasons situational analysis is an important tool exercising active influence on the subject of analysis that is the situation, or, in other words, control the situation.

As is known, a situation is a collection of events, circumstances that develop both in time and space, lead to certain consequences that can take shape and have significance [3, p. 623]. Thus, a situation is a multilateral, complex, dynamic, paradoxical, unpredictable subject of analytical.

Because analysis examines objects through an information system, a major role is assigned to a relevant system of indicators that along with other analysis elements could provide an adequate evaluation of objects, or situations. To achieve most effective evaluation, such indicators, with all their interactions and interdependence, must form a single system to achieve highly-effective evaluation of objects. Such system of indicators is understood to be a collection of interdependent indicators that reflect situations that come into existence in certain conditions, places and time. It is only a system of indicators that can provide an overall study of the object of interest, and evaluate in an objective way the positive and negative changes that take place in the object, create opportunities for identifying the causes of such changes and suggest weighted management decisions. The external study of the object of interest, based on the use of qualitative and quantitative indicators, does not make up a final stage of cognitive process. Its subsequent stage a study of the internal essence of the object of interest, its relationships and development patterns. We cannot overlook any of the factors that influence this or that indicator under study.

Cognition does not end outside the external study that uses quantitative and qualitative characteristics (performance), the subsequent stage of cognition is the essence of the internal review, In terms of economics, factors of a phenomenon or a process are what predetermines the emergence, existence of and changes in the phenomenon or the process [4, p. 32].. The closer we

study the influence of factors on the final performance indicator, the more accurate results we get in the analysis and evaluation of the business organization's effectiveness. Thus studying and measuring the influence exercised by the factors on indicators of interest is a major methodological issued of analysis.

Parting from the fact that each situation is a totally new, internally unstructured situation predetermined by unknown factors, each of such factors influencing the situation in its specific way. To achieve a deep system study of a situation, all the factors that have brought the situation into existence are generally classified into controllable and uncontrollable (t further described as fixed or random or undefined if related to unclearly defined goals or to processes or phenomena that have not been thoroughly studied or to acts performed by competitor organizations or by other economic or political subjects). The variety of uncontrollable factors that influence the situation compels the analyst to act without using a prepared scenario, a program, established analysis methods. To ensure a correct evaluation of all positive and negative factors responsible for the situation under study, to identify the factors of utmost significance and to enable the analyst to arrive at a correct management decision, the situational analysis must be based on the comprehensive system approach. Such approach will enable the analyst to determine the likely effect that will bring about a change in one variable or in a number of variables (management can be improved to cause changes in any of the variables). An erroneous evaluation of the factors will preclude an overall evaluation of related features or the correct use of analysis methods. It should be borne in mind that things will grow complicated if the actions intended to bring about changes will lead to regression or deterioration of the status quo. Situational approach in management provides for a number of alternative ways to achieve the same scheme when making a management decision according to developments that were beyond prognosis. This has been substantiated by M. Hartman who maintains that a problem situation calls for a decision and that the analyst is at liberty to choose a decision. [5]. Thus, to control a problem situation in a goal-oriented way, the analyst must diagnose, identify and evaluate the problem situation and acting on the basis of the results obtained single out most significant factors that brought the situation into existence, comprehend the causeand-effect relationships, build up a model of the same, conduct a pilot or theoretical analysis of the model, make a model of the behavior of the system, or business organization, using a wide range of criteria to adapt the system to the situation, choose an correct approach and a management method to deal with the situation, assess likely effects of the situational management decision.

Y. S. Zavadskyi who has described specific features of decision-making in the situational management area, stresses that unlike the system analysts who look for properties common to all management systems, situational analysis advocates are mainly interested in identifying specific properties of organizational, information and other systems and strongly recommend that decisions be made according to the specific features of the situation [6, p. 47]. Analysis is conducted when call for by a problem situation. Analysis results will be to a considerable extent predetermined by the human factors, or personal qualities of the analyst. The choice of analysis methods will depend on the specific situation. B. A. Raizenberg and R. A. Fatkhudinov have substantiated that the most effective analysis method of dealing with a problem situation is a method that agrees with the situation and is adapted to the situation to the maximum degree [7, p. 282].

The Cognitive Theory principles when applied to practice, provides an in-depth study of the problem situations by examining the various influencing factors responsible for the existence of the situation. Functional analysis wherein each factor value corresponds with a definite non-accidental value of factor feature, uses a variety of analysis methods including the index method, replacement chain method, absolute and relative differentiation method, integration method, proportional division method, partial participation method. Probabilistic analysis feature correlation and regression analysis, dispersion analysis, principal component analysis.

The second-type analysis referred to above can reveal latent primary causes that explain the relationship between the features of influencing factors and final features of the problem situation and allow to integrate their contents and use in management. The analyst synthesizes the information that reflects the state and dynamics of the problem situation and the data obtained by

way of various cognitive methods and thus becomes capable of giving them a multilateral assessment which is a prerequisite for making motivated management decision aided at desired development of the subject of cognition. Study process makes it clear that a prerequisite of a indepth cognition of a problem situation is successful development of the object being managed that requires a balanced action of all system elements during the synthesis process; such development can be regarded as information model of a diversified management of the system. However, practice shows that individuals called for to build up required environment, do not always adopt a serious approach to their management duties. The external environment characterized by highdegree entropy together with its unpredictable influence on the problem situation exclude any and all universal management patterns for different problem situations require different problem-solving methods. Nevertheless, traditional analysis methods are used to study a business organizations treated as a stable system and offer standard recommendations for management decision-making. Since a problem situation, or subject of analysis, is a dynamic system, any situational analysis method to be used is expected to be flexible and adequate to the problem. The most effective method to deal with a specific problem situation is a method that to the maximum degree agree with the situation, or a method based on a situational approach to management. However, situational analysis that aims to address a specific problem emerging in a specific situation, does not have a theory or generalization of its own. More often than not, situational analysis uses a system of methods able to study the problem situation and exclude errors.

There is no way to predict well in advance a detailed problem solution. Such task would require a probabilistic approach that offers prognosis with regard to likely effects and give a probability assessment. Another thing that would be needed is ample modeling of informal and poorly structured processes and entropic factors – fuzzy set theory, models for problem situation diagnosis, problem identification models, system analysis methods and techniques, parting from function tree principles [8, pp. 62–75], and qualitative and quantitative evaluation of systems [8, pp. 109–167]. Situational analysis is performed as follows:

- 1) prognostic estimates of the effects are given:  $B_k = 1,2... n$ ;
- 2) each effect is assigned a probability index (mk),  $E_{mk} = 1$ ;
- 3) criteria are chosen (e. g. maximization of expected proceeds);
- 4) an option meeting the requirements of the chosen criteria is selected.

The function tree method is used to analyze more complicated situations. The decision-making process is divided into the following stages:

- 1. Validating the goal (maximization of expected value will be used as the criteria);
- 2. Identifying possible actions to study and analyze the situation;
- 3. Assessing likely effects and their probability degree;
- 4. Estimating expected proceeds.

Thus, to provide for methodological support of analysis as a situational management function, we must take into account the peculiar features of the unique situation that has arisen in a complex system. We should not try to regard such analysis methods as universal analysis tools. Validating the structural components of situational analysis will enable us to work out adaptive methods that will help us perform diagnosis and acquire in-depth knowledge of each problem situation and come up with effective decision regarding the situation that has come into existence.

