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The authors of the „**Adjustment of macroeconomic imbalances**" published in Hyperion Economic Journal, issue 1, vol 1, 2013, have requested that it be retracted from publication in *Hyperion Economic Journal* and from the *International Databases*.

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European integration and cooperation, basic vectors of European space of freedom, security and justice

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Abstract
The European countries joining to the Schengen area had the effect elimination of internal border controls between Schengen member countries, that use permenent provisions of the Schengen acquis, being a single external border where operational checks are carried out according to a set of clear rules on immigration, visas, the asylum, as well as some decisions concerning police cooperation, judicial or customs. This means that the border crossing can be made at any time through many places, and citizens of member countries who are traveling in the Schengen area must present a valid ID. Overcoming internal border can be equated with a journey through the country.

Keywords: area of freedom, security and justice, European integration, the Schengen acquis;

1. General aspects related to the European area of freedom, security and justice

The European Union is a space on the European continent delimited by the Lapland, the Mediterranean Sea, the west coast of Ireland and the shores of Cyprus. EU citizens with their traditions, languages and different cultures represent approximately 7% of the total world population. Historical legacy of the Union consists in Greek and Roman antiquities, cave paintings, Moorish and Viking architectures, medieval fortresses, renaissance palaces and baroque churches. Modern Europe attract tourism also through vibrant cities, cultural celebrations, summer and winter sports and different traditional cuisines.

The Schengen is an area of free movement in EU. Countries of this area have eliminated internal border controls in order to enable crossing the border between two states both without papers and without stopping to control. At European level, the concept was initiated in the early 80s with an understanding of the importance given to the terms of free movement. The year 1984 marked the decision to stop border controls between Germany and France. The free passage agreement was signed in 1985, in the small village of Schengen and the first countries which have applied were: France, Belgium, Germany, Portugal, Luxembourg, Spain and the Netherlands. They opened their borders on 26 March 1995, and after that, on 19 June 1990, it followed the signing of the Convention related to the introduction of Schengen Agreement. From the beginning of Schengen Agreement (1995), signatory states have abolished internal border controls and created a single external frontier, where checks are carried out according to clear rules.

On 21 December 2007, an important historical moment, another nine countries from central and Eastern Europe opened their borders, establishing a beginning for unrestricted travel over and redoubtable former Iron Curtain. On the other hand, were adopted common rules on visas, asylum, migration and on police cooperation measures, customs or judicial. All these measures, added to the provisions of the Schengen Agreement, Schengen Implementation Convention, also to the statements and decisions of the Schengen Executive Committee (in 1990) and subsequent agreements or accession protocols, together represents the Schengen acquis. Now thirty countries have signed the agreement and twenty-five of them have started to implement it.

Please note that, initially, the Schengen acquis was not part of the Community legal framework. This issue was resolved in 1997, when was signed the Treaty of Amsterdam, which came into effect in 1999. Subsequently, a protocol was attached to this Treaty in order to incorporate the Schengen acquis, institutional and regulatory framework of the EU. So, from that date, the Schengen acquis is part of Community law, being transferred in the contents of Title IV „Asylum, visa, immigration and policies related to free movement of persons" of the Treaty of Lisbon.

Schengen internal border controls perform in a limited time because of national security or public order, judgment may be taken at any Schengen state. There are theories according to which with the removal of border controls could increase risks for the security of the countries involved, because this decision would open „freeway" for criminals. Therefore, it requires cross-border cooperation, particularly through the establishment of joint services of police, border police and customs (in offices, centers and contact points), especially for contracting countries in order to protect their citizens. However, the Schengen Information System (SIS), mutual operational assistance and direct cooperation through exchange of information between the police, tracking and surveillance of traffickers are active elements of the fight against organized crime, terrorism, human trafficking and illegal immigration. In this regard, it was approved a set of uniform rules which should guarantee to the citizens protection of personal data against any violations of fundamental rights.

The accession of Romania to the EU, on 1January 2007, was one of the most considerable achievements of our country on the international level. This was possible by adding the efforts of all key institutions of the Romanian State. A direct impact on Romanian citizens represent their recognition as citizens of the EU, in particular, recognition of the right for free movement which is guaranteed to all citizens from Europe by the article 18 of the European Community Treaty (Rome 1957), reinforced by the Treaties held in Maastricht (1992), in Amsterdam (1997) and later in Nice (2001).

Creating an unmistakable market of over 500 million people generated a wide range of offers and low prices. In fact, most of EU people believe that they can travel in EU just as easily as in their own country. „One of the effects of obtaining Schengen membership is the cancellation of internal border controls only between Schengen States which are applying the Schengen acquis in full." This has led to the simplification of obtaining right of free movement by removing obligation to present a travel document to cross the Schengen internal borders for European citizens who are traveling within the Schengen area.

Schengen acquis was included in the acquis starting with 1997 together with the Treaty held at Amsterdam in Netherlands. After this treaty, the regulations about the status Borders were more clear. Schengen internal borders are defined according to Regulation no. 562 from 2006 (Schengen Borders Code) as being: „common land borders, including river and lake borders of the Member States, Member States' airports for internal flights; sea, river and lakes ports for common links with ferryboat". So, no more perform internal border controls between the 22 EU Member States (Austria, Belgium, Denmark, Finland, France, Greece, Germany, Italy, Netherlands, Luxembourg, Portugal, Sweden, Spain, Czech Republic, Latvia, Estonia,

Lithuania, Malta, Hungary, Poland, Slovakia, Slovenia) and in 2 other countries (Iceland and Norway) who had signed the Schengen Convention, but which are not EU Member States. The details of the Schengen member states map are in Figure 1.

The UK and Ireland (EU member states) have decided to partially apply the Schengen acquis, working with Schengen countries only in certain areas. Furthermore, Cyprus has decided to postpone the implementation of the Schengen acquis desiring in near future to integrate into that system. Other two countries (Swiss Confederation and Liechtenstein) are currently negotiating to join the Schengen area. Swiss Confederation began negotiations to join the Schengen area in 2002, and in 2004 it was approved the Agreement between the EU, the European Community and the Swiss Confederation regarding the respect and implementation of the Schengen acquis. The agreement was approved in 2005, in a referendum, in the Swiss Confederation and it became effective on 1 March 2008. Even though, the Swiss Confederation and Liechtenstein joined the Schengen Treaty, they haven′t started to implement the provisions. Currently, Liechtenstein doesn′t perform controls on Swiss border, but those controls are performed at the border between Liechtenstein and Austria.

Figure 1. Schengen Member States Map

In a limited period of time, on the level of each Schengen countries can be occasions when, for reasons of national security or public order, they perform controls at the Schengen internal border. This situation will involve implementation of Schengen internal border controls by the same rules as they perform external border controls. Thus, as shown in the issues raised, in 5 EU countries (Ireland, Cyprus, Romania, UK and Bulgaria) for crossing these countries, the European citizen must present valid travel documents (passport or identity card) at the internal borders of these countries . On the other hand, Bulgaria and Romania, the last states who joined the EU, on 1 January 2007, plans to join Schengen with equal rights equal, probably in 2013.

For a citizen of an EU member wishing to visit another country (non-EU state), the only document recognized is passport both EU's external borders and non-EU state borders. Authorities recommended that an EU citizen traveling within the EU have always carry a valid travel document (identity card or passport), particularly where proof of identity is required.

Note that according to the law no. 248 from 2005,related to the regime of free movement of Romanian citizens abroad, subsequently modified by Ordinance no. 5 from 2006, O.U.G. no. 96 from 2006, Law no. 50 from 2006 and O.U.G. no. 126 from 2007, were provided travel conditions of Romanian minors in Europe. Adding the fact that the EU has made cooperation agreements in some areas, with the four member states of the European Free Trade Agreement

(EFTA), namely Iceland and Norway (Schengen states, but non-EU), Liechtenstein and Switzerland. The EU citizens, who wish to visit EFTA countries or the citizens of EFTA Member State who intend to travel to EU countries can enter or exit from this countries using a valid travel document accepted at European level (identity card or passport).

The EU citizens, who wish to visit the EU and the Schengen area, do not need visas. The main objectives of the Schengen Agreement take account of: conformity of the legal provisions about the entry and the stay for a short period in the Schengen area for citizens outside the EU, solving asylum problem, homogenization of Schengen visa, combating drug-related crime at customs, police cooperation, cooperation between Schengen countries in legal issues etc.

2. Normative bases of the approach European integration and cooperation concepts

Any theoretical approach started from 19 June 1990, the date when it was signed the Convention concerning the application of the Schengen Agreement, which aimed to create a common area of security and justice after removing the customs control. This convention came into effect on 1 September 1993 and it began to cause effects on 26 March 1995, for reasons that have depended on the timely technical and legal conditions.

The key points of the Convention are: citizens of countries that apply the Schengen Agreement can transit the internal borders of the signatory countries through any checkpoint without control; without territorial restrictions visa allows the holder to enter without customs control in all signatory countries and to stay 90 days in the six month period approved; harmonization of visa policy in Schengen countries; external border control based on the Schengen common standard; Access of Schengen countries without restriction to the Schengen information System (SIS), which provides information on personal identity or any other information in the Schengen area; close cooperation between the police and justice; unification of efforts for combating drug-related crime; rules about the competence of give asylum. All these measures, the provisions of the Convention Implementing the Schengen Agreement, decisions and declarations of the Schengen Executive Committee, also protocols and agreements, had constituted the Schengen acquis.

The incorporation of the Schengen acquis within institutional and legal framework of the EU was done by the Protocol attached to the Treaty of Amsterdam, which was signed on 02 October 1997 and after two years, came into effect on 01 May 1999. From that moment the Schengen acquis was included into Community law being transferred in Article 2 of the Schengen Convention which deals with the crossing of internal borders through any checkpoint without a check on the persons concerned.

The Schengen Information System (SIS) is part of Title IV of the Convention implementing the Schengen Agreement (art. 92-101). On this basis, members of the Convention will create and will use shared information system (SIS), comprising: a national section - NSIS (in each state), a technical assistance service and a central unit - CSIS, the Strasbourg, France.

The Schengen Information System (SIS) allows authorities designated by each Member State to have access to configuration details of persons and objects, "and the signalment and information provided in art. 96 for issuing visas, residence permits and for monitoring foreigners in the context of the provisions of the Convention relating to the movement of persons". All these facilities can be obtained through an automated retrieval system control and security of borders.

Each Member State manages and develops on his own risk and on its own, its national section of the Schengen Information System (NSIS) whose database and information will be identical to the databases of other national sections of each Member State through facilities of technical support service. Since the creation of its national section, to allow fast and efficient information, each member country shall comply with procedures and protocols established by agreement with other countries for technical support service.

All national systems are combined on-line under the lead of central system. If a state enter information into SIS through NSIS, they are sent to CSIS, where are forwarded to all correspondents and all bases NSIS. This ensures: homogenization for national databases SIS II allowing authorities access to SIS diversification (Eurojust, Interpol, Europol, the vehicle registration authority), the use of biometric data in order to facilitate the function of individualization of the European arrest warrant.

On the Schengen level exist other kinds of databases, as follows:

- ***VIS*** – is a system used for consular cooperation in internal security matters and prevent illegal operations like "buying a visa". This system enables both checks at entry points of the external borders and checks within the territories of Member States. It contains alphanumeric and biometric information, enabling their use in applying precise search criteria;

- ***EUROPOL*** - centralizes all information available in the member countries of organized crime. For any person is recorded: physical, information of identity DNA profile, fingerprints, crime for which he is registered in the system etc..

- ***EURODAC*** – is a system used to determine which Member State is responsible under the Dublin Regulation, for the examination of applications for asylum lodged in a Member State of a person from a third country. It includes biometric information (fingerprints) for comparison between asylum seekers and illegal immigrants.

For reasons of national security or public order a Schengen member country can decide, after consultation with the other Contracting Party to perform national border controls for a short period of time, depending on the situation arise. External border crossing issue is governed by Art. 3-8 of the Schengen Convention. Usually, the borders can be crossed only by specially arranged points this purpose, between hours established, Contracting Parties undertaking to impose penalties for illegal crossing of external borders outside the program or through other points than those specially arranged. The 5 Article regulates the aliens who cross the border a Schengen state. If the period of stay not exceeding three months, aliens can get approval to enter the territory of Schengen countries, only in certain conditions. By consultation with other countries, in exceptional circumstances, a Member State may accept exemptions from the common visa rules in connection with a third State where overriding reasons of national policy require a urgent adoption of a decision. The Articles from 10 to 17 explains the rules for visa approval for the case when they do not surpass a maximum of three months. The stay visas, that are considered short-term visa, can be travel or transit visas. The Article 28 reaffirms compliance by the Schengen countries without any geographical limitation, of obligations under the Geneva Convention (1951), concerning the refugees status, modified by the Protocol signed in New York (1967) and the cooperation agreements, concerning the application of these documents, with the UN Commissioner for Refugees.

Regardless of Schengen Member State, when a foreigner citizen is addressing to request asylum, only the state responding to the request. A number of articles from the Schengen Convention refer to: the procedure for receiving / taking back of an foreing citizen found out in asylum, located in the country where he submit the request; family reunification procedure, exchange of information on national legislation of the Contracting States, concerning the procedure asylum, and other statistical information that you have on asylum seekers.

Regarding to the movement of aliens in the Schengen Area Community ,the rules provide that the holder of a common visa and foreigners who do not depend on the visa requirement, have the right to stay in those 24 Schengen states maximum 90 days, on a period six months, proving that the visa is valid. When you entered on that territory, no more than three working days of the entry, declaration of arrival is required. The Article 25 regulates the issue of residence documents for important purposes (especially humanitarian or as a result of an international obligations concerning foreigners who fall under special rules for non-admission).

