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C O N T E N T S

ECONOMIC AND SOCIAL DIMENSIONS OF SUSTAINABLE DEVELOPMENT IN THE EUROPEN UNION

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Abstract. *These below lines chose to develop the larger sustainable development topic through the social-economic dimension, which is just a part of the entire. There will be first concept exposure, then observation throughout the first and half decades of 2000s. Eurostat's calculation methodologies and statistics were helpful for the EU area. Conclusions of our below analyses might further deepen on either the other sustainable development's dimensions, or on explanatory indicators.*

Keywords: *development, regional development, sustainable development, types of regions, Euro- regions*

Jel Classification*: I31, I32, J21*

1. Headline indicators of sustained development

More than 130 indicators have been identified as headline indicators, and among them: real per capita GDP, growth rats, resource productivity, persons at-risk-of-poverty and social exclusion, employment rate of older workers, healthy life years and life expectancy at birth ,the same by sex, greenhouse gas emissions, primary energy consumption, energy consumption of transport relative to GDP, official development assistance as share of gross national income… These are intended to work out an overall picture explaining how much the European Union has really performed progress in terms of sustainable development objectives and identifying strategy targets for. In order of a more complete picture, it is necessary to look at the dynamic of all indicators within a theme, e.g.: socio-economic development, sustainable consumption and production, social inclusion, demographic changes, public health, climate change and

energy, sustainable transport, natural resources, global partnership, good governance[1].

2. Sustainable socio-economic development

This is a basic element of the EU's sustainable development corresponding strategy. This strategy sets out the objective of promoting a prosperous, innovative, knowledge-rich, competitive and eco-efficient economy providing high living standards and full and high-quality employment throughout the European Union. By promoting a prosperous, innovative, knowledge-rich, competitive and eco-efficient economy that provides high living standards and high-quality employment, socio-economic development aims to harmonize the three main **pillars of sustainable development:** economic