Timely analysis of the problem situation excludes any approach based on the analyst's intuition and the trial and error method as well as effective means to address a problem. Timely analysis serves as a basis for correcting the originally goal as may be required in view of the instability of the commercial activity process and of the changes in the conditions in which the commercial activity is exercised. The results of such analysis will be used as a basis for a timely and motivated correction of a chosen strategy, call for by changes that take place in the market situation. Such results are used in the process of development of marketing tactics and correcting the business organization's plans. Thus, situational analysis is a reliable to neutralize the effects of excessive optimism and underestimation of the real situation, on one hand, and unmotivated fear of failure in view of potential commercial risks, on the other hand. Situational analysis provides an

opportunity to develop and take weighted effective management decisions notwithstanding the existing commercial risks. Analysis of risks in management decision-making is an issue of utmost significance for the Ukrainian economy characterized by a multitude of uncertain factors. Their uncertainty means, first and foremost, potential emergence of unacceptable situations and their negative consequences. The most serious risks that a business organization's managers should be aware of include: uncertain legislative and economic processes; fluctuation of market condition, prices, currency exchange rates, production activity conditions, risks related to international business operations, potential administrative restrictions on foreign trade and other risks. In view of the aforesaid, business organizations' managers should use informal analysis methods (game theory methods and the like). Methods used in situational analysis must be flexible otherwise no analysis, even if goal-oriented, will be effective.

# 3. CONCLUSIONS

Given the dynamics of the internal environment and the external world, the management of a business organization is complicated by emerging problem situations that often grow into crisis. An effective management system able to respond swiftly to environment changes can be developed through the use of its analytical function and situational analysis.

Aware that analysis is an objective requirement of situational management, we have come up with a more accurate description of the notion "situational analysis". To interpret the situational analysis significance we evaluate the effectiveness of its functions: problem diagnosis, problem evaluation and problem solution searching.

The situational analysis methods are based on the integration of the system and situational approaches. System approach that develops into situational approach has enabled us to ascertain the unity of interacting system elements that have brought about a problem situation. The situational approach has enabled us to form an adequate management system to deal with the situation. It has been made clear that in developing a management decision to tackle a problem situation, we should study its influence on the business organization and on its goals. A decision system in use must ensure that adequate changes take place for the system to get adapted to the situation that has emerged.

The methodological foundations of situational analysis are the dialectic method of cognition. Hence, the methodological elements of situational analysis transform into the dialectic method. Parting from the logic and methodology of scientific cognition, we have offered theoretical motivation of the principal structural components of situational analysis and explained their significance. Substantiation of the principal methodological elements of system analysis will enable the analyst to develop adaptive methods able to take into account the peculiar features of a unique object which is a situation that has emerged in a complex system, to diagnose such situation and subject it to system and in-depth analysis, to identify risks opportunities, to make timely management decisions as required by a particular period.

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# PROBLEMS OF FORMATION OF OPTIMAL MODEL OF GOVERNMENTAL REGULATION AND SUPERVISION IN THE FINANCIAL SECTOR OF UKRAINE IN THE CONTEXT OF CREDIT COOPERATION

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### **Abstract:**

In the presented scientific practical research we considered and explored the role and problems of state regulation and supervision of the financial sector of Ukraine, in particular of credit unions because they are inalienable participants in the financial market.

In current conditions that have been established during the financial crisis, one of the most urgent problems is the effective functioning of the regulation and supervision of the financial sector. The crisis that negatively affected the activities of financial sector participants discovered the discrepancy of regulation and supervision of them, which caused the negative trend of development of financial market of Ukraine, as evidenced by official data of the National Commission, which performs state regulation in the sphere of financial services.

In the presented scientific practical research we identified the strengths and weaknesses of the modern system of state regulation and supervision in the financial sector of Ukraine, particularly in the sector of credit cooperation, and we formed suggestions on improving its model in the context of the concentration of regulatory and supervisory efforts in state financial regulators.

**Key words:** financial sector; government regulation and supervision of the financial sector of Ukraine; Credit Union; model of state regulation and supervision in the financial sector of Ukraine; financial regulators.

JEL classification: G23, G230

# 1. INTRODUCTION

The main purposes of regulation and supervision in the financial sector are to increase its functional efficiency, to promote healthy competition in it, to maintain market discipline, to ensure systemic stability of the sector and to protect the interests of financial services consumers. The decline of trust level in financial intermediaries, caused by their incapacity to fulfill their obligations, occasions a significant reduction in the number of active investors and as a result disorganizes the monetary sphere and increases social tension in the community. Since the credit unions in Ukraine are major participants in the financial sector, that has been proven by us in scientific works: "Credit unions on the financial services market", "Place and role of credit unions in the structure of financial services markets of Ukraine", "Problematic aspects of activity of credit unions in Ukraine", then all of the above directly concerns the regulation and supervision of credit unions in Ukraine. And therefore the effective functioning of the regulation system and supervision of the financial sector, which largely depends on how distinctly the tasks of regulation and supervision organs are defined and how correctly these tasks are interpreted and realized by them, is currently standing in the front row of problems which require an immediate solution. That is why in the presented scientific and practical research we will discover the strengths and weaknesses of the modern system of governmental regulation and supervision in the financial sector of Ukraine, particularly in the credit cooperation sector, and also we will analyze generated proposals on improving its models in the context of the concentration of regulatory and supervisory efforts in two state financial regulators.

Scientific use of the formulated scientific problem is reflected in the works of such national scholars as N. Versal, R. Kotsovska, o. Lutsyshyn and etc. However, these researches don't give the definitive solution, so singling problems and formation on their basis suggestions on rising the efficiency of state regulation and supervision of the financial sector of Ukraine in the context of credit cooperation is defined by us as an important task of the authorial scientific and practical research.

### 2. CONTENT

Global crisis phenomena have negatively affected the activities of the financial sector of Ukraine: the solvency has deteriorated significantly and the liquidity of financial institutions has been broken, which was mainly caused by state regulation and supervision of this sector of the domestic economy. This financial crisis has detected the disparity of regulation and supervision of the financial sector to modern requirements and identified narrow spaces of this field around the world and especially in our country. Regulative and supervisory authority of the financial sector of leading countries are currently analyzing the consequences and errors, which have been revealed as a result of the crisis phenomena, and produce their own recommendations of resistance to them. These recommendations may be partially adapted to Ukrainian realities in the process of building a modern national system of effective state regulation and supervision of the national financial sector.

Responsibilities for regulation and supervision in the national financial sector are distributed as follows: the National Bank of Ukraine provides regulation and supervision of banking institutions; the activity of non-bank financial institutions is controlled by the National Commission, which provides state regulation in the sphere of financial services markets, and functioning of which will be the subject of our research; the National Commission on Securities and Stock Market provides control of the activity of the securities market.

The legal framework of regulation and supervision of financial sector in Ukraine, in particular the credit unions, is represented by fairly extensive list of legislative acts. The laws that are directly related to regulation and supervision of credit unions in Ukraine are The Law of Ukraine "On Financial Services and State Regulation of Financial Markets", "On Credit unions", "On Principles of State Regulatory Policy in Economic Activity". However, despite the presence of the appropriate legislative framework, there are many outstanding issues and vectors which require the immediate solution and improvement in order to increase efficiency of regulation and supervision in the financial sector of Ukraine, particularly in the direction of implementation the provisions of Association Agreement between Ukraine and the European Union.