Police authorities of the Member States may assist one each other in actions relating to prevention and detection of crime. There is the possibility of creating structures for the exchange of information and cooperation at the level of joint police stations or centers of internal border customs cooperation. In this connection, will be improved communication links (telephone, computer, fax etc.) in the border areas and will be taken measures necessary to confirm identity with a valid document of identity. The Article 46 gives to the police authorities the right to exchange information with other countries, on its own initiative, in order to prevent crime and threats to public order. In the Convention are specified procedures regarding to the crossing border supervision and the surveilance of suspects who want to escape the identity verification by authorized national border.

Mutual assistance in civil and criminal matters can be granted by the administrative authorities in order to solve issues concerning: illegal acts can be punished by one of the two Contracting States in accordance with national law; special action and damages for instances of erroneous conviction or unjustified prosecution; clemency proceedings etc. Requests for assistance can be made directly between judicial authorities and, equally, it can return information using the same channels.

Provisions on extradition are set out in the European Convention on Extradition, in force since 13 September 1957. In accordance with this, the Schengen Member States have committed to extradite a person prosecuted by the judicial authorities of the Contracting Party making the request.

On narcotics trafficking, Schengen member states have decided to adopt: measures necessary to prevent and punish illegal traffic in narcotic drugs and psychotropic substances; confiscation measures for gathering revenue from illicit trafficking in narcotic drugs and substances psychotropic; measures for controlling the delivery of narcotic drugs and psychotropic substances. Also it mentioned the possibility that those people who are crossing the border, can hold drugs or psychotropic substances that are necessary for treatment, the condition being that every check, to produce a certificate issued and certified by a structure jurisdiction of the State where they reside.

In the Schengen Convention reference is made to harmonize of national legislation on the acquisition, possession, trade and disposal of weapons systems and ammunition as well as firearms hierarchy. In this respect, they are presented: firearms with ammunition prohibited; firearms and ammunition for which is necessary an authorization or a declaration, the conditions under which grant the authorization. Romania has aligned the weapons legislation by transposing the Council Directive no. 91/477/EEC on control of the acquisition and possession of firearms. In the Convention is regulated how to purchase ammunition and lists the conditions under which such firearms may be supplemented or amended. Its mention the possibility of making strictly laws and provisions regarding acquisition and possession of firearms and ammunition. In this context, Romania has adopted a more stringent classification of firearms through the establishment of only two categories (prohibited firearms and firearms subject to authorization), to the three categories under the Convention.

It should be noted that the non-lethal weapons (guns gas, compressed air or the array) are not subject to the regulations of the Convention, which are expressly excluded from the lists of firearms. The Article 91 of the Convention provides for exchange of information on the purchase of firearms and ammunition and the procedure by which the competent national authority sends or receives information. Nationally, IGRP, Directorate Weapons, Explosives and Toxic Substances is the competent authority designated for the exchange of information in this area.

Removing remaining obstacles to the free movement of persons within the Community was made by regulations on cooperation in justice and home affairs, contained in the Treaty of Lisbon. Through the Title VI of the Treaty, called "Area of freedom, security and justice" was

replaced Title IV on visas, immigration, asylum and other policies related to free movement of persons. This title includes chapters on border control policies, the right to asylum and immigration (Articles 62-63b), judicial cooperation in civil matters (Article 65), in criminal matters (Articles 69-69E) and cooperation police (Articles 69F-69H). The stated goal of this cooperation was to „to remove the obstacles from the way of free movement of persons within the EU and Member States to deepen cooperation in these areas."

The cooperation in matters of justice and home affairs (JHA) (the third pillar of the community structure) has covered nine areas of common interest, namely: „the granting of asylum, crossing the external borders of the Member States, migration policy, combating trafficking and drug addiction, combating international fraud, judicial cooperation in civil matters, judicial cooperation on criminal matters, customs cooperation, police cooperation ". The essential aim of JHA cooperation is preserving and extending the area of freedom, security and justice represented by the EU. Community policy JAI includes important and sensitive interests for EU citizens. Therefore, rules and regulations in this field aim at finding ways to increase confidence in the ability of Member States of the European institutions to develop and implement the relevant acquis.

In the process of EU accession, the candidate countries had to prove that they can apply in practice the relevant legislation, that till on the accession, have the administrative capacity to implement measures related to community standards. The main steps taken by the European Community institutions Community law creation in this field were:

-*The Amsterdam Treaty*, establish an area of freedom, security and justice in which the free movement of persons is ensured in the EU, such as taking action on crossing of external borders, asylum, immigration, and crime prevention;

- *European Council on the meeting from* issued in December 1998, the Action Plan of the Council and the Commission for establishing an area of freedom, security and justice.The Council warned Member States that they must pay more attention to the creation of a European judicial area, according to the Treaty of Amsterdam, which contains tools for effective cooperation and increase Europol's role as the main tool to combat organized crime;

- *European Council* on the meeting from Tampere, in October 1999, has resumed the problem of European Judicial Area (SJE) and it had circumscribed to the Community legislative framework a number of sectors, fields and methods. Later, while outside the legal status of the EU was created Schengen Area and specific regulations in this field, who were included in the EU and EC. The functioning of these institutions has resulted in stopping internal EU border controls and hence the borders between Member States;

-*Treaty of Nice* has revised some provisions aimed at closer cooperation in justice and home affairs;

- *Lisbon Treaty* contains regulations on border control, the right to asylum, immigration and judicial cooperation in civil, criminal and police.

Justice and home affairs (JHA) cooperation is achieved through three specific tools, such as: common positions, joint actions and conventions.

Common positions - through this cooperation instrument shall be determined answers to the problems and specific questions. For example, can be give the first common EU position on the definition of a refugee under the 1951 Convention and common criteria are applied in all Member States of the European Union.

Joint actions - based on this tool, it plans and carry out joint actions of Member States being achieved goals that could not be taken into account for no member state individually or on their own. In this way were adopted joint cooperation between national police departments, ministries of justice, customs control departments, but also for taking adoption of annual arrangements for refugees;

Conventions - through this third instrument of cooperation on justice and home affairs are borrowed specific instruments of international law. Adoption and implementation of international conventions proved quite difficult. For example, the creation of Europol (European Police Office) Convention from 1961 (it could not be adopted only in 1965 by the decision of all member states).

Currently, difficulties in cooperation JHA line, according to the same source (European Institute of Romania), mainly consisting of: Court limits for statutory audits only where the regulations expressly provide that right; Parliament is informed by event, although it should be consulted before the Council, the Commission has the right of initiative only six of the nine areas of common interest, delay or ineffectiveness of Council decisions because they are taken unanimously. Also, the sensitivities of U.E. on JHA are: security and border control, illegal migration and shortcomings of legal migration, organized crime, antisocial acts committed resurgence of citizens; communitarian in the new Member States within the Western community of states: Italy, Spain, France, Ireland, money laundering, police and judicial cooperation, protection of individuals with regard to processing of personal data and on the free movement of such data.

3. Conclusions

EU accession on 1 January 2007, was one of the achievements of our country internationally, being possible by adding the efforts of all key institutions of the Romanian state and Romanian citizens, who were recognized as citizens of the EU full rights of free movement, to the free movement of persons is guaranteed to all citizens of Europe;

The police authorities of Member States can assist one another in actions relating to prevention and detection of crime, possibly setting up structures for the exchange of information and cooperation as joint police stations or centers of internal border customs cooperation;

Schengen Information System, mutual operational assistance and direct cooperation through exchange of information between the police, prosecution of traffickers and border surveillance are active elements of the fight against organized crime, terrorism, human trafficking and illegal immigration;

The decision to eliminate border controls could open it ,,freeway" criminals and would increase security risks for the countries involved, issues to be tackled through effective cross-border cooperation at EU and at national level through the establishment of common services police, border police and customs (in offices, centers and contact points) in order to protect their citizens.

Analyzing processes, measures and actions taken at national level to join the Schengen area, we believe that voters received At the beginning of this year, our country should not discourage us, but take trains to step up to legitimize the accession of Romania to the Schengen area, to continue the process of strengthening the judiciary and national adaptation strategies border Security Community requirements for all three media (air, sea and land), respecting Community law consistently and effectively applying the principle of sound neighborhood relationship between Romania and neighboring countries.

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The month-of-the-year effect on Bucharest Stock Exchange

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Abstract
This study investigates the presence of month-of-the-year effect on Bucharest Stock Exchange using a both a linear regression and a GARCH-M model with dummy variables for both the mean and the variance equation. We have collected monthly returns for five Romanian official exchange indices and for one MSCI Barra country index during May 2007-March 2013, thereby including both the 2007-2009 financial crisis and the recovery that followed during 2009-2013. Our results show that none of the coefficients of the two models are statistically significant, which lead us to conclude that we can not confirm the presence of the January effect or of any other month-of-the-year effect on the Romanian capital market.

Keywords: *stock returns, volatility, seasonal anomalies, frontier markets, GARCH models*

JEL classification: G01, G14, G15

1. Introduction

The January effect is one of the most well-known calendar effects documented for the financial assets returns. Together with the day-of-the-week effect, the January effect is a frequent subject of discussion among individual investors, investment fund managers and economic researchers. All the previously mentioned financial market participants and observers are interested and intrigued by such inefficiencies that might be used or speculated in order to achieve excess returns in comparison with the risks assumed. According with most authors (both researchers and capital market professionals), during the month of January stock markets witness exceptional volatility and higher than average positive returns.

Calendar effects, which are also known as seasonal effects, are cyclical anomalies in market returns, determined by the calendar period. Apart from day-of-the-week and the January effect, other popular types of anomalies mentioned in the financial literature are the day-of-the-month effect (the hypothesis that the turn of the month is associated with returns higher than the average), the Friday effect (also higher than the average returns on Fridays), or the Thursday effect on some Asian markets, the pre-holiday effect (where average returns are higher before a holiday period in comparison with other periods), January barometer (where positive or negative returns on January are supposed to predict positive or negative returns for the whole year) and sell-in-May-and-go-away phenomenon (according to which the summer period is generally negative or stable, thus investors prefer to stay on the side-lines).

Many recent studies concluded that these effects are dependent on the development level of the market (being more present on large stock markets and less visible on emerging or frontier markets), and on the market cycle (during down trends such excess positive returns on January are less detectable, but in general they can be spotted during the years of up market trends). Also, many authors found that such cyclical anomalies are more likely to be found on market indices, or on large and well diversified portfolios, than on individual assets.

This research represents a continuation of our interest in the study of the presence of seasonal anomalies on Bucharest Stock Exchange (Panait et. all, 2013) and is focused on a wide range of indices from the Romanian capital market, which is considered by investors and international institutions to be part of the frontier markets category. The time period envisaged includes both up and down significant and consistent trends.

The rest of the paper is organized as follows: section 2 presents the most relevant Romanian and international related studies; section 3 describes the data and the methodology that we have used; section 4 presents the results obtained; finally section 5 summarizes the most important conclusions and proposes further studies in this field.

2. Literature review

Fields (1931) was one of the first researchers who investigated the presence of out-of-ordinary patterns in the intra-week financial assets returns. Fields didn't used statistical tests, but his work opened the door for many followers interested in the same field of research. A few decades later, Cross (1973) studied 40 years of daily returns for Dow-Jones and other USA indices and sustained Fields' conclusions. French (1980) continued this direction of research and was the first author to employ statistical methods in order to test for the existence of the calendar effects.

Ariss, Rezvanian and Mehdian (2011), examined the calendar anomalies in Gulf Cooperation Council (GCC) capital markets and found a statistically significant positive December effect, in contrast to the January effect documented for the Western markets.

Henker and Paul (2012) separated tax implications and market capitalization and argued that retail investors are not the cause of the January effect and other market anomalies.

Doran, Jiang and Peterson (2012) showed that the New Year's gambling preference of retail investors has an impact on prices and returns of assets with lottery features. As a result, the January call options (especially the out-of-the-money calls), are faced with higher retail demand and become the most expensive and actively traded. Also, the authors conclude that lottery-type stocks outperform their counterparts in January and at the same time tend to underperform during the other 11 months. At the same time, the authors argue that retail sentiment is (in general) more bullish in lottery-type stocks during January than in other months.

The presence of calendar anomalies was also investigated on Romanian stock market. Among others, Balint and Gică (2012) used a GARCH(1,1) model and searched for the presence of January effects both on returns and volatility of 30 individual stocks (clustered in 3 portfolios according with their capitalization) traded on Bucharest Stock Exchange during 2003-2010. The authors argued that the January effect occurred before the 2007-2009 financial crisis, but afterwards (because the share prices and liquidity decreased dramatically) the results became inconclusive.

The presence of the January effect on Bucharest Stock Exchange was also studied by Stancu and Geambaşu (2012). They analyzed the monthly excess returns (after excluding the CAPM risk adjusted expected returns) obtained during 2002-2010 by three portfolios, of ten stocks each, first clustered according with size and second with trading volumes. For both methods of computing portfolios (capitalization or trading volume), the authors found evidence of higher excess returns during January (in comparison with the other 11 months), sustaining the hypothesis of the existence of calendar anomalies.

Diaconaşu, Mehdian and Stoica (2012) researched the-day-of-the week and the-month-of-the-year effects on Bucharest Stock Exchange during 2000 and 2011 and observed the presence of Thursday effect but didn't found the presence of the traditional Monday or January effect for the whole sample period. The January effect was detected only during the pre-crisis period.

3. Data and methodology

This research was conducted on the most popular 5 official Bucharest Stock Exchange indices: BET, BET-C, BET-FI, BET-XT and BET-NG. Also, it included the standard Romanian country index (large + mid cap) from MSCI Barra. We used monthly prices for all the six indices during the period May 1st 2007 – March 15th 2013, courtesy of the Bucharest Stock Exchange Trading Department and MSCI Barra.

To eliminate the obvious non-stationarity from the data, we have transformed the price time series into return time series for all the 6 assets. According to Strong (1992), "there are both theoretical and empirical reasons for preferring logarithmic returns. Theoretically, logarithmic returns are analytically more tractable when linking together sub-period returns to form returns over long intervals. Empirically, logarithmic returns are more likely to be normally distributed and so conform to the assumptions of the standard statistical techniques." For these reasons we have decided to use logarithmic returns in our study. The computation formula of the logarithmic returns is as follows:

$$R_{i,t} = Ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right)$$

where Ri,t is the return of asset i in period t; Pi,t is the price of asset i in period t and Pi,t-1 is the price of asset i in period t-1.