The negative statistics on the number of excluded financial institutions from the State Register proves the presence of significant problems in the regulation and supervision of non-banking financial sector in Ukraine (see table 1).

According to data presented in the Chart 1, we can establish fairly large share of excluded non-bank financial institutions of certain types from the register in their total number, the highest border reaches almost 9%, that, along with other factors, may mean low efficiency of state regulation and supervision of their activities.

Also we may observe untimeliness and incompleteness of obligations fulfillment to customers by credit unions, the increase of financial institutions unprofitability. The main reasons of this are:

- risky placement of insurance reserves (a significant share of insurance reserves is located in unlisted securities);
- activities on the brink of of profitability.

In the conditions of financial economic crisis, financial sector state regulatory and supervision authorities of Ukraine were not ready to operate in extreme conditions, in particular to take stringent regulatory measures such as the initiation of temporary administrations imposition of sanctions on owners of financial institutions and others. The delayed application of enforcement measures of the regulation and supervision authorities worsened further the difficult financial situation of non-bank institutions of Ukraine. The lack of efficiency of application regulatory and

supervisory measures only deepened the impact of problems with solvency and liquidity of financial institutions.

An important factor that primarily affects the status of state regulation and supervision of the financial sector of Ukraine is the practical absence of responsibility for the situation in the financial markets relevant regulatory and supervisory bodies and their officials. Thus, according to the current Regulation "On the National Commission for State regulation in the sphere of Financial Services Markets" from 23.11.2011, the National Committee of Financial Services has no duties, but only tasks, powers and rights and actually assumes no liability for its activities in the financial services markets. This is the fundamental factor, in the first place, that brings destructive elements in the existing system of state regulation and supervision of national financial institutions.

Table 1. State of the State Register of financial institutions of Ukraine in 2014\*

			Changes in 2014			
Financial institutions	As at 31.12. 2012	As at 31.12. 2013	Inputed information	Excluded information	As at 31.12. 2014	Share of excl. fin. inst. from the reg. in the total number,%
Insurance companies	252	245	0	20	225	0.02
G III	352	345	9	29	325	8,92
Credit unions	617	624	6	41	589	6,96
Not state pension funds						
	94	81	0	5	76	6,58
Pawnshops	473	479	19	21	477	4,4
Financial companies						
	312	377	52	14	415	3,37

<sup>\*</sup> Compiled by the author on the official data of the National Commission that provides state regulation of Financial Services Markets

In addition, quite often taking some tough measures of influence to certain financial institutions affects the interests of certain private and political forces, which take care of the issues of independence of regulatory and supervisory authorities, especially in the financial sector of Ukraine. Public Officials, having their own interest, don't want to abandon the indirect impact on the financial sector of Ukraine. The reasons for this phenomenon lie primarily in the insufficient institutional independence of authorities of regulation and supervision for financial services, particularly this directly concerns National Commission, which performs state regulation in the sphere of Financial Services Markets. Institutional independence must be ensured by the following basic tenets: transparency and openness of decision-making, governance of regulative and supervisory authority should have guarantees against unreasonable dismissal, and experts committee should exist in the authority structure. For the latter, the possibility of establishing Expert Advisory Board as part of the National Committee of Financial Services is provided by current Regulation (point 14). As for the other, then there is a significant basis for the possibility of unlawful pressure on the organ of regulation and supervision in order to take appropriate decisions. The proof of this can be the change in the management structure of National Committee of Financial Services during the crisis phenomena.

Many financial institutions problems, including insolvency and bankruptcy of credit unions in Ukraine, are the result of imperfections in licensing requirements. In addition, improvidence of regulative and supervisory authorities in the financial sector caused the insufficiency of approaches focused on risk, particularly in the supervision of local credit unions. It should be noted that today legal framework which will govern the functioning mechanism of risk management system in non-banking financial institutions of Ukraine is almost absent. And the necessity of forming much

smaller authorized capitals by credit unions in comparison with banking institutions, and less normative pressure from regulative and supervisory authorities causes more risky inflow of financial capital to credit unions of Ukraine.

Considering mentioned issues underlying the current system of state regulation and supervision of the financial sector of Ukraine we examine the following options for their solutions:

- 1) further development of existing megaregulators;
- 2) creation of a separate megaregulator;
- 3) creation of megaregulator at the National Bank of Ukraine;
- 4) the introduction of two separate authorities of regulation and supervision.

The advantages and disadvantages of each of these models we represent in the table 2.

Table 2. Advantages and disadvantages of various models of further development of state regulation and supervision in the financial sector of Ukraine \*

	pervision in the financial sector of U	
Development model	Advantages	Disadvantages
Further development	• absence of changes in the legal	_
of existing	framework;	consolidated supervision;
megaregulators	<ul> <li>absence of financing necessity of changes in the organizational structure;</li> <li>absence of transition period risk.</li> </ul>	<ul> <li>I olow level of coordination of actions of regulation and supervision authorities;</li> <li>increase of the burden on the State budget;</li> <li>absence of a unified database of financial institutions;</li> <li>absence of a unified approach to regulation and supervision of financial institutions;</li> <li>low protection level of rights of investors and consumers of financial services;</li> <li>absence of macroprudential supervision.</li> </ul>
Creation of a separate megaregulator	<ul> <li>development of the financial sector;</li> <li>implementation of consolidated supervision of financial institutions;</li> <li>creation of a unified database of financial institutions;</li> <li>unification and reduction of reporting;</li> <li>more efficient use of resources;</li> <li>elaboration of a unified approach to</li> </ul>	organizational change;  •risk of transition period;  •increase of the burden on the state budget for maintenance of the
Creation of megaregulator at the National Bank of Ukraine	<ul> <li>fixing of responsibility for policy development of the financial sector;</li> <li>absence of transition period risk for the banking sector;</li> <li>implementation of consolidated supervision of financial institutions;</li> </ul>	banking sector; •the risk of megaregulator bureaucracy increase;

Development model		Advantages	Disadvantages
_	•		•increase of the burden on the state
		financial institutions;	budget for funding the development
	•	unification and reduction of	of legislation and organizational
		reporting;	change;
	•	elaboration of a unified approach to	•low rights protection level of investors and consumers of financial
		regulation and supervision of financial institutions;	services;
		implementation of macroprudential	services,
		supervision;	
	•	more efficient use of resources;	
	•	increase of professional level of	
		employees of regulatory authority	
		and financial institutions based on	
		NBU;	
	•	reduce of the burden on the State	
Tutus desetion of tons		budget.	. 1
Introduction of two	•	policy development of the financial	•risk of transition period for the non- bank financial institutions;
separate authorities of regulation and		sector;	•risk of coordination the activities of
regulation and supervision	•	absence of the transition period risk	regulatory and supervisory
supervision		for the banking sector;	authorities;
	•		•increase of the burden on the state
		supervision of financial institutions;	budget for funding the development
	•	creating a single database of	of legislation and organizational
		financial institutions;	change.
	•	unification and reduction of	
		reporting;	
	•	development of a unified approach	
		to regulation and supervision of financial institutions;	
	•	implementation of macro-prudential	
		supervision;	
	•	no risk of increasing bureaucracy of	
		megaregulator;	
	•	increase of professional level of	
		employees and regulatory authority	
		of financial institutions on the basis	
		of National Bank;	
	•	increase of the protection level of rights of investors and consumers of	
		financial services.	
	<u> </u>	imanciai scivices.	

<sup>\*</sup>Compiled by the author on the basis of research of the National Bank of Ukraine

# 3. CONCLUSIONS

Considering presented in the table advantages and disadvantages of possible models of public regulation and supervision in the financial sector of Ukraine and relying on the development tendencies of credit cooperatives market we want to emphasize the following. In modern conditions of urgent need to reform the current system of state regulation and supervision of the domestic financial sector as for us the best option is to introduce two separate financial regulators, namely: the state regulator of the banking sector, and a separate regulator in the non-bank financial sector. The introduction of this model, in our view, will minimize the disadvantages of reform at the same time significantly increasing the efficiency of state regulation and supervision in the financial sector of Ukraine in the context of the implementation of the consolidated financial regulation and

supervision. Creating a single database of financial institutions, unification of approaches to regulation, supervision and reporting of financial institutions, the implementation of macroprudential supervision will significantly improve the protection of rights of investors and consumers of financial services in the country.

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# **SECTION 4**

# STATISTICS, ECONOMIC INFORMATICS AND MATHEMATICS

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# DIGITAL OBJECT IDENTIFIER FOR A BETTER IMAGE OF SCHOLAR JOURNALS

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#### Abstracts

In the context of continuously increasing number of online scientific and scholar journals, it is quite difficult for authors to select one to publish. It is also difficult for editors of older, well established journals to maintain a reasonable amount of requests for publication as a pool of selection. This paper presents a solution based on the Digital Object Identifier (DOI) concept that could increase the reputation and respectability of a scholar or scientific journal.

Key words: Digital object identifier, scholar journals, registration agency, persistent URL

JEL classification: C43, I23, I29

# 1. INTRODUCTION

The number of online scholar and scientific journals increased spectacularly in the last few years all over the world. Many of them arise in Asia and carry out aggressive mass email based promoting campaigns (spam). Most of new journals whose name starts with "IJ" - International Journal have a short, couple of years only, history. Some of them disappear in as many years, thus the papers published during journal lifetime are lost.

Beside these new, doubtful journals, authors are tricked also by so called "predatory" journals that are stealing the identity of very respectable journals. Certain fake websites claiming to be the genuine journals become a steady stream of revenue for less reputable institutions. A long list of fake and predatory journals as well as suspected journal is given in [1]. Fortunately, there are concerns about this phenomenon so and one can find on the Internet more comprehensive lists of publications to avoid when sending a scientific article for publication [2][3]. As in the previous case, papers published in the faked and predatory journals are lost because in many universities they are not considered as valuable papers. Moreover, "some universities, research institutes, and ministry of education have blacklisted the scientific journals".

All major publications within any given scientific field use a digital identifier for each electronic published document. It is named Digital Object Identifier (DOI) and can be noticed either on the electronic version of the paper either on the printed version or both, figure 1.

DOI's provide some advantages for publishers and for authors as well. But as almost all good things, DOI has a price. For Open Access journals, where the publication is free of charge or the publication fee is symbolic, subscribing for a DOI may be a problem. We checked over 30 journals from the "blacklist" in [3], in the field of engineering and economics and none of them provides DOI, despite the significant fee most of them charge the authors. On the other hand, it is difficult to differentiate between non-DOIs decent scholar journals and fake journals whose main goal is to make money, even if the latter could afford to pay for DOIs. Table 1 show a list of ten journals whose name starts with "International Journal" and are not products of big publishing houses. Among them there are good journals which don't assign DOIs to the articles they publish, while all journals providing DOI are respectable journals.

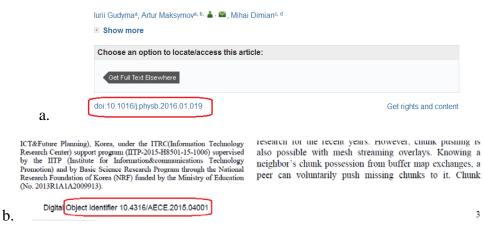


Figure 1. Examples of Digital Object Identifiers

Table 1. Ten International Journals of comparable quality with DOIs availability

No	Full Journal Title	Web	DOI
1.	International Journal of Teaching and Learning in Higher	www.isetl.org/ijtlhe/	N
	Education (IJTLHE)		
2.	International Journal of Education & the Arts	www.ijea.org	N
3.	International Journal of Dentistry	www.hindawi.com/journals/ ijd/	Y
4.	International Journal of Financial Studies - Open Access Journal	www.mdpi.com/journal/ijfs	Y
5.	International Journal of Business and Economic Development	http://www.ijbed.org/	N
6.	International Journal of Clinical Medicine	www.scirp.org/journal/ijcm/	Y
7.	International Journal of Research Studies in Education	www.consortiacademia.org/ index.php/ijrse	Y
8.	International Journal of Food and Agricultural Economics	http://www.foodandagricult urejournal.com/	N
9.	The International Journal of Applied Economics and Finance	www.scialert.net/current.ph p?issn=1991-0886	Y
10.	International Journal of Economic Practices and Theories	www.ijept.org/	N

Inspecting several websites of suspicious journals we may find additional information about the journal quality. Thus, a journal with an unusual short period of reviewing process or with inconsistent statements regarding the processing time of the articles and the last date for submission is, perhaps, a dubious one, figure 2a. Also, a journal publishing three article per issue is certainly not a valuable journal, figure 2b.

As almost all open access journals with an assigned DOI have good reputation and those who have not DOIs are divided into respectable and less respectable, it may be a good idea for publishers to make an effort for acquiring DOIs for their journals.



Figure 2. A Journal who ensures the paper review in one week and allows two days between the last date of submission and the date of publication (a) or publish less than five papers per issue (b) may be not a serious one

# 2. WHAT IS DOI?

DOI is the acronym for Digital Object Identifier. As the name itself suggests, the role of a DOI is to digitally identify any object. DOI system was developed by International DOI Foundation, with the purpose to "provide a framework for managing intellectual content, link customers with publishers, facilitate electronic commerce, and enable automated copyright management". It consists of a unique alphanumerical string that begins with 10, followed by a prefix and a suffix, separated by slash. Number 10 designates the DOI directory manager. The prefix is a unique number of four or more digits assigned to organizations that uses the DOI system. In the case of publications, such journals, the suffix is assigned by the publisher and is designed to be flexible with publisher identification standards. The assignment of prefixes is done by several registration agencies, acting on behalf of International DOI Foundation. A very popular agency in the scientific publishing sector is CrossRef (http://www.crossref.org). Other common registration agencies for publishing industry are: Data Cite, mEDRA (Multilingual European DOI Registration Agency) and OP (Publications Office of the European Union).