As a result of this initial data gathering we obtained a data base with 6 time series of log-returns, each with 71 monthly observations.

This article builds upon the foundations laid by our previous research (Panait and Slavescu, 2012) showing that "GARCH-in-mean was well fitted on the weekly and monthly time series but behaved less well on the daily time series" for 3 Romanian stock market indices and the most liquid 7 individual stocks during 1997-2012. Also, we have previously studied the presence the day-of-the-week effect (another frequently documented calendar anomaly) on Bucharest Stock Exchange during the same period (Panait, Uzlău and Ene, 2013) but didn't found clear enough and sufficient statistically significant arguments to confirm it.

Because the conclusions many authors that were interested by seasonal anomalies state that GARCH family models often better succeed in extracting most autocorrelation and heteroscedasticity from residuals than simple linear regression models, we decided to use a GARCH-M model with dummy variables in both the mean and the variance equations:

$$R_{i,t} = \mu + \gamma_0\sigma_t^2 + \gamma_1 D_{Jan} + \gamma_2 D_{Feb} + \gamma_3 D_{Mar} + \gamma_4 D_{Apr} + \gamma_5 D_{May} + \gamma_6 D_{Jun} + \gamma_7 D_{Jul} + \gamma_8 D_{Aug} + \gamma_9 D_{Sep} + \gamma_{10} D_{Oct} + \gamma_{11} D_{Nov}$$

$$\sigma_{i,t}^2 = \omega + \alpha\varepsilon_{t-1}^2 + \beta\sigma_{t-1}^2 + \gamma_{12} D_{Jan} + \gamma_{13} D_{Feb} + \gamma_{14} D_{Mar} + \gamma_{15} D_{Apr} + \gamma_{16} D_{May} + \gamma_{17} D_{Jun} + \gamma_{18} D_{Jul} + \gamma_{19} D_{Aug} + \gamma_{20} D_{Sep} + \gamma_{21} D_{Oct} + \gamma_{22} D_{Nov}$$

where Ri,t is the return of asset i in period t; σi,t is the standard deviation of asset i in period t; μ is the average return for asset i during the investigated period; ω, α and β are the usual coefficients of the variance equation of a GARCH(1,1) model; γ_0 represents the variance coefficient from the mean equation of the model; DJan − DNov represent the dummy variables (for example DJan has a value of 1 only in the months of January and a value of 0 during the rest of the monthly observations); and γ_1- γ_{22} represent the coefficient of the dummy variable from both the mean and the variance equation of the model

Before estimating the GARCH-in-mean model, we investigated all the data series and observed that that the values for standard deviation are in all cases significantly larger than mean values. All the time series present negative skewness, excess kurtosis and "fat tails". Also,

none of the 6 time series studied are normally distributed as proven by values for the Jarque-Bera tests (see Table 1 for details, at the end of this article).

Also, we investigated the heteroscedasticity of the 6 time series, by calculating the autocorrelation (AC) and partial autocorrelation (PAC) functions, and by performing the Ljung-Box Q-statistics. In all our calculations we used a 20 period lag. We observed the presence of serial correlation in the daily squared returns for all the 6 indices but only for the first few lags, the level of autocorrelation decreasing and becoming statistically insignificant for more than 5 lags (see Table 2 for details, at the end of this article). This represents a warning that GARCH models might not be well suited for modeling the volatility of the monthly returns for the 6 indices included in our study.

4. Results

Table 3 included at the end of this article presents the values obtained for the coefficients of the GARCH-M model used to test the presence of the January effect in Romanian stock market indices. In all our estimates of the model we have used the hypothesis that the errors are normally distributed.

For all the coefficients from the two equations of the model we have obtained p-values of the Z-statistic larger than 0.10 which means that none of the coefficients of the model are statistically different from 0. This observation is valid for all the 6 indices included in our research. Also, the model's R^2 values are below 0.05 and the adjusted R^2 values are negative for all the 6 indices. The direct implication of this finding is that we cannot confirm the presence of any month-of-the-year effect in none of the 6 Romanian stock market indices that we have investigated.

5. Conclusions

In this paper investigated the January effect on monthly returns for 6 Romanian stock market indices during May 1st 2007 – March 15th 2013 using a GARCH-M model with eleven dummy variables both in the mean and in the variance equations.

Our results cannot confirm a statistically significant presence of the January effect or of any other month-of-the-year effect on the Romanian capital market indices during the investigated period. Thus, our paper confirms the conclusions of two other related studies mentioned in the literature review section, according to which although during particular periods of time the January effect might be temporary present, in the long term the Romanian stock market doesn't exhibit this kind of calendar anomaly in the monthly returns of the main indices.

The research of the calendar effects should be continued with the use other models (inclusively models from the GARCH family, especially asymmetrical models) and also by investigating the presence of other kind of anomalies such as the day-of-the-month effect, the Friday effect, the pre-holiday effect, the January barometer and the sell-in-May-and-go-away phenomenon.

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Table 1: Descriptive statistics

	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
BET	-0.00582	0.107276	-0.958486	5.126044	24.24307	0.000005
BET_C	-0.009064	0.103395	-1.0697	5.573978	33.14042	0
BET_FI	-0.012316	0.174439	-1.154278	9.450241	138.8495	0
BET_NG	-0.008159	0.103776	-1.942292	10.78877	224.1086	0
BET_XT	-0.009916	0.124629	-0.964889	6.357639	44.36844	0
MSCI_RO	-0.010582	0.132422	-1.535069	7.610886	90.77944	0

Source of data: Bucharest Stock Exchange, MSCI Barra; calculations of the author

Table 2: Estimation of the autocorrelation (AC), partial autocorrelation (PAC) and Q-statistic with 20 lags for the squared returns

	AC	PAC	Q test	p-value
RO_MSCI	-0.075	-0.014	16.003	0.716
BET	-0.063	-0.093	27.333	0.126
BET-XT	-0.043	-0.074	21.421	0.373
BET-NG	-0.016	-0.028	5.2801	1.000
BET-FI	-0.040	-0.040	14.627	0.797
BET-C	-0.052	-0.111	24.278	0.230

Source of data: Bucharest Stock Exchange, MSCI Barra; calculations of the author

Table 3: Estimated values for the coefficients of the GARCH-M model used to test the presence of the January effect

	Coeff value	Std. error	Z ststistic	p-val		Coeff value	Std. error	Z ststistic	p-val
		Mean equation					Variance equation		
MSCI Barra Romania country index									
γ_0	0.506623	2.342104	0.216311	0.8287	ω	0.013272	0.016435	0.807535	0.4194
μ	0.023236	0.161179	0.144160	0.8854	α	0.187198	0.167850	1.115270	0.2647
γ_1	-0.083400	0.173461	-0.480800	0.6307	β	0.582358	0.325559	1.788794	0.0736
γ_2	0.026351	0.194047	0.135796	0.8920	γ_{12}	0.007946	0.036645	0.216850	0.8283
γ_3	0.021464	0.163444	0.131323	0.8955	γ_{13}	-0.028754	0.020734	-1.386804	0.1655
γ_4	0.001418	0.160829	0.008816	0.9930	γ_{14}	-0.015247	0.017082	-0.892545	0.3721
γ_5	-0.100793	0.166335	-0.605962	0.5445	γ_{15}	-0.014178	0.016581	-0.855106	0.3925
γ_6	-0.035533	0.161974	-0.219374	0.8264	γ_{16}	-0.005219	0.020216	-0.258152	0.7963
γ_7	-0.015981	0.159901	-0.099944	0.9204	γ_{17}	-0.012896	0.019309	-0.667879	0.5042
γ_8	-0.055393	0.160111	-0.345965	0.7294	γ_{18}	-0.015186	0.017449	-0.870269	0.3842
γ_9	-0.090992	0.162163	-0.561114	0.5747	γ_{19}	-0.011724	0.017604	-0.666006	0.5054
γ_{10}	-0.013209	0.170088	-0.077662	0.9381	γ_{20}	-0.006554	0.019751	-0.331834	0.7400
γ_{11}	-0.079936	0.156868	-0.509573	0.6104	γ_{21}	-0.015458	0.018733	-0.825144	0.4093
					γ_{22}	-0.012593	0.017635	-0.714075	0.4752
BET									
γ_0	0.870870	2.197086	0.396375	0.6918	ω	0.008496	0.011080	0.766781	0.4432
μ	0.025313	0.085633	0.295601	0.7675	α	0.241259	0.195690	1.232863	0.2176
γ_1	-0.022009	0.095794	-0.229752	0.8183	β	0.568417	0.247614	2.295582	0.0217
γ_2	0.011156	0.102492	0.108851	0.9133	γ_{12}	-0.001622	0.020720	-0.078270	0.9376
γ_3	0.008216	0.085755	0.095804	0.9237	γ_{13}	-0.016137	0.012796	-1.261118	0.2073
γ_4	-0.028502	0.091144	-0.312709	0.7545	γ_{14}	-0.008112	0.011437	-0.709266	0.4782
γ_5	-0.116014	0.092133	-1.259206	0.2080	γ_{15}	-0.008888	0.011080	-0.802163	0.4225
γ_6	-0.030093	0.094739	-0.317645	0.7508	γ_{16}	-0.004593	0.012658	-0.362868	0.7167
γ_7	-0.002702	0.094804	-0.028503	0.9773	γ_{17}	-0.008491	0.012173	-0.697539	0.4855

γ_8	-0.044884	0.095602	-0.469486	0.6387	γ_{18}	-0.008643	0.011811	-0.731744	0.4643
γ_9	-0.057371	0.091865	-0.624518	0.5323	γ_{19}	-0.007186	0.012457	-0.576919	0.5640
γ_{10}	-0.041904	0.137512	-0.304732	0.7606	γ_{20}	-0.006271	0.012622	-0.496842	0.6193
γ_{11}	-0.067589	0.082165	-0.822598	0.4107	γ_{21}	-0.002236	0.018052	-0.123861	0.9014
					γ_{22}	-0.012549	0.013640	-0.920010	0.3576

BET-C

γ_0	-0.618761	2.667054	-0.232002	0.8165	ω	0.007979	0.009270	0.860733	0.3894
μ	0.033310	0.110407	0.301700	0.7629	α	0.231218	0.121363	1.905175	0.0568
γ_1	-0.019213	0.136508	-0.140746	0.8881	β	0.557357	0.067288	8.283125	0.0000
γ_2	0.002327	0.132850	0.017514	0.9860	γ_{12}	0.003764	0.026751	0.140714	0.8881
γ_3	0.011161	0.113672	0.098189	0.9218	γ_{13}	-0.017683	0.014601	-1.211143	0.2258
γ_4	-0.035271	0.117530	-0.300099	0.7641	γ_{14}	-0.006766	0.009568	-0.707179	0.4795
γ_5	-0.106345	0.114232	-0.930961	0.3519	γ_{15}	-0.008351	0.009315	-0.896483	0.3700
γ_6	-0.044625	0.117888	-0.378536	0.7050	γ_{16}	-0.003870	0.011118	-0.348067	0.7278
γ_7	0.006618	0.118656	0.055775	0.9555	γ_{17}	-0.006679	0.011369	-0.587480	0.5569
γ_8	-0.039772	0.117299	-0.339064	0.7346	γ_{18}	-0.008844	0.010148	-0.871541	0.3835
γ_9	-0.044773	0.114973	-0.389424	0.6970	γ_{19}	-0.007181	0.010281	-0.698486	0.4849
γ_{10}	-0.058714	0.135234	-0.434168	0.6642	γ_{20}	-0.005201	0.010574	-0.491852	0.6228
γ_{11}	-0.062211	0.111017	-0.560376	0.5752	γ_{21}	-0.001222	0.014310	-0.085423	0.9319
					γ_{22}	-0.013533	0.010841	-1.248314	0.2119

BET-FI

γ_0	0.426394	1.640796	0.259870	0.7950	ω	0.022196	0.035927	0.617813	0.5367
μ	0.008980	0.317340	0.028297	0.9774	α	0.224323	0.248666	0.902107	0.3670
γ_1	-0.004119	0.312486	-0.013183	0.9895	β	0.575569	0.394066	1.460593	0.1441
γ_2	0.037089	0.315914	0.117402	0.9065	γ_{12}	-0.023664	0.053338	-0.443661	0.6573
γ_3	0.031471	0.315526	0.099740	0.9206	γ_{13}	-0.030292	0.038264	-0.791654	0.4286
γ_4	0.011247	0.336733	0.033401	0.9734	γ_{14}	-0.020467	0.036229	-0.564941	0.5721
γ_5	-0.195858	0.309401	-0.633021	0.5267	γ_{15}	-0.011210	0.047814	-0.234445	0.8146

γ_6	0.002750	0.316486	0.008690	0.9931	γ_{16}	-0.015042	0.041377	0.363539	0.7162
γ_7	0.008164	0.316898	0.025763	0.9794	γ_{17}	-0.032170	0.037317	0.862074	0.3886
γ_8	-0.024301	0.315118	-0.077116	0.9385	γ_{18}	-0.016149	0.037890	0.426201	0.6700
γ_9	-0.007105	0.313737	-0.022646	0.9819	γ_{19}	-0.017782	0.039795	0.446843	0.6550
γ_{10}	-0.151450	0.353510	-0.428416	0.6683	γ_{20}	-0.022132	0.038741	0.571282	0.5678
γ_{11}	-0.030108	0.308862	-0.097480	0.9223	γ_{21}	0.010660	0.054374	0.196051	0.8446
					γ_{22}	-0.038649	0.044831	0.862109	0.3886