# 2.1 WHAT IS DOI GOOD FOR

A DOI is a link providing three features: it is *actionable*, it is *interoperable* and it is *persistent*. We can explain these features starting from the remark that digital content changes owners or location very often during its useful life. It happens to almost everybody to find that a link pointing to an article doesn't work. That is mostly because the address of the article has been changed as a result of software or ownership changes. DOI offers a type of link (that means it is actionable) which is independent of these types of changes (it is persistent). Persistency is possible because the DOI system uses a central directory. When a user clicks on a DOI, the request is submitted to the central directory which looks up for the address associated with that DOI. The directory responds to the user's browser with a redirect message to the address it found. When the object (article) changes, the change is recorded in the directory such all subsequent readers will be redirected to the new site. The DOI remains the same, only the associated address changes in the directory and the change is easy to make.

Interoperability is given by the DOI data model. Beside the identifier, DOI uses o lot of metadata that may include names, descriptions, types, classifications, locations, and any other kind of information related to a Referent. Because there are many Registration Agencies (RAs), all of them must use the same metadata model in order to ensure that the DOI name is available for use in services provided by other RAs.

Figure 3 shows the flows of metadata within the RA Network. Each Resource provider (such publishers) provides metadata for the RA as requested by that one. In the same time RA must

provide some level of output or service metadata to support DOI system services. These two requirements can be accomplished by using minimum the elements of DOI Kernel model.

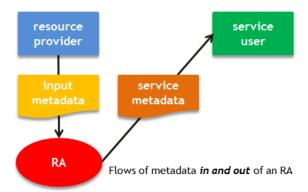


Figure 3. The flows of metadata within the RA Network. Source: International DOI Foundation

http://www.doi.org/doi handbook/4 Data Model.html

# 2.2 DOI METADATA KERNEL

The "DOI Kernel" contains a minimum metadata set having the role to provide recognition and interoperability. In this context *recognition* stands for the ability of the metadata to clearly identify what kind of thing DOI refers to, avoiding the ambiguity. If the DOI Kernel is not sufficient to ensure disambiguation, additional information may be added to the Kernel. Actually, the DOI Kernel consists in a XML message which contains the minimal set of elements that must be transmitted to the Registration Agency. For a journal, the XML file contains two parts: the first one identifies the journal issue and the second one identifies each article in that journal issue. As an example, figure 4 reproduces the first part of XML file for issue No.2/2015 of the *Journal of Applied Computer Science & Mathematics*, published by Stefan cel Mare University of Suceava, in printed and electronic format. The structure of XML file is that requested by CrossRef Register Agency. A full documentation of XML data structure, also called deposit schema, covering conferences, books, dissertations, reports and journals may be found on the CrossRef website. Basically, all registration agencies have their own deposit schema that must be followed by the registrants.

New versions of deposit schema occur from time by time and the publishers are encouraged to use the newest versions as long as the older ones may be not supported anymore.

The deposit schema is quite complex and it is impossible to edit manually the XML file. It is always generated by a computer program using the information in the database of the publisher. For non-professionals, some registration agencies provide web based interfaces in order to help registrants add metadata.

```
<?xml version="1.0" encoding="UTF-8" ?>
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xsi:schemaLocation="http://www.crossref.org/schema/4.3.0
  http://www.crossref.org/schema/deposit/crossref4.3.0.xsd">
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        </journal_volume>
        <issue>2</issue>
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          <re>ource>http://www.jacsm.ro/archive/index.php?year=2015&issue=2</resource>
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      </iournal issue>
```

Figure 4 A fragment of XML file corresponding to the journal issue

### 3. GETING DOI FOR A JOURNAL

The first step for achieving a DOI for a journal is contacting a RA which services best meet the needs of the journal. The complete list of RAs may be found on International DOI Foundation website. For scholar journals the most suitable are CrossRef and CiteFactor. Working with an RA does not imply to be a member of the International DOI Foundation.

The next step consists in establishing the services to purchase with the chosen RA. The cost of registering new DOIs depends on these services. When a publisher registers with one RA, it gets a DOI prefix. For example, CrossRef charges the publisher with an annual fee depending on the *total publishing revenue* for each registered name. Since the scholar journals are generally non-profit publications, they fit into the first category "under 1 million USD", that means an annual fee of \$275 USD. Beside this fee, for each DOI assigned to a paper, the publisher pays an additional fee of \$1 USD.

The third step is to generate the XML file for each issue of the journal, according to the requirements of the Registration Agency which services have been purchased. The XML file should be uploaded in the system of RA using the interface provided. Some RAs also provide a verification facility of XML file, before uploading it.

Each time the location of paper changes, from different reasons, in order to ensure the persistency of DOI name, the XML file must be generated again, according to the modifications, and uploaded in the RA system.

# 4. CONCLUSIONS

As it was designed, DOI system provides a form of persistent identification, in which each DOI name permanently and uniquely identifies the associated object. By associating metadata with objects, DOI provides users with relevant information about the objects and their relationships. The

DOI name is not based on any changeable attribute of the object as its physical location or ownership. Information about the object is encoded in metadata and not in the DOI name itself.

Despite the fact that the DOI system does not provide a central search capability, most web search engines will show DOI names in the results of a search by title, by name, or by topic or related terms. The reverse will also work; a DOI name search in the search engine will show you what item that DOI was assigned to. Thus, a work having a DOI name became more visible and will be accessible for long-term, irrespective of its physical location.

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# KNOWLEDGE MANAGEMENT AND ONTOLOGY

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### **Abstract:**

The knowledge society characteristic to the XXI century derives from the information society but is more than this and focuses on how information becomes knowledge. Fulminating evolution of this society has enabled intelligent devices (be they desktops, laptops, tablets, smart phones and others) to be part of everyone's life. These tools not only facilitate rapid access to information, which is considered the most valuable thing today but through the multitude of applications, we can ease the decisions we make every day. In this context our approach aims at building an ontology using OWL (Web Ontology Language) and RDF (Resource Description Framework) in economic and a platform for working with ontologies. The platform will be represented by a web application and will allow users to extend an ontology by adding new concepts such as classes, subclasses, individual properties, but also to see ontology as a knowledge graph. Also users will be able to interact with the ontology by interrogating it using SPARQL language. Consequently, I believe that the proposed application is meant to be a useful application for viewing, querying and extending ontologies.

Key words: knowledge, ontology, knowledge graph, OWL

JEL classification: C43, C60

### 1. INTRODUCTION

Given the rapidity with which information propagates in both online or offline environments, we can say that today's society has become a mainly informational one. This concept, that literature knows as post-industrial world, it is defined as the society in which production and consumption of information is the most important type of activity. Thus, information has become the primary resource and the society has become one digitized in which the way information is used impacts all areas: economic, political, medical, social, cultural, etc. If we look at the educational dimension, then we turn to platforms, E-Learning and E-Practice which relate to the activities of learning, teaching and practice using specific tools and platform computing environment.

The cultural dimension of the Information Society talks about various initiatives in online and offline environment aimed at preserving and developing cultural heritage through digitization. Thus we can speak of virtual museums and galleries, online art exhibitions and more. Not least, it remains the environmental dimension focused on the concept of Green Computing and aims studies to have an impact on resource efficiency and environmental protection.

At the beginning of their development, the knowledge base of the (KBS) Knowledge Based System had been relatively small [9]. That knowledge was meant to solve real problems, not only to demonstrate various concepts, for example, there were not used expert systems for diagnosis general health, but certain kinds of specific diseases [8]. As time evolved, artificial intelligence evolved with it and it began to show a need for modular larger databases, which can be interconnected and integrated. This application has become the springboard discipline "ontological engineering" aiming to design and create consistent database that can be used for various projects [7].

## 2. LITERATURE REVIEW

An ontology is a catalog of existing concepts in a field. An ontology contains predicates, semantic of concepts and terms, and how they relate to one another. Other recent definitions of ontologies talk about them as a "knowledge graph" [11].

Considering the most cited definition in area, that of Gruber, "an ontology is a specification of a conceptualization of the field" [6].

Depending on the purpose of building ontology there are several construction methods and languages respectively. Ontologies, according to some of the classic definitions may be represented by a dictionary. In order to be used by the Semantic Web ontologies must be used by computers and so must be expressed in languages that they can be understood easily by both computers and humans [10].

Although numerous fine-grained methodologies exist for building ontologies [1] most reflect best practices for settings in which the individuals have agreed to build a particular ontology (as part of an academic research project, for instance). They address only lightly issues such as legal constraints and future usage by individuals that weren't involved in building the ontology.

The main languages used to define ontologies are based on XML [14], a language that is easily understood by computers. RDF (Resource Description Framework) is based on XML syntax [3], which uses a model representation of graphs to formulate statements about resources recognized by URI (Uniform Resource Identifier) [13].

URIs are the primary key value for RDF, meaning that an URI will recognize the unique resource. RDF (Lassila and R. Swick, 1999) aims to provide metadata about Web resources (author, description, date) designs playback of knowledge and allows different applications to interact.

The key element of an RDF document is the triplet. A triplet is a sentence with a subject, predicate and object (property). The resources identified by URIs are subject and predicate, and object is a resource or a unique value.

Through RDF can be represented several types of predefined resources, but can also be created through the extension called RDF Schema. RDF Schema (RDFS) facilitates the creation of instances, properties and classes using RDF syntax. OWL (Web Ontology Language) [5] is a language designed to define ontologies. Is a language that extends RDF's [4].

An ontology has two parts [15]:

- **Tbox: terminal box** is that part of ontology containing concepts defined by it. Here are entities: ontology classes, object properties, properties associated to data types.
  - **ABox: assertion box** is the part of ontology containing instances of ontology concepts.

The knowledge base and the ontology is linked one to another via the ontology module. In the maintenance stage, knowledge engineers or domain experts can add, update, revise, and delete the knowledge or domain ontology via knowledge acquisition module [2].

When constructing or working with ontologies is preferable to use tools for creating sites with a user-friendly interface. So it is not required advanced knowledge of OWL / RDF, and it is avoided the writing of cumbersome code. One such tool is Protege.

## 3. METHODOLOGY

**Protégé** is a platform for developing applications based on knowledge but also an ontology editor. It was designed in Java at Stanford University, being open-source. Among its special features include support for RDF, own format for storing information, a graphical interface for creating ontologies. Through this interface the user can create classes, properties or instances. In addition, the program facilitates the design of inheritance relationships between classes. Relationships can be defined by setting the domain and co-domain of properties. One kind of tools that can be used and perhaps most used is Protégé that allows working with both the online ontologies and the ontologies stored locally. It runs regardless of operating system, with versions for each distribution system.

## Figure 1. Protégé Tool

Source: http://protege.stanford.edu/download/protege/4.3/installanywhere/Web\_Installers/

Figure 1 shows the interface of Protégé. For the visualization of ontology, Protégé program has several tools. As we can see in the picture above the screen has a row of 12 tabs.

By adding plug-ins to Protégé, the user has access to a wider variety of processing options. Clearly, the most used plug-in is the one that facilitates access to OWL language mechanisms. Saving, editing, creating, importing of ontologies in OWL format and work with knowledge base through the JDBC driver in which can be stored ontologies options offered. Ontology structure that we developed (using Protégé) is on the economic field. Ontology consists of classes, subclasses, properties of the data, properties of classes and instances.

The specific technical goals of this scenario are:

- Define an ontology for the economic and financial information domain
- Develop ontology-aware tools for content provision and management
- Develop a hypermedia-based module for content visualization and semantic navigation in web portals.
  - Support semantic search in terms of the economic and financial information ontology.
  - Include a user modeling component to be used in navigation and search.

To test the app, the ontology was loaded and we tried to expand it by adding instances, properties, and to interrogate knowledge of ontology using SPARQL language.

Three test scenarios will be presented: first scenario is realized adding a new instance, in the second some queries will be written using SPARQL to get relevant information about concepts, and in the third it will be achieved a chart ontology.

The first test scenario: Adding an instance for a concept. Next, the steps followed will be accompanied by images.

- 1. The user fills in the interface the instance name and class name to add the instance.
- 2. The user clicks on "Add Individual" button and the instance is added.
- 3. To see the new instance Protégé can be used or it can be written a SPARQL.

The second test scenario: Writing SPARQL queries. In this test scenario two SPARQL queries will be written.

- 1. The user will write the first query that will return all instances. Because it is a Select query type, it will be pressed the Select Query button.
- 2. The user will write the second query that will return if the ontology includes information's. Because it is a query type Ask, it will be pressed the Ask Query button.

Remember that Ask queries will always return a Boolean result: true or false.

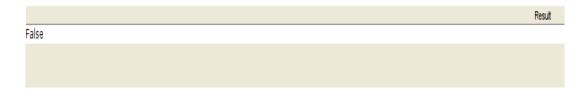


Figure 2. Query result

**The third test scenario:** *Generating the ontology graph.* To obtain the graph, the user will perform the following steps:

- 1. Will click on the button Generate Graph.
- 2. The user chooses the appropriate json file corresponding to the owl file and click

Initially, the chart will only have Thing object. To expand a concept (view subclasses) or to narrow a concept (view superclasses), the user will have to click on that concept.

## 4. CONCLUSIONS

The most important role of ontology in knowledge management is to enable and to enhance knowledge sharing and reusing. Moreover, it provides a common mode of communication among the agents and knowledge engineer. However, the difficulties of ontology creation are claimed in most literature. Thus, this study focuses on creating ontology by adopting the knowledge engineering methodology which provides tools to support us for structuring knowledge.

Classical methods of storing information gradually become history. In a century where Internet access and computer ownership is commonplace, it is more useful for an encyclopedia or a dictionary to be electronically

Modern society has a large amount of information from all areas to be used correctly to get the benefits. Thus, through ontologies we can obtain the desired information in a timely manner.

Ontologies are a step forward in the development of artificial intelligence, the knowledge base freeing and facilitating the development of new programs that simulate human behavior. Huge effort to transform the Wikipedia information in ontologies in DBpedia knowledge base signals transition to a new phase of web exchange information.

SPARQL allows quick retrieval of information formalized in a knowledge base. Given that information becomes available in a formal way such language allows easy browsing via their existing information. SPARQL language is a query language for RDF triple sets offered by Jena, RAP, Redland. It offers support for handling RDF construction. Provides operations on RDF graphs and it is software platform independent.

SPARQL, associated with organizational ontology can be useful in an economic enterprise, enabling the user to control the relationships between agents, their work, the tasks they have to perform. Importantly, unlike a common database of companies, this ontology is a model of organizational framework, model that can be manipulated depending on the entity's requirements.