BET-XT

γ_0	1.159623	1.824165	0.635701	0.5250	ω	0.011445	0.014243	0.803542	0.4217
μ	0.014562	0.147596	0.098664	0.9214	α	0.241834	0.258662	0.934945	0.3498
γ_1	-0.027521	0.150531	0.182827	0.8549	β	0.568062	0.368241	1.542636	0.1229
γ_2	0.024046	0.154999	0.155139	0.8767	γ_{12}	-0.003768	0.024937	0.151088	0.8799
γ_3	0.028528	0.148383	0.192258	0.8475	γ_{13}	-0.020689	0.016982	1.218276	0.2231
γ_4	-0.025701	0.151198	0.169984	0.8650	γ_{14}	-0.010965	0.014751	0.743317	0.4573
γ_5	-0.144059	0.150648	0.956263	0.3389	γ_{15}	-0.011824	0.014294	0.827199	0.4081
γ_6	-0.015994	0.154828	0.103301	0.9177	γ_{16}	-0.006587	0.016189	0.406876	0.6841
γ_7	-0.003149	0.149970	0.020997	0.9832	γ_{17}	-0.012324	0.015427	0.798841	0.4244
γ_8	-0.043673	0.149992	0.291169	0.7709	γ_{18}	-0.011745	0.014994	0.783314	0.4334
γ_9	-0.044856	0.150904	0.297249	0.7663	γ_{19}	-0.008090	0.016211	0.499061	0.6177
γ_{10}	-0.048166	0.185745	0.259313	0.7954	γ_{20}	-0.009799	0.016796	0.583417	0.5596
γ_{11}	-0.059034	0.146537	0.402858	0.6871	γ_{21}	-0.000145	0.021321	0.006778	0.9946
					γ_{22}	-0.018586	0.017492	1.062561	0.2880

Source of data: Bucharest Stock Exchange, MSCI Barra; calculations of the author

Synthesis of the PhD thesis
"Anti-money laundering and counter terrorism financing management"

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Key words: Money laundering, stages of money laundering phenomenon, terrorism financing, underground economy, tax avoidance, organised criminality, drug trafficking, shell corporations, Financial Action Task Force on Money Laundering, alternative remittance systems, regulatory entities and persons, know your customers, suspect transactions, the National Office for Prevention and Control of Money Laundering, fuzzy modelling, money launderers, offshore companies.

As a whole, this PhD thesis follows three research lines, namely:
-        the conceptual line - concerns the definition of the money laundering and terrorism financing phenomenon, the processes, mechanisms, stages and instruments of the laundering of illegally obtained fund;

-        the estimative line aimed at measuring the size of money laundering phenomenon, the economic, social and security effects and consequences;

-        the line of an awareness of the need to prevent and fight against the effects arising from money laundering processes, the national and international efforts taken until present nation- and worldwide and the future measures required to diminish the consequences of this scourge.

Throughout the six chapters of the PhD thesis, characterized by a combination between positivism and normativism, our main aim was to analyze a number of controversial matters, theoretical as well as practical, regarding the anti-money laundering and counter terrorism financing management. We have tackled the issue of models used to estimate the size of money laundering and terrorism financing phenomenon, the investigating methods and techniques related to such offences, as well as the institutional and operational management applying to such situations, which impose international cooperation for preventing and fighting against the phenomena concerned.

As the field approached is relatively new in Romania as concerns the investigating activities aimed at preventing and fighting against money laundering, *the main focus* of our research is the phenomena of money laundering and terrorism financing with an emphasis on the operational, institutional and organisational management of the activities of prevention and fight against said phenomena, both at a national and international level.

The money laundering issue is complicated, be it analysed from the jurists' perspective or from the economists' one. This is why the prevention and fight against the money laundering and terrorism financing have represented and represent a topical issue within the discussions among the national institutions, as well as the international forums, entailing thus a special

interests which materializes in the theoretical approaches.

The **first chapter** underlines and analyses the concepts of money laundering and terrorism financing and approaches the money laundering as a process aimed at reinserting the illicit financial funds in the official economic and financial circuit. It also identifies the links existing between money laundering and terrorism financing and analyses the functional links between the terrorism and the organized criminality.

In order to prove the convergence between the money laundering and the terrorism financing, it is required to present the economic and financial infrastructure specific to money laundering: stages, methods, techniques and instruments, as well as to assess the importance of money laundering on terrorism financing, the direct operational support and the organizational requirements.

The role of offshore destinations and banking havens on facilitating money laundering and terrorism financing was not overlooked either.

Likewise, we propose a new definition of the concept of money laundering from the perspective of the comfort it ensures to the launderers.

The **second chapter** focuses on identifying the deficiencies of the methods of dynamic simulation of illicit financial flows and on providing arguments to support the uselessness of the official statistics in this field.

We identify the quantitative links existing between the illicit income and the money laundering by analyzing the drivers and the dynamics of the illicit financial flows. The end of the chapter is reserved to the strategies used to assess the risks related to money laundering and terrorism financing. The links existing between money laundering and the specific offences of the organized criminality, such as drug trafficking, corruption, tax avoidance, terrorism, etc. are also outlined.

The **third chapter** is aimed at analyzing the money laundering operations and the operational management of the prevention and combating techniques, emphasizing on money laundering typologies.

Approaches and opinions on the management of money laundering prevention and fight against are considered through the analysis of suspect transactions and the assessment of threats and weaknesses.

By the **fourth chapter** we seek to promote the international legislative framework governing the prevention and fight against money laundering and terrorism financing, which is studied in parallel with the internal regulations, with a view to emphasizing the differences and identifying the possible solutions that may be implemented in Romania.

We have analyzed the extent to which the international regulations are implemented in our country's legislation; whether they may be improved, as well as other measures that need to be implemented in order to combat money laundering. We have analyzed if the autonomous offence of money laundering in reference to a predicate offence should be implemented in the Romanian legislation and presented organizational structures and duties and powers of internal and international organizations and bodies aimed at preventing and fighting against the organized crime, money laundering and terrorism financing phenomenon.

We brought arguments supporting the need of an internal and international consistent legal system which may provide efficient measures to prevent and fight against the phenomenon of money laundering and terrorism financing.

The fifth chapter contains a critical analysis of the National strategy for the prevention and fight against the money laundering, as well as of the national investigating system aimed at preventing and fighting against money laundering.

We propose a model based on the fuzzy logic intended to measure the size of the illegal financial flows (and implicitly of money laundering), which generates a value corresponding to the scope of this phenomenon as related to the size of the Romanian underground economy.

The idea of this model came after outlining the issue of weaknesses with direct impact on the financial discipline, and implicitly of the tax avoidance, which is in the Romanian financial system the main source of illicit income and also one of the most common, simplest and most effective schemes of money laundering.

The **sixth chapter** contains a summary of the personal conclusions, opinions and proposals set out in the work and seeks to outline the methods whereby the management of prevention and fight against money laundering and terrorism financing may be revived in Romania.

As a documentary basis for drafting this PhD thesis, statistics and studies were examined, as follows from the quoted bibliography comprising 157 references.

In terms of methodology, this thesis was drawn up mainly based on traditional research methods, relying on analysis, summary, induction and deduction, analogy and comparative analysis. Where permitted by the nature of the topics approached, mathematic and statistical methods, fuzzy modeling, as well as the graphic representation of the events and processes under investigation were used.

The period of documentation for this work ended roughly in 2011.

The innovative nature of the PhD thesis is given by:

1) Definition of the money laundering concept from the perspective of the comfort it ensures to the launderers.

The money laundering offence seems thus to be a set of activities, methods and techniques, whereby the goods obtained as a result of one or several predicate offences are subject to a dissimulation process in order to acquire a certain colour of law and to be more easily put into circulation so as to lose all track of their origin.

In our view, money laundering is the process whereby an offender seeks to hide or dissimulate the illegal origin of the unlawful profits and/or goods in order to make sure that he may benefit from the comfort ensured by the consumption or investment thereof in the legal economy.[1]

2) Personal considerations on the economic and financial infrastructure of the money laundering: stages, methods, techniques and instruments.

We experience an increase in the professionalization degree of money laundering operations as a result of the use of bankers, financial experts, lawyers, notaries, etc., leading thus to a transfer of this activity from the persons who gain illegal profits (smugglers, forgers, traffickers, etc.) to persons who are acquainted with the financial and banking mechanisms and may assure the success of these operations.

The money laundering process does not go compulsorily through all the three stages settled; the layering stage is removed in some cases, compressing thus the process in order to reduce the costs and increase the laundering speed.

After having analysed several operational aspects of the money laundering process, we came to the opinion that in terms of the stages crossed the reporting entities are not subject to the same stages. For instance, the banks, non-banking financial institutions and casinos are used for placement and layering purposes, while the notaries public, real estate agents, etc. are used for integrating the unlawfully obtained goods in the official economy.

3) Analysis of the gaps existing in the integrated system of strategic information management.

It is extremely difficult to estimate the size of the financial means of the organised crime

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[1] Personal definition

(the volume of money laundering) mainly due to the lack of adequate data, both nationally and internationally. Why are the official statistics so useless? One of the causes of this situation is the states' lack of unity and transparency, for not having implemented any integrated system of strategic information management. A significant improvement of the procedures used for collecting and supplying the adequate data regarding the effects of the suspected and/or proven offences, as well as the frequency of occurrence of the money laundering offence in different criminal environments is required.

4) The improvement of the operational management of the techniques aimed at preventing and fighting against money laundering and terrorism financing may concern the following:
   - The government authority must be of a senior level (by using the adequate financial and tax mechanisms, such as costs and risks of taxing penalties) in order to sustain the decrease of criminality and to encourage the reporting of unusual transfers.
   - A proper mechanism for the capital and financial markets should be created in order to implement a complex supervision.
   - Control of corruption in the public sector.
   - Extension of the financial and audit control to the economic activities as well in order to become transparent and prevent the tax avoidance.
   - Creation of a force of "intervention" in the tax field in order to fight against the money laundering (Tax Interpol).

5) The improvement of the institutional and organisational management of money laundering prevention and counter terrorism financing at a national and international level
   We deem that the organisational structure of ONPCSB is not efficient from an operational point of view or as regards the dissemination of the relevant financial information. This is also due to the fact that the Office Plenum, the decision-making body, has a heterogeneous composition and may not make at all times operative decisions to keep pace with the course and dynamics of the money laundering phenomenon from Romania.
   Likewise, the claims received by ONPCSB from the reporting entities, as well as the impact and financial analyses drawn up by the employees of this institution are submitted to the competent courts of law very late, long after the suspected actions of money laundering are committed. This makes it practically impossible to identify the persons involved, to prove the criminal activities, and implicitly, to correspondingly punish the launderers.
   We deem that it would be advisable to set up within ONPCSB an operative department, gathering professionals from the Prosecutor's Office, Police, Intelligence Services, etc. Only thus it will be possible to obtain concrete and proven results in due time, since the time is of essence in identifying the offenders involved in operations of money laundering and terrorism financing, and the success of damage recovery would be tremendous.
   As we showed throughout the work, the money laundering operations are anonymous, fast and highly complex. That is why we consider that the preliminary administrative procedure must compulsorily take place as quickly as possible as related to the time when the money laundering offence is committed. Moreover, we deem that in certain situations the habilitated bodies should be notified immediately upon the receipt of the reports regarding suspected money laundering transactions.
   In our opinion, the excess of secrecy displayed by the units specialising in information collection and analysis should be eliminated. This could guarantee the operative use of such information.

6) Identification of the ways whereby the management of prevention and fight against

money laundering and terrorism financing could be revived in Romania

Assuming that the underground economy is the source of money laundering processes, we sought to find a method for measuring the size of money laundering starting from the illegal financial flows in Romania. Therefore, we placed the proposed estimation model among the ones aiming at the underground economy and estimated the money laundering contribution to the sizing thereof.

There is a wide range of offences that entail illicit profits, but according to public information, in Romania the tax avoidance is the most important source of illicit income in the economic money laundering cycle.

We have proposed to design a model based on the fuzzy logic which enables the "quantification" of money laundering (illicit financial flows). We initiated this approach assuming that the tax avoidance, as a criminal predicate for money laundering, is the main source of manifestation of this phenomenon in Romania. Likewise, we deem that a positive association exists between the causal variables of the tax avoidance and the size of money laundering. According to the results obtained by us, amounts ranging from 5.49% of GDP (RON 28,257 million in 2008) and 7.76% of GDP (RON 40,550 million in 2010) are laundered in Romania. The results are comparable to the data provided by the National Institute of Statistics.

Of course it is impossible to determine if the solution provided is correct and consistent with the reality, as due to its nature, the money laundering features a highly uncertain evolution. Despite this, we deem that the fuzzy technique herein described may be an acceptable alternative to the analyses based on regression equations.

Efficiency of economic development models

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Abstract

The world economy is becoming increasingly integrated. Integrating emerging economies of Asia, such as China and India increase competition on the world stage, putting pressure on the "actors" already existing. These developments have raised questions about the effectiveness of European development model, which focuses on a high level of equity, insurance and social protection. According to analysts, the world today faces three models of economic development with significant weight in the world: the European, American and Asian. This study will focus on analyzing European development model, and a brief comparison with the United States. In addition, this study aims to highlight the relationship between efficiency and social equity that occurs in each submodel in part of the European model, given that social and economic performance in the EU are not homogeneous. To achieve this, it is necessary to analyze different indicators related to social equity and efficiency respectively, to observe the performance of each submodel individually. The article analyzes data to determine submodel performance according to social equity and economic efficiency.

Keywords: economic development; social justice; economic performance; European economic model.

JEL Classification: O11, E37

1. Introduction

Jacques Delors invented the term "European Social Model" in the mid 1990s to designate as an alternative to American capitalism. The basic idea of this model is that economic and social processes must go hand in hand, in other words, economic growth is combined with social cohesion. There are three key dimensions that characterize European socio-economic model and are reflected in different ways in a variety of European countries: accountability, regulation and redistribution.

European model is not only socially, as they influence production, employment, productivity, growth and competitiveness of the economy and thus have the ability to cope with external shocks and challenges of globalization. Taking into account all these factors, we call this model as one socio-economic and not just a social one. In addition, given there are many different performance of European social models of efficiency and equity: the Nordic model, the Anglo-Saxon, Continental, Mediterranean and more recently appeared "catching-up".

Northern sub-model is the model of European social-democratic and based on a high level of social protection expenditure and ensuring the universality of social assistance. Countries can be ascribed to this development model (Denmark, Finland, Sweden and the Netherlands) are characterized by strong social dialogue and social partners close cooperation with the government, the unions involved in the economic.

Anglo-Saxon sub-model is a model of liberal capitalism in Europe (Ireland and UK) and emphasizes individual responsibility for themselves. Since the labor market is not regulated, there is strong competition in the market. Social transfers are lower than in other countries, more targeted and better "tested".

Continental sub-model (Austria, Belgium, France, Germany and Luxembourg) is European capitalism model and it is based on employment and labor as the basis of social transfers. These transfers are financed by contributions from employers and employees. Social partners play an important role in industrial relations and wage bargaining is centralized. In addition, submodel is characterized by involvement of banks in financing projects in the medium and long term, with a more stable workforce and a stronger focus on the social protection system, although it can be noted an insufficient volume of investment in training and retraining processes of labor.

Mediterranean sub-model (Spain, Portugal, Italy and Greece) is characterized by low social transfers, families still play an important role in providing security and shelter, unions and employers are important to the decentralized bargaining for wages and working conditions. Employment rate is low, especially for women. In addition, social spending is more concentrated for allocation pension. Welfare system is moving towards employment protection and early retirement provisions to exempt certain segments of the workforce from labor market participation.

As for "catching-up" model, it consists of the new Member States of Central and Eastern Europe (CEE) - former socialist states. This submodel includes the following countries: Czech Republic, Poland, Hungary, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Romania and Bulgaria. There is heterogeneity within this submodel, because although these countries climb a transition to a developed market economy, there are differences in terms of national systems. Some countries (Slovakia, Hungary) offers more social protection through increased costs and other (Baltic States) prefer to remain at a low level and choose the stimulation of catching from other countries, promoting a similar tax the Anglo-Saxon model. Countries in this submodel recorded growth rates, which is characteristic of less developed economies, which led to a polarization of income[2].

Thus, some countries in this submodel can be closer to the Anglo-Saxon (Baltics and Slovakia), low level of social protection expenditure, low taxes and redistribution, others may be closer to the continental (Slovenia and Czech Republic) - higher taxes and redistribution and a strong link between social transfers and the employment rate, and Poland, Romania and Bulgaria have similar characteristics to those of the Mediterranean model, characterized by an average level of spending on social protection, high levels of inequality and low rates of labor employment. In addition, countries are divided into two groups: Visegrad countries (Czech Republic, Hungary, Poland, Slovakia) and Slovenia on the one hand, and on the other hand are economies that implemented flat tax: the Baltic countries, Romania and Bulgaria.
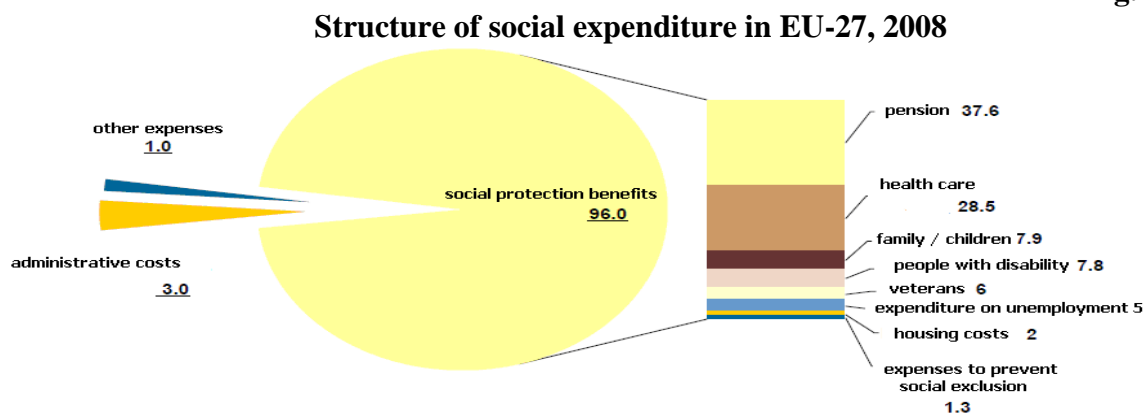
2. Social equity analysis
Social spending

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[2] Burghelea, C., *The Sustainable Development Model*, Theoretical and Applied Economics, Volume XIX (2012), No. 5(570), pp. 125-136

Social expenditures are benefits provided by public institutions (and private) to households and individuals in order to assist in the event of circumstances that might affect the welfare, given that granting these benefits and financial contributions is not a direct payment for a specific good or service, nor is an individual contract or transfer[3]. Social expenditures are often used as instruments for measuring the welfare state. Clearly, a more comprehensive social security requires more resources. These costs are included pensions, health, family and children, unemployment and avoid social exclusion (see Fig. 1).
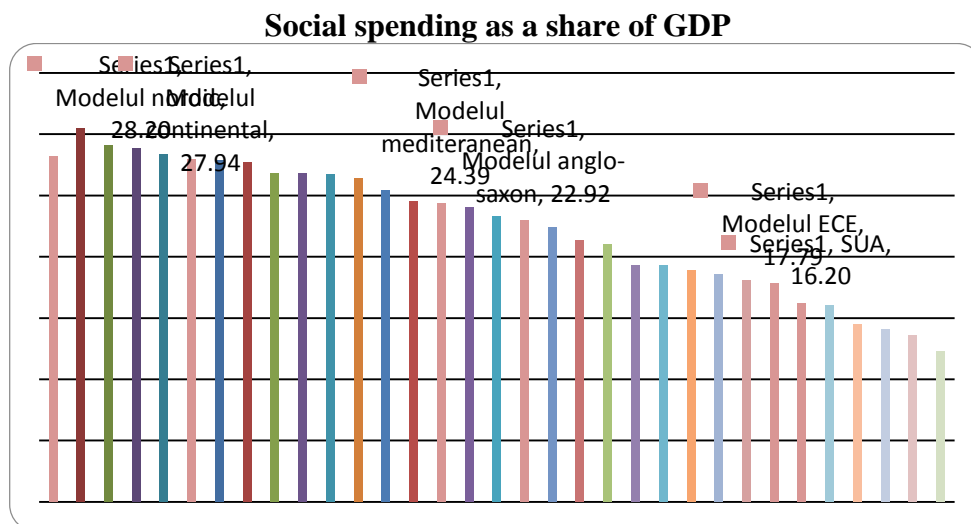
Fig. no. 1

Structure of social expenditure in EU-27, 2008

other expenses
1.0

social protection benefits
96.0

administrative costs
3.0

pension 37.6

health care
28.5

family / children 7.9

people with disability 7.8

veterans 6

expenditure on unemployment 5

housing costs 2

expenses to prevent
social exclusion
1.3

Source: www.eurostat.ro

Differences between countries in the level and distribution of social spending are partly related to the level of economic development, but also their diversity related to social protection systems, demographic trends, economic exposure to external shocks of globalization, aging, unemployment rates, and other economic, institutional and social (see fig. no. 2).

Fig. no. 2

Social spending as a share of GDP

Series1,
Modelul nordic,
28.20

Series1,
Modelul
continental,
27.94

Series1,
Modelul
mediteranean,
24.39

Series1,
Modelul anglo-
saxon, 22.92

Series1,
Modelul ECE,
17.79

Series1, SUA,
16.20

Source: www.eurostat.ro. Sub-models values were calculated based on the weighted average of the countries.

As can be seen, the Nordic model has the highest amount of social spending, allocating approximately 28.19% of the GDP, followed by continental submodel with 27.93% of GDP.

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[3] Definition from www.oecd.org

For these two groups, France (30.5%), Sweden (29.1%) and Denmark (28.8%) had the highest amounts allocated for social policy. Anglo-Saxon sub-model countries (22.93%), Mediterranean (24.38%) and CEE (17.78%) spend less of GDP on social protection, although these values are still high if you compare with United States , which allocates 16.2% of GDP on social policy. Submodel economies in Anglo-Saxon labor markets are flexible; unemployment benefits are lower, leading to further reduction of life to work and long-term unemployment. Thus, given the low costs for pensions and unemployment total expenditure for social policy are lower than for other regions. Continental and southern countries are characterized by a high share of expenditures for the elderly. This reflects their weak participation on a new type of labor market and the possibility of early retirement in these countries. In the Mediterranean countries, there are still gaps between pension systems, giving more public workers and workers who have full time contract type of large private enterprises. In addition, the state's distributive role puts less emphasis on young segment of the population. Young people who are still learning and trying to look for work receive very little support from the state, as well as for families with young children. On the other hand, the Nordic countries allocate a much larger share of families. Moreover, in most Nordic countries are made available to support maintenance income youth. As CEE sub-model (submodel new member) you can see that it has the lowest value allocated to social spending: 17.78% of GDP. This is explained by low amounts granted pensions and health care. In addition, given the catching-up process of the Baltic countries, Romania and Bulgaria, they will be able to increase their budget for social policy only when it will reduce the income gap with the EU-27, currently they focus more heavily on economic growth, increasing employment and reducing black economy.

3. Reducing poverty

One feature of the European social model assumed by the Lisbon Strategy is the social cohesion which implies inequality of income distribution, the number of individuals affected by poverty and social exclusion. Thus, the ability of social policy to reduce the risk of poverty is proof allocation efficiency of social spending in the economy. Thus, as the country seems more advanced, the social security budget has more resources to support the poor and the poverty rate and income distribution inequality should decrease. Also in this paper, it is noted that less developed economies tend to increase income inequality, high rates of economic growth leading to a polarization of income. Long-term growth (e.g. retraining) will help reduce structural unemployment (people with low qualifications) and will thus lead to a reduction in inequality. In other words, economic growth is driving the reduction of social inequalities and poverty rates, without that social spending would increase social security budget deficit. So, fig. no. 3 captures differences in income distribution inequalities in European sub-models.

Fig. no. 3

**Inequality of income distribution**
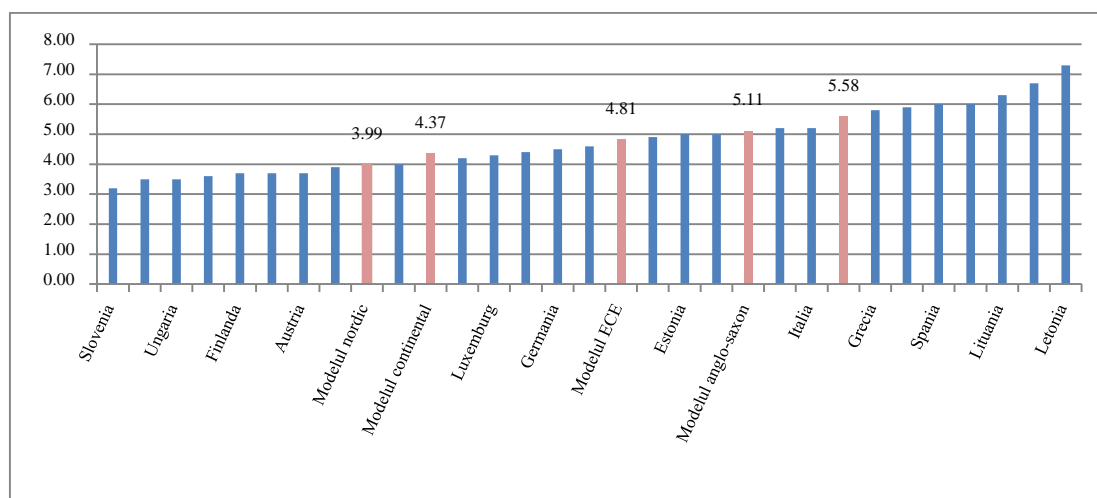
Source: www.eurostat.ro

In terms of inequality of income distribution in 2009 (calculated as the ratio between the amounts of income of the richest 20% and the poorest 20%), we can see that the fairest is the northern submodel (3.9) with redistribution effect through taxes but more resistant and transfers, followed by continental (4.37) and CEE model 4.8. The most unequal are the Anglo-Saxon model (5.10) and the Mediterranean (5.5). It is interesting to see that CEE submodel seems competitive for Anglo-Saxon sub-model bud also from south sub-model. Moreover, it can be seen that the first four countries with the lowest rates of inequality of distribution submodel part of CEE economies within it there so comparable to the Nordic model: Slovenia (the most egalitarian economy EU) 3.2, Czech Republic and Hungary had same value 3.5 and Slovakia 3.6. To analyze differences between sub-models over the incidence of poverty rate will be used the following indicators: risk of poverty rate before social transfers, the poverty risk rate after social transfers and an indicator of the percentage reduction in poverty rates after social transfers granted. Risk of poverty rate before social transfers is calculated as the share of persons with an income equivalent available before social transfers, which is below the calculated risk of poverty after transfers. Pensions are calculated as income (before social transfers) and not as transfers. This indicator examines the hypothetical non-existence of social transfers. EU-27 in 2009 one installment of poverty prior to social transfers amounting to 25.1% and 16.3%, the difference consisting in effect of social policy pursued by each state. Submodel which recorded the lowest poverty rate before transfers is the southern (23.65%), but on the other hand, after redistribution has the highest poverty rate value of 18.86%, which means that the benefits are not distributed fairly between individuals (see fig. no. 4).