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## MODELLING CHAOTIC TIME SERIES USING HYBRID APPROACHES

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## **Abstract:**

Chaotic time series have as main feature, the possibility of short time prediction of their future evolution. The time series of the natural systems are seldom generated by purely linear or nonlinear systems. They are usually the result of the evolution in time of nonlinear systems. Therefore, the time series will encapsulate both linear and nonlinear components. This hybrid character of such time series makes the prediction process very complex and not accurate using a single technique. Combining different techniques and models increases the chances of representing and modeling complex relationships between data and to improve the quality of time series prediction. The paper presents the results obtained in the case of the electricity spot price time series modeled using ARIMA technique for the linear part and a neural network for the nonlinear component.

Key words: chaotic dynamics, time series prediction, ARIMA modeling, neural networks

**JEL classification:** C02

## 1. INTRODUCTION

The literature referring to hybrid approaches in modeling, offers many examples of papers describing the use of ARIMA technique for modeling the linear part of the time series and neural networks for the nonlinear component. [7], [4]

A model of a univariate time series tries to explain the evolution of a variable based on its previous values. Usually, it is considered that the variable is the result of a stochastic process, its values are evolving according to probabilistic laws.

Since in the time series analyzed by this paper elements indicating the presence of chaotic dynamics have been identified, we will apply the technique of phase space reconstruction. According to Takens's theorem, since each variable contains information about the dynamics of the whole system, one can reconstruct the phase space by using a univariate time series of the observed variable. Reconstructed phase space (also called embedding space) will be equivalent to the original topological space phase and, therefore, equivalent to the original attractor. The reconstructed phase space is parameterized by the embedding dimension m and the delay time  $\tau$ . M dimensional vectors formed applying the equation 1 are describing an object topologically equivalent to the attractor of the original time series.

$$Y_{i} = \left\{ y_{i}, y_{i-\tau}, y_{i-2\tau}, \dots, y_{i-(m-1)^{*}\tau} \right\}$$
 (1)

## 2. ARIMA MODELING TECHNIQUE

The ARIMA modeling procedure analyzes univariate time series using Autoregressive Integrated Moving Average (ARIMA). The ARIMA model (also called Box Jenkins model) allows forecasting the future values of a time series as linear combinations between past values of the series and previous errors (called shocks or innovations). An ARIMA model also uses correlations between time series values.

The process of finding the appropriate ARIMA model comprises two steps:

- Identifying the model determines the model best fitting the time series behavior. If the time series is affected by the seasonal component, the model to be determined is called SARIMA (Seasonal ARIMA) and it's represented as ARIMA (p, d, q) (P, D, Q)s, where d and D represents seasonal and non-seasonal ordinal differences, p and P are seasonal and non-seasonal orders of the autoregressive terms, and q and Q represents ordinal moving average terms. S signifies seasonal difference. Finding the model parameters is achieved by studying the plots of autocorrelation function (ACF) and the partial correlation (PACF).
- Model estimation performance evaluation to describe the behavior of the time series. If the performance is not satisfactory one will return to the previous step, modifying the structure of the model until it is appropriate to capture the dynamics of time-series.

The time series used for developing a model are assumed to be stationary. Stationarity is a mathematical concept introduced to simplify theoretically and practically the modeling of the stochastic processes. In practice, the chances that time series to be nonstationary are increasing with the number of the values contained by that time series. A time series is non-stationary if its properties do not change regardless of when it is observed. Trend and seasonal component causes the series to be nonstationary. Time series stationarizing is usually done through differentiation (repeated as many times as needed) and involves calculating differences between the elements of the time series.

The mathematical expression of the general ARIMA model is:

$$y_{t} = c + \phi_{1} y_{t-1} + \dots + \phi_{p} y_{t-p} - \theta_{1} e_{t-1} - \dots - \theta_{p} e_{t-p}$$
 (2)

The equation above corresponds to an ARIMA(p,d,q) model, where p is the order of the autoregression part (the number of previous values to be taken into account when calculating the current value) d the number of differences, and q is the order of the moving average part (specify how the deviation from the mean of previous values is taken into calculation of the current value).

Obtaining an optimum And RIMA model implies to find its optimal order, the residuals resulting from the application of the model must be independent and identically distributed with zero mean (i.e. to be uncorrelated with each other) white noise type.

The initial time series is considered to contain a linear autocorrelated component and a nonlinear component, such that we can decompose the original time series like in the equation 3:

$$y_t = L_t + N_t \tag{3}$$

After ARIMA modeling process is completed, the time series can be expressed as the sum of linear component and the residuals:

$$y_t = L_t^m + e_t \tag{4}$$

The residuals will contain the nonlinear relationships that can't be captured by the ARIMA model.

The nonlinear part of the time series will be modeled using a multilayer perceptron neural network. The values at the output of the network are given by:

$$y_{t} = b + \sum_{j=1}^{q} \alpha_{j} g \left( b_{0} + \sum_{i=1}^{p} w_{ij} y_{t-i} \right) + \varepsilon_{t}$$
 (5)

where  $\alpha_i$ ,  $w_{ij}$  are the network weights, p and q are the numbers of neurons on the input layer, hidden layer respectively, and g is the activation function of the hidden neurons (usually hyperbolic tangent).

The neural network determines the output values as a combination of the previous values, like the nonlinear regression model.

$$y_{t} = f(y_{t-1}, y_{t-2}, ..., y_{t-p}, w) + \varepsilon_{t}$$
 (6)

where w is the vector of all network parameters and f is the function determined by the neural network.

The method further applied aims to combine the abilities and performances of the two methods in time series modeling. ARIMA is used for the prediction of the linear component of time series and the neural network for the residual modeling (i.e. the nonlinear part of the time series). Due to its universal approximator property, the multilayer perceptron is extensively used in time series modeling and prediction. In the majority of this type of problems, one hidden layer of neurons is sufficient.

## 3. ELECTRICITY SPOT MARKET MODELING

In the spot market, or the day-ahead market, the participants are trading contracts to supply electricity for the next day. Electricity prices are set daily, for one-hour intervals and covers the whole 24 hours range of the next day. The deadline for collecting all purchase orders and sales information is stored in the form of aggregated supply and demand curves for each hour. The prices determined using this procedure are called steady spot prices or system prices.

The models for spot price are the foundations of decision making and strategic planning processes. The need of spot price prediction, even for short-time periods is obvious and very important for every player of the trading market.

Most models for spot price market are using at least two risk factors: short-term dynamics characterized by mean reversion and a very strong volatility and the second one represents the long-term behavior of the price [6], [5], [2].

The mean reversion is modeled by a Ornstein-Uhlenbeck process given by:

$$dS_{t} = -\lambda (S_{t} - a)dt + \varphi dW_{t} \tag{7}$$

where  $S_r$  is the spot price,  $W_t$  is a standard Brownian motion,  $\phi$  is the process volatility and  $\lambda$  is the speed of the process reverts to the mean a.

Another classical model consists of two terms:

$$dS_t = -\lambda (S_t - Y_t)dt + \varphi dW_t \tag{8}$$

where  $Y_t$  is a Brownian motion type process.

An alternative model is given by:

$$S_t = \exp(X_t + Y_t) \tag{9}$$

where  $X_t$  is the Ornstein-Uhlenbech process describing short term variation and  $Y_t$  is the Brownian motion describing long term dynamics.

There are two completely opposite opinions regarding power consumption: the first one considers that is chaotic due to the influence of multiple factors (temperature, electricity price, network distribution operating conditions, economic environment, season, etc.) and another one that states that power consumption is random.