Fig. no. 4

**Poverty rates before and after social transfers**
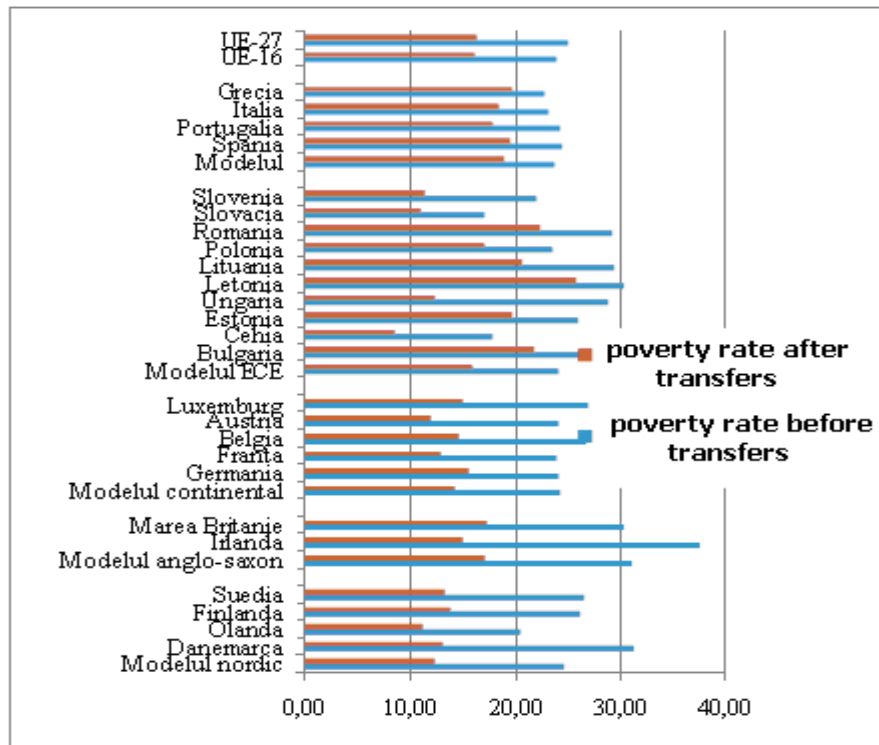
Source: www.eurostat.ro

Regarding the incidence of poverty by redistribution (measured as a percentage of people who have disposable income under 60% of the average national income), the Nordic countries are the best with a poverty rate of 12, 3%, followed by model countries Continental (14.3%) and the CEE model (15.9%), due to the values obtained from the Visegrad group countries. Thus, the Anglo-Saxon (17%) and southern (18.8%) has the highest poverty rate values. For a state to be effective there should be an inverse correlation between the share of social spending in GDP and poverty rate after social transfers (excluding pensions). This correlation is verified by the Nordic model, which has generous social transfers that reduce the poverty rate. The same applies to the continental countries, with a rate two percentage points higher than the Nordic countries. However, it can be seen that this correlation does not apply submodel CEE countries. Thus, it can be seen that they show a lower poverty rate model and the Anglo-Saxon south about 1-3 percentage points, with results comparable to those of the Nordic model. That means that increase social spending is not a binding instrument to reduce the rate of individuals who are below the poverty line. It is assumed that the economy is subject to a sustainable rate of growth and its benefits are shared fairly between individuals, then there will be an improvement in social cohesion, without the need to increase budgetary resources redistributed. Therefore, the Anglo-Saxon and Southern have the lowest efficiency of redistribution systems, since these are the largest share of individuals below the poverty line. On the other hand, the efficiency of social spending is calculated and compared to the reduction in poverty. Effects of social transfers can be highlighted by comparing poverty rates before and after granting them (fig. no. 5).

Fig. no. 5

Reducing poverty as a result of redistribution
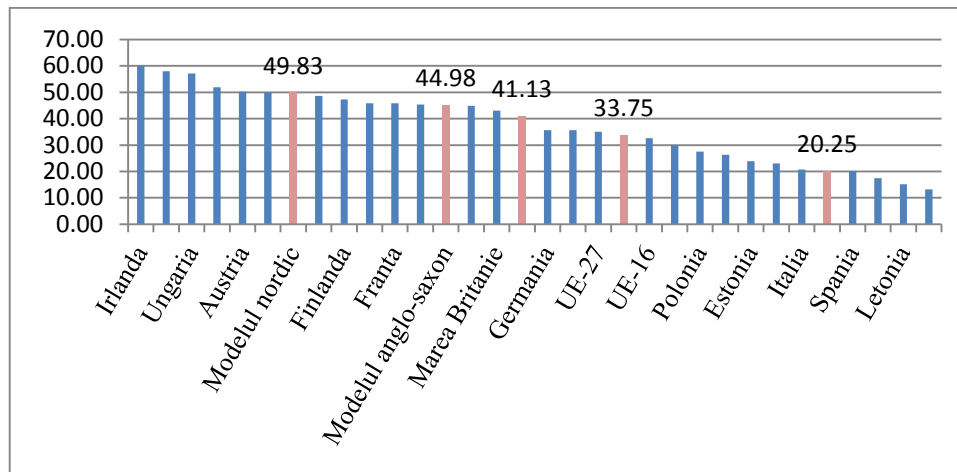
Source: www.eurostat.ro

It can be seen that the Nordic model is the most effective social protection system, recording a 49.8% reduction in the poverty rate (from 24.6% to 12.3%). Although Anglo-Saxon submodel showed a high poverty rate, in 2009 managed to reduce the poverty rate by 44.9% (from 31.05% to 17.08%). Although this exceeded the continental submodel, from which expected to decrease further given that the poverty rate is lower, the value of this submodel is explained by the result of poor social security system in Germany (which accounts for 50% of GDP this submodel) reducing the poverty rate from 24.1% to 15.5%. The social system of the continental submodel damages the need to search of a job, resulting in maintenance of high unemployment to Anglo-Saxon countries (Dinu & Marinas, 2005). The CEE model is more efficient from this point of view towards the south, since it allocates fewer resources to social policy and decreases in greater poverty rate. As southern submodel in 2009 he held the highest poverty rate of 18.86% is the least powerful reducing the poverty rate of only 20.24%.

4. Protection against labor market risks

In terms of protection against labor market risks, this objective is the protection against labor market risks, which may be provided by applicable law employment (against dismissal) and benefits provided by unemployment[4].

Thus the differences between the two systems are: EPL[5] system protects those who already have a job and does not impose any tax burden, while UB[6] provides insurance general population and is usually financed by a levy placed on the working. Thus, those who prefer stable work EPL insurance system instead of UB. Since both systems are designed to achieve a common goal, there is a compromise between them. With a generous unemployment insurance system will reduce restrictions on dismissals and vice versa. In the figure below (see fig. No. 6) can see that EU countries have chosen different systems to protect people against unemployment.

Fig. no. 6

Unemployment rates in short and long term

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[4] Molănescu, G., Aceleanu, M., I., *Consequences of the Budget Deficit in the Current Crisis in Romania. Implications on the Labor Market*, Theoretical and Applied Economics, Volume XVIII (2011), No. 2(555), pp. 59-74

[5] Abbreviation for „Employment Protection Legislation", indicator for labor flexibility measurement

[6] Abbreviation for „Unemployment Benefits"
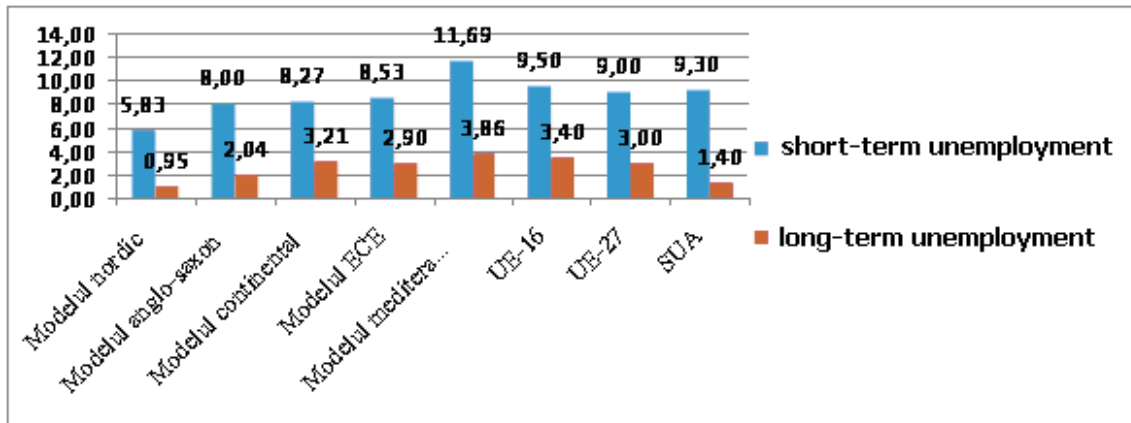
In terms of short-term unemployment, it can be seen that in the European sub-models, the north has the lowest rate of 5.8%. It is followed by the Anglo-Saxon submodel (7.9%) and Continental (8.2%). The CEE and Mediterranean recorded the highest values of short-term unemployment: 8.5% and 11.6% respectively. Analysis of the five sub-models in order starting with the northernmost performance. This submodel is characterized by 'flexicurity', i.e. large amounts of unemployment assistance and less strict employment legislation, increased labor flexibility, and greater social security. At the opposite, southern countries have very strict legislation on employment, and a low level of support for unemployed people. Continental countries are characterized by strict laws against dismissal but also through generous financial aid for unemployed people. Regarding the Anglo-Saxon countries, it gives little protection both employment and unemployment. The effects of these measures are shown in Figure 6 by long-term unemployment; their efficiency is much higher as long-term unemployment (longer than 12 months) is below. Nordic countries recorded the lowest rate (0.94%) and Southern countries highest (3.86%). In the case of the CEE (2.9%) recorded lower values for long-term unemployment than those that are part of the continental model (3.2%) as the Visegrad countries began to reduce unemployment benefits. Analyzing the U.S., it can be seen that recorded in 2009 a short-term unemployment to 1.4%. The U.S. is unique in that in addition to reduced employment protection granted (resembling Anglo-Saxon) and unemployment benefits are extremely low. Therefore, the American model offers less risk insurance on the labor market and the European model, on the other hand, much more. In other words, the European model is based more on a UB, providing more social security and insurance American model more labor market, as evidenced by the low incidence of long-term unemployment.

5. Conclusions

Employment rate of labor is closely related to economic performance[7]. In addition, one of the goals adopted at the Lisbon strategy was the employment rate of the working population is greater than 70%. It can be seen that the Nordic countries show the highest rate of employment (75.7%), followed by Anglo-Saxon countries (74.8%). The new member countries holds third place in the labor market participation with a share of 69.3%, and continental and Mediterranean countries have significantly lower rates of employment (65.5% and 65.4%).

Particular attention should be attributed to labor force participation of women, older people and young people. Female labor force participation varies in the five sub-models of development: the Nordic countries have the highest rate of female participation in the labor

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[7] Crăciun, L., *Viitorul şi noua faţă a economiei*, Economie teoretică şi aplicată, Volumul XIX (2012), No. 1(566), pp. 65-72

market (71.6%), followed by Anglo-Saxon countries (67.3%). Sub-models with the lowest rates are the southern (57.7%) and the new member countries (55%). Provisions of public services (e.g. childcare) and increasing part-time jobs largely explain the female labor participation rate in the Nordic countries and the marketisation of household services (low-wage jobs) explains the high rate Anglo-Saxon countries. As the working age population between 55-64 years, employment is high in Nordic countries (60.4%) and Anglo-Saxon (58.1%) than the mainland (45.5%), southern (49 3%) and the new member countries (37.7%). On the other hand, for most Southern countries and the CEE sub-model of the labor market is still not regulated education systems are not effective, promote high taxes on workers, which discourages the creation of new jobs. U.S. efficiency can be seen in terms of employment rate (60.6%) being higher than that for the EU-27 (47.6%).

If young people between 15 and 24 years, as expected, the models and the Anglo-Saxon north have the highest employment rates (48% and 58.10%), values are explained by the fact that there are places part-time work more, allowing young people to continue their studies but also to work. In this chapter, the lowest values are recorded rate submodel CEE and Southern (30% and 38% respectively).

Social models that are not fair can be very well sustainable, and this is demonstrated by their effectiveness. These reforms need not be supported by changes related to social justice. Moreover, it is possible to reform higher efficiency can trigger a change in the equity. In conclusion, it is important to take place in the labor market reforms and European social policies, especially in the continental model, Mediterranean and the new member states.

Europe should consider a change by initiating reforms. This change could be a difficult one, with many obstacles and opposition from some groups, particularly the attitudes and institutions have deep roots in historical traditions, political and intellectual. However this change is important given that Europe should face competition from other superpowers, become more productive and therefore more competitive. European model of development could become a role model and other states and, why not, to decide the direction of globalization.

Europeans are aware of the social assistance system feasibility, the impact of competition from Asia, demographic pressures caused by migration coming from Eastern Europe and North Africa, the emigration of the best students and researchers in Europe for the United States. However, European leaders instead join forces to solve these problems, promising "protection" - protection from Chinese imports, protection of cultural diversity that comes with immigration, technologically superior protection for American companies, protection of workstations higher education, protect rich farmers, notaries public, the unemployed, the poor. All these issues need to be addressed if the EU wants to become a development model as a model of globalization and also to compete with other major players: the U.S. and Asia on political and economic scene. Thus, proposed the following urgent needs in Europe: the liberalization of markets for goods and services, liberalization of labor, research and development, immigration, fiscal and judicial systems and the cost of doing business.

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The complexity classification of intangible assets

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Abstract
This paper tries to solve the complex problems of arising in the definition and delimitation of the intangible assets. Over time the technology develops and resizes continuously and along with it redefine in a very short time the theoretical and practical concepts of the economy. From the economic point of view an asset can be defined as a resource controlled by the enterprise as a result of past transactions or investments, and which is expected to generate future economic benefits. Intangible assets are the most important economic resources of an entity because in terms of their analysis of the technical, material and financial – of her evolution over time and the ability of continuous development. The main purpose of this article is to analyse the research carried out for the purposes of the definition and delimitation of intangible assets.

Key words: intangible assets, economic value, complexity, intellectual capital, new economy, intellectual property

1. Introduction

Thanks to continuous development and resizing technology, theoretical and practical concepts of economics are redefined in a very short time. Because of this intellectual work products are the ones that prevail for each nation.

Elements such as: scientific and technological research, education, sophisticated software, advanced telecommunications and finance, have become key sources of labour tomorrow, but nothing is more important than organization of self – knowledge.

From the economic point of view an asset can be defined as a resource controlled by the enterprise as a result of past transactions or investments, and which is expected to generate future economic benefits.

In accordance with the Institute of Chartered Accountants Approved (ICAA) in Canada, the assets are considered to be economic resources over which the company exercises control as a result of the operations, and other facts that are likely to provide future economic benefits to the entity.[8]

Intangible assets are the most important economic resources of an entity because in terms of their analysis of the technical, material and financial – of her evolution over time and the ability of continuous development.

The emergence of these items is due to the need for rating, accounting and the capitalization of intangible items ideal – in the form of patents for invention, trademarks, designs, copyright, franchisees, software, etc., or in the form of some elements in the direct market competition as well as the process of research-development, quality management, etc. (Cristian Silviu Bănacu – "intangible assets, intellectual property rights theory and practice assessment –", Editor Economic Tribune, Bucharest, 2005).

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[8] Ion Anghel, Sorin Stan, "The evaluation of intangible assests", page 17, Ed. Iroval, Bucharest, 1998

So those assets can be renamed as a resource of any organization or business entity. They are also called "intangible", "invisible", "intellectual" or "intangible", pointing out the existing knowledge in its various forms among the human capital.

Currently, intellectual capital and intangible assets are the key factor in the profitability of the company, are fundamental to success. In the new economic competition, knowledge assets provide a sustainable competitive advantage.

In today's economy (intangible assets) is based on intellectual capital and raw materials are knowledge and information.

The most exciting part of the theme being addressed is the connectivity between intangible assets and intellectual property.

Intellectual capital of an organization is formed by the human capital (its employees know - how) and its capital structure (organization and intellectual property).

The main components of intellectual capital are human capital (which is the potential value of the intangible assets of the company) and intangible assets and intellectual properties. Good management of human capital may create intangible value for the company.

Tabel no.1

Intellectual capital and its major components [9]

The potential intangible value	The intangible value	
Human Capital	**Intelectual activity**	
► Experience ► Know – how ► Abilities ► Creativity	► Programmes ► Inventions ► Data bases	► Metodologii ► Documents ► Graphics, design
	Intelectual property ► Patents, copyright ► Brands, tradesecrets	

2. Related studies

The term "assets" can be presented from the point of view of both the accounting and assessment work firms. For this reason we can define these intangible assets both in the light of International Accounting Standards, The Financial Reporting Standards, but also in accordance with International Valuation Standards.

As it is presented to us in OMFP 3055/2009 for the approval of the Accounting Regulations compliant with European directives, fixed assets shall comprise those assets intended for use, for a period longer than one year, generating future economic benefits, in order to improve the activities of the economic entities.

Future economic benefits arising from an intangible asset represents the ability to contribute, directly or indirectly, to the cash flows or cash equivalent to the entity (Treasury assets) and may be in the form of cost savings or revenue from the sale of goods or services.

An intangible asset is an identifiable asset, monetary used without physical support in the usage of production or supply of goods or services, to be rented out to third parties or to use

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[9] Ion Anghel, Sorin Stan, ''The evaluation of intangible assests'', Ed. Iroval, Bucharest, 1998

for administrative purposes. (OMFP No. 3055/2009, Section 8.2, paragraph 72) It is an integral part of the fixed assets and can be expressed in the formation expenses, expenses for research-development, concessions, patents, licences, trademarks, computer software etc.

In accordance with IAS 38 – Intangible Assets, an intangible asset is an economic good monetary, identifiable, without physical substance-intangible assets.

The identifiable is justified by the existence of legal and contractual rights, having an economic value and must meet the following conditions:

   a) to be able to bring economic benefits;
   b) resulting from previous events and be permanently under the control of the entity;
   c) cost of the asset to be properly identified;
   d) easily separable and non-transferable.

The severability refers to the ability of some categories of intangible assets to generate revenue. This feature is beneficial for sales, purchases, exchanges, or developments in economic evaluation.

Functionality and the intangible assets highlight is achieved with the help of the class 2 accounts of the general plan of accounts, entitled accounting for fixed assets.

They are divided into three groups as follows:

   ✓ Group 20 – Intangible assests, including the following accounts : 201 Formation expenses, 203 Research and development expenses, 205 Concessions, patents, licenses, trademarks and other similar, 207 Commercial estate and 208 Other intangible assets .
   ✓ Group 28 – Depreciation for property.
   ✓ Group 29 - Provisions for depreciation of the fixed assets.

3. Boundaries on research of intangible assets

The present research on intangible assets has sparked multiple controversies, becoming a challenge for economic thinking, and sparked a keen interest in the business.

Due to the complexity of dealing with the issue of the definition of intangible assets and their evaluation can be classified into four areas of major interest, shown schematically in Figure 1.

Figure No. 1

The complexity of the intangible asset approach
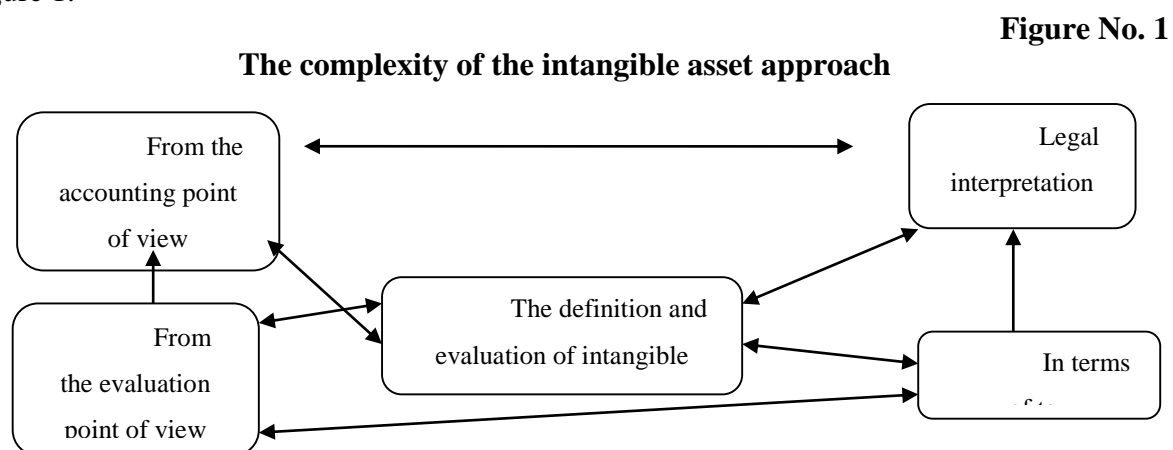
Source: Ion Anghel, Sorin Stan, "The evaluation of intangible assests", page 16, Editor Iroval, Bucharest, 1998

   a) Through accounting, we find ways of presenting and recording financial information to users, who will refer to this type of asset.

b) Legal Interpretation should be the first criterion of the intangible assets, because justice is one which defines and regulates the defence and protecting ownership of such property elements.

c) Intangible Assets are directly involved in the implementation of the companies ' profits and therefore taxation was forced to find clear means of taxation of such financial operations – accounting.

d) Evaluators have always debated the issue of interlink age between the business and the value of intangible assets. Thus the assessment standards and business properties, specific information can be found about the goodwill or intangible assets individualized about.

International Committee for evaluation - IVSC through the general standard of practice in evaluation – GN 4, defines the intangible assets as assets that are highlighted by their properties, not having physical substance.

According to IAS 38 "intangible assets" – an intangible asset is a actively monetary, identified, material, without physical substance with economic value, which is contained in a legal and contractual rights.[10]

Intangibles include all economic values of investment that does not dress up the physical form of the material goods, used in your own organisation or entrusted to third parties to be used by them.[11]

Even if they don't dress up a concrete material form, intangible assets are valuable to a company and can be critical to the success or failure in the long run.

For example, an international renowned company like Coke Cola, would not be as profitable if the brand name would not have been recognized all over the world.

Another example just as valuable intangible property, the row is "Barbie Doll" that along with the entire system material built around the property, valued at $ 2 billion.

In many Member countries of the Organisation for economic cooperation and development, investing in more intangible assets increased significantly.

In the vision of this organization, intangible assets relate to the assets or property of knowledge or intellectual capital.

A first classification of this organization shares the intangible assets into three groups:
- ✓ computerized information (software and databases);
- ✓ innovative property (such as copyright, designs or models, trademarks, and scientific research and development and unscientific);
- ✓ economic competence (including our own brand, firm specific human capital aspects of advertising and marketing, networks linking individuals and institutions and organisation of know-how, which will increase the efficiency of enterprises).

4. Classification of intangible assets

According to OMFP no. 3055/2009 for Regulating the European Directives, intangible assets are classified as follows:

a) formation expenses;

b) development expenses;

c) concessions, patents, licences, trademarks and similar rights and assets, except those created internally by the unit;

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[10] International Financial Reporting Standards, Practical Guide,page 379, Editor Irecson Institute, Bucharest, 2007

[11] Mihai Ristea, Corina Graziella Dumitru, Corina Ioanăş, Alina Irimescu – "Accounting companies „ - vol. 1, page 250, Editor Universitară, Bucharest, 2009.

d)   goodwill;
e)   other intangible assets;
f)   advances to suppliers of intangible assets;
g)   intangible assets are included in course of execution.

According to IAS 38 "intangible assets" are recognized as the following components:
a)   development expenses;
b)   patents, licenses, trademarks acquired;
c)   other similar values, including copyrights and other intellectual property rights;
d)   concession received;
e)   positive and negative goodwill acquired;
f)   other intangible assets.

The International Valuation Standards Committee - IVSC through the general standard of practice in evaluation – GN 4, classifies intangible assets as followed.
a. Assets deriving from rights (franchise agreement);
b. Assets based on relationship (with clients, suppliers, distributors etc.);
c. intangible assets grouped (super profit reported assets identified);
d. Intellectual Property (patent, trademark, industrial property objects).

TEGoVA - European Group of Values Associations, using the European Evaluation Standard of GN 8.12, classifies intangible assets as followed:
 1. Goodwill – your business or intangible assets unallocated;
2. Goodwill – personal;
3. Identifiable Intangible Assets for business.

These standards are under consideration and other intangible assets of the business such as:-aggregate labour force and qualified;
-favourable contracts;
-contracts or agreements of affiliation;
-favourable lease contracts;
-favourable insurance contracts;
-contracts of employment;
-non-competition agreements;
-customer service;
-allowed;
-technical libraries and collections of newspapers;
-other intangible assets.

In accordance with the "Guide and transfer rates for multinational enterprises and tax administrations" of the Organisation for Economic Cooperation and Development - OECD can make the distinction between technological and intangible assets. Technological intangible assets are based on the ability of an entity to produce goods or provide services, and the marketing is based on the company's relationship with its potential market and trade.

Table No. 2
The structure of a company's intangible property[12]

		TECHNOLOGICAL INTANGIBLE ASSETS	MARKETING INTANGI ASSETS
UNDERLYING ASSET		tehnology product knowledge the ability of employees • management ability the management system information system computer programs	• reputation credibility bank standing customer lists distribution network contracts relations - partnership
INTELLECTUAL PROPERTY RIGHTS	**Registered** **Unregistered**	• patents • models, drawings • copyright	• brands • trade name • franchise
		• know – how informations • manufacturing secrets • improvement projects	• market informations • infornations about clients • comercial strategies

The table shows that technology encompasses the business carried out basic assets shall be based on the existing relationship on the market which have arisen as a result of commercial potential. Intellectual property rights are considered to be a special category of intangible assets. They can be so registrable, legally protected, having a high potential of being traded on the market, as well as non-registered companies can bring profit but are not directly marketable.

Along the way the OECD changes this accounting classification under the following form:

I. From the identifiable criteria we have:

✓ intangibles identifiable (can identify separately): franchise, trademark, copyright, patent, etc.;

✓ Non-identifiable intangible assets separately (you can identify the default nor evaluate): goodwill or goodwill.

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[12] Ion Anghel, Sorin Stan, "The evaluation of intangible assests", page 43, Editor Iroval, Bucharest, 1998

II. In accordance with IFRS 3 "Business Combinations", identifiable intangible assets acquired in a business combination may be in turn identified the following classification:

A. intangible assets in the field of marketing.

1. The trademarks, service marks, collective marks and certification marks;
2. Domain names of the Internet;
3. Patterns (colour, shape or unique packaging);
4. Headlines;
5. Agreements (clauses) of non-competition;
1-5: intangible assets arising from the contractual and legal rights.

B. intangible assets related to customers

6. Customer lists;
7. The portfolio of orders and production are still outstanding;
8. Contracts with customers and related relations;
9. Non-contractual relationships with customers;

C. Intangible assets related arts

10. Drama, Opera and ballet performances;
11. Books, magazines, newspapers and other literary works;
12. Works such as musical compositions, texts of songs, commercials;
13. Paintings and photos;
14. Video and audio, including cinema films, music videos and television programs;

D. Intangible assets relating to contract

15. Licenses, copyrights, and novation agreements;
16. Advertising contracts, construction, management, service or supply;
17. Rental/leasing contract/lease;
18. Building permits;
19. Franchise contracts;
20. Operating and broadcasting rights;
21. Rights of use such as: mining, water, mouse over, logging and road clearance;
22. Service contracts, such as contracts of mortgage services;
23. Contracts of employments which are advantageous to the employer in the event of a contractual wage set lower than market wages;

E. intangible assets technological

24. Patented technology;
25. Computer programs and integrated circuits;
26. Non-proprietary technology;
27. Database;
28. Trade secrets, such as formulas, procedures, secret recipes.

All of the intangible assets from the contractual and legal rights form part and items 7, 8, 28, and those listed from 10 to 25.