We will work with the electricity spot price time series for one month, which we identified as exhibiting chaotic dynamics.

There are different approaches in analyzing the time series as univariate or multivariate [1]. The trading value of the electricity for each hour of the current day being set up in the previous one, the time series is seen by some researchers as multivariate. Other papers are working with 24 distinct values per day and the time series is univariate. In our analysis we have considered the time series as univariate.

The electricity spot price time series has some specific features:

- 1. Cyclical patterns represented by different types of seasonally behavior: annual seasonality (the price depends on the current season, in the cold season the price is higher), weekly season (the price depends on the day of the week) and daily (the price is different from hour to hour depending on the load).
- 2. Mean reverting. Referring to the short-time behavior, significant variations of the price can suddenly occur, and then the price is coming back to the values prior the increase. These

- outliers can occur because storing large quantities of electricity is not possible, it has to be consumed when produced.
- 3. Another specific property of the electrical energy trading market is the fact that the price can be negative or zero, this happening mostly over night [3]. If there is an energy surplus, and the consumption low, the price is negative because uncoupling the generators or the nuclear plants would be very costly. The EEX German trading market was the first European market to allow negative prices.

## 4. RESULTS

The time series was differentiated until the mean stationarity is obtained. Generally, we can use logarithmic values of the time series for variance stabilization. We have chosen to work with non logarithmic values

The outliers were not removed in order not to destroy the dynamics of the time series, even if these values are the result of the exceptional events or can be produced by errors.

Finding the values for p, d and q parameters implies the analysis of ACF (autocorrelation function) and PACF (partial autocorrelation function) plots. ACF measures the strength of the relationship between the current value  $y_t$  and k previous values of the  $y_{t-k}$  series for different k values. PACF measures the extent of which  $y_t$  and  $y_{t-k}$  are correlated, but after removing the intermediate values effect (correlation for k time step unexplained by lower order correlations).

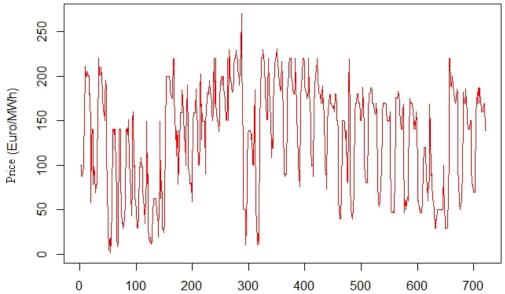


Figure no. 1. The spot price time series seasonally adjusted for trend removal.

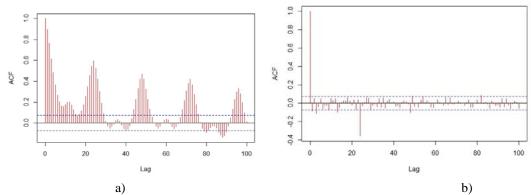


Figure no. 2. The plot of the ACF function for the spot price time series. a) before differentiation and b) after both simple and seasonal differentiation

A seasonal differentiation was carried out because the ACF plot obtained after removing the trend shows peaks outside the significance range for intervals 24, 48, 72 etc, as can be observed in Figure no. 2.

The optimum adjusted model is SARIMA $(1,0,5)(1,0,1)_{24}$  with AIC=6111.14. This index, the Akaike Information Criterion (AIC) is a relative measure of the quality of statistical models. The optimum model is the one with the lowest AIC. Table 1 presents the values of AIC index for different ARIMA models.

Model	AIC
ARIMA(0,0,0)	6348.15
ARIMA(0,0,0)(1,0,0)	6253.717
ARIMA(0,0,0)(2,0,0)	6192.9
ARIMA(0,0,1)(1,0,0)	6247.509
ARIMA(0,0,3)(2,0,0)	6182.547
ARIMA(0,0,4)	6337.326
ARIMA(1,0,0)(1,0,0)	6247.276
ARIMA(1,0,5)(2,0,0)	6188.617

Table no. 1. AIC index for different possible models..

The resulted model passes the Box – Ljung test. The null hypothesis (i.e. the model is not adequate) is rejected because the value of the parameter p (the level of uncorrelated residuals) is 0.7204, greater than 0.05 (the reference value). We can say that the results are not correlated (uncorrelated with no other predictor), as one can observe from the plot of ACF and PACF for the residuals time series. All the value are in the significance range.

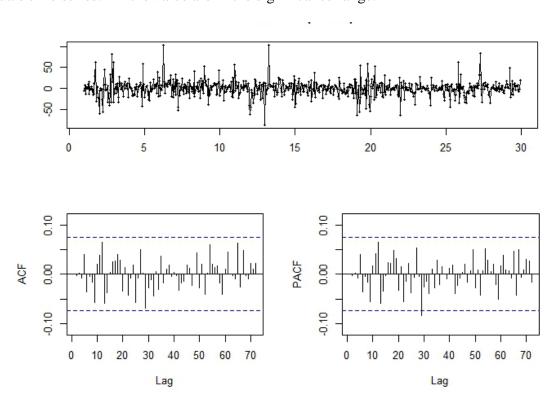


Figure no. 3. Autocorrelation and partial autocorrelation functions for the residuals of SARIMA model.

The result of time series modeled with optimal SARIMA model is presented in Figure no. 4.

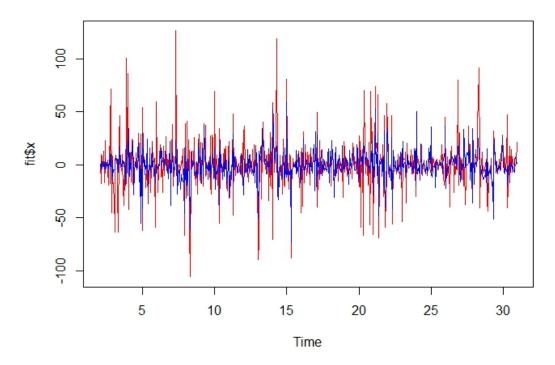


Figure no. 4. ARIMA modeled time series (blue) vs. original time series.

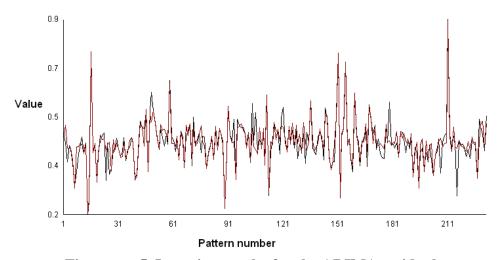


Figure no. 5. Learning results for the ARIMA residuals.

The mean squared error obtained as a result of model fitting is 0.00050813. The neural network with 2-24-1 architecture applied on the learning set leads to an error of 0.003.

## 5. CONCLUSIONS

Time series representing the evolution in time of a variable produced by a nonlinear system are difficult to predict. If the time series exhibits chaotic dynamics, the analysis and modeling is even more difficult. The paper present the results obtained in modeling of a time series corresponding to the electricity spot price values collected for one month. The nonlinear part of the time series was modeled using the ARIMA technique and the nonlinear part which is formed by the residuals from the ARIMA model, was modeled by a multilayer perceptron neural network. The results are proving that hybrid techniques are able to provide better models than each procedure separately.

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RO

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