Items 6, 9, 26 and 27 are intangible assets that come from a different category of rights and retain the character of severability, fits the definition of intangible assets.

III. After the acquisition that can be internally or externally, we kept in mind that the acquisition may concern a particular asset or group of assets.

Intangible assets may be heritage through the purchase, by the effort of the company.

IV. In relation to the expected period of benefit which may be undefined or restricted (by law or the contract between the parties, human factors or economic, etc.).

V. Separability and trading criteria classifies intangible assets into : intangible assets that may or may not be sold or transferred.

According to United States Accounting Standards FASB (Statement of Financial Accounting Standards) since 2001[13], intangible assets are classified as follows:

1. Intangible assets relating to the business of marketing;
2. Intangible assets associated with the consumer;
3. Intangible assets associated with artistic activities;
4. Intangible assets associated with the contracts;
5. Intangible assets associated with the technology;
6. Goodwill (goodwill or reputation of the person or business).

The Brooking Institution in the United States classifies intangible assets into three categories[14]. The classification is made according to the control of the assets and the possibility of the sale of their assets. Thus we have:

a. Assets that are controlled by the organisation owning and which can be sold individually (invention patents, trademarks, copyrights);

b. Assets that are controlled by the organisation owning and which cannot be sold individually (research-development projects unfinished, specialized technological processes, specific management techniques);

c. Assets that cannot be fully controlled by the owner (the educated labour force).

5. Conclusions

Analysing all classifications presented to identify advantages and drawbacks depending on the manner in which they were drawn up.

Note that the most important are the approaches of International Accounting Standards, international financial reporting Standards and the International standards and assessment.

However, you don't have to take any opinion advice companies, mostly because they offer us solutions gained through continuous practice.

Therefore any specialist you should take into account all the opinions obtained from the analysis of the definition, recognition and classification of intangible assets and take the model that has the most items in support of the arguments discussed in the research.

Factors such as the perpetual and permanent development of the technology and the operational versatility of the enterprise will always emphasize the many concepts of defining and ranking of intangible assets.

We have to be always one step ahead of technology.

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6. IAS 38 - "Intangible assets" .

7. IFRS 3 – „Combination of enterprises" .

8. intangibleassets.blogspot.ro

9. www.osim.ro

10. www.oecd.org

The application of multi - agent systems in the field of transport

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Abstract
This paper describes the application of multi-agent systems for improving the transport networks. The growth of international traffic has created new problems in managing the passengers flow. Complex systems are needed to improve the management of transport companies that require new ways for finding solutions on improving their costs such as applying new methods and technologies. The main question that is addressed in this paper is: can the performance and economic status of the transport companies be improved by using multi-agent systems? In order to respond to this question I have presented in this article the main strategies that are used in the present for improving transport systems and a personal interpretation of these strategies.

Key words: information systems, multi-agent systems, intelligent transport, innovative concepts

JEL Classification: A11, D84, L91, L96, M11, N70, Q40 and R42

1. Introduction

The multi-agent based methods that are used today by the transport companies and economic environment consists in practical applications that help improve these domains. If, initially, the agent-based systems were applied in areas such as: production, process control, telecommunications systems, air traffic control, transport and road traffic management, e-commerce, business management, health care, etc., today more and more new areas of applications are addressed in order to introduce the multi-agent systems. Gradually there were improved not only the systems and methodologies but also the techniques and tools that are used to create and implement them in practical fields. Philosophy and methodologies based on multi-agents systems have a tremendous impact not only on artificial intelligence and its applications, but also to other sciences and fields of application.

Luck, M.s.a. (2001) shows that the influences and applications of MAS[15] and methods are classified in three main categories:

1) systems and methods for the design of complex distributed computing systems;
2) source of technology for the development of virtual systems;
3) models of real complex systems.

Multi-agent systems are very similar, from many perspectives, to a living organism – they are continually evolving, transforming and are permanently reinvented. The reasons behind these deviations are related with the economical context that is changing year over year.

2. The challenges that the multi-agent systems are facing

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[15] MAS – multi agent system

"A new approach: open systems - represent the most important application for multi-agent systems"[16]

Multi-agent systems can tackle problems that have multiple methods of solving different issues, multiple ways to structure or ways of problem solving, as in the case of distributed systems. The multi-agent systems have the advantage of resolving distributed and competing matters, but also the complex ways of the interaction representation. Interaction refers to cooperation, coordination and negotiation skills.

The multi-agent systems represent one of the most reliable approaches for supporting the development of new applications in many fields of the transport sector such as: industrial shipment, road traffic, transport management, rail transport, passenger and cargo transport, artificial intelligence present on all modern vehicles, etc.

To meet all of these challenges that the MAS are facing I propose Figure 1 and Figure 2 to resolve all the communicating conflicts that intervene beside 2 or more systems that are working together and interact with the external environment which is influencing the "working agents".
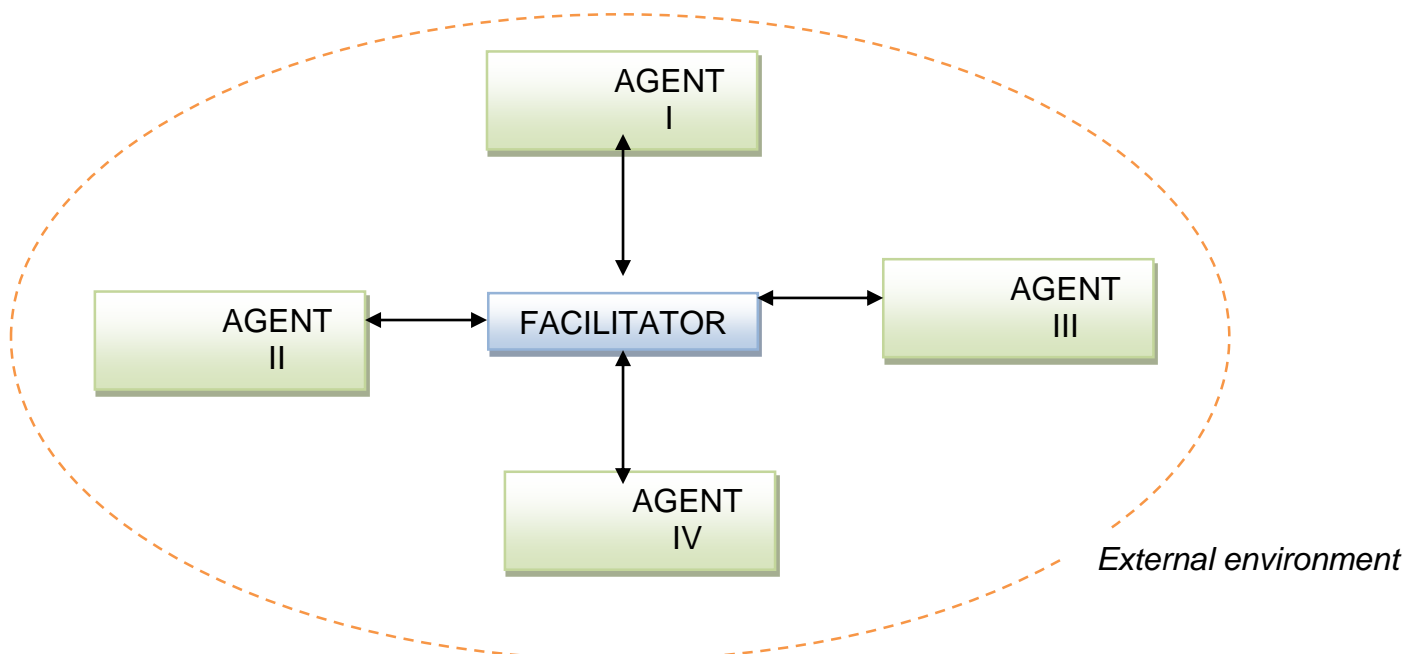

Figure 1: New model of a multi-agent system based on the traditional scheme
Source: Balint A. O., Proposed model, 2013

All the multi-agent systems depend on a facilitator agent (main agent), which collects all the data from the "working agents", interprets it and sends back to the agents new commands on how to interact with the external environment (Figure 1).

The main purpose of the facilitator is to collect all the data from the agents which can work all in the same time and in this way the costs are reduced considerably but most importantly the time in which they can react can be reduced in a very considerably manner. The interaction with the external environment is made only by the "working agents" after "talking" with the facilitator.

The novelty item that is retrieved from the above presented figure is represents by the fact that without a proper and well establish communication channel between all of the

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[16] M. Wooldridge, N. R. Jennings, and D. Kinny, "A Methodology for Agent-Oriented Analysis and Design," presented at Proceedings of the Third Annual Conference on Autonomous Agents (AA-99), Seattle WA USA, 1999

"working agents" and the facilitator, the external environment cannot be influenced by a multi-agent system and in this way the transport systems will be no longer operable at a full capacity.
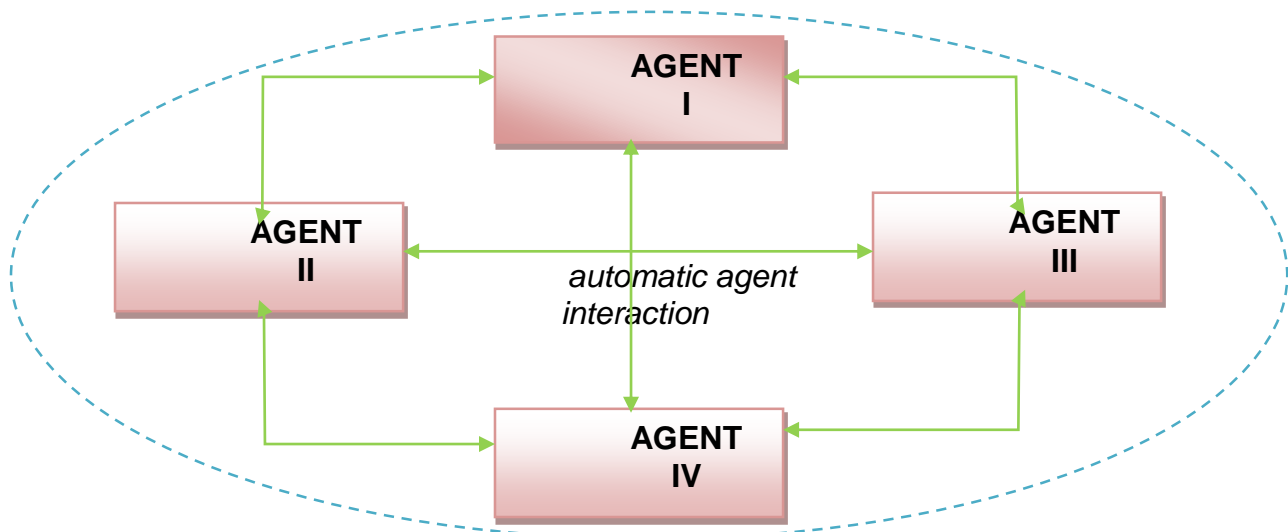

Figure 2: New model of a multi-agent system working scheme
Source: Balint A. O., Proposed model, 2013

In Figure 2 I present an improved model of a multi-agent system compared to Figure 1. The element of novelty from this proposed scheme is represented by the interaction between the agents, which do not need any other moderator (or facilitator as is named in figure 1), who can "communicate" between them directly and more easy without the risk of losing any important information on the way.

All of the agents should be working separately but in the same time they have to collaborate one with the other to interact with the external environment.

3. The issue of a multi-agent system

Multi agent systems are commonly used in the design of new software systems which are based on a stimulus-response system. A MAS shapes an interactive scheme through a collection of specialized agents that produce and react to any type of stimuli that exist within the system.

Multi-agent systems, models an interactive system through specialized computational units called agents. An agent has a knowledge base and is able to initiate or respond to any type of actions.

A multi-agent system can be viewed as an evolving system in which each agent is engaged in a self-employed activity. In a multi-agent system, each agent operates, in theory, independent of the existence of any other agents. MAS are very useful tools for modeling distributed information systems with an interaction synchrony or asynchrony.

MAS theory is a logical consequence of the desire to develop intelligent systems. Currently, there is a methodology that allows a method of analysis, specification, design and implementation of a multi-agent system. For the full specification of a multi-agent system is necessary to define internal knowledge and behavior of agents and mode of interaction with other agents which coexist in the MAS. In the multi-agent system, the "agent's" intentions may be defined as a goal to be attained in the implementation of a set of actions. The "knowledge"

(know-how) of an "agent" is the ability or potential to execute an action or a set of actions and at the same time exudes intelligence as a result of the results obtained.

The key issues that regularly appear in the design and implementation of the MAS are:

- how should we decompose, formulate, describe and allocate the main issues that appear when implementing MAS and how to synthesize the results offered by the intelligent agents?
- when and how the intelligent agents will communicate and interact one with each other?
- how to ensure that the agents will take and implement the right decision?
- in what manner will the action plans of a company be influenced by the agents?
- How will the MAS be design and build regarding the methodologies and technologies that are constantly changing?

The optimal combination between the current studies, based on MAS and the construction of a production and distribution entity, is to be able to offer at the right time, the most effective solutions to the most complex problems. From this perspective, I believe that this is only a first step on solving the key problems that the multi-agent systems encounter and we have to manage them with consistency and stability.

4. Conclusions

The multi-agent systems have become in the last decades a key factor in the development of the intelligent transport systems. By using a MAS we can improve the quality of services provided by companies which are supporting the development of new technologies.

Traditional methods that are applied inside the companies around the world cannot face the challenges of the XXI century and need to be permanently improved, develop and reinvented so that we can benefit from the progress of new technologies such as the multi-agent systems.

The proposed models (figure 1 and 2 presented in the second paragraph) have the meaning of resolving the current problems that multi-agent systems are facing. By using these schemes inside the transport companies on a small or large scale the communication between one or more "agents" can be reduced considerably therefore I consider that is necessarily to implement a new way of communication between "agents" and multi-agent systems.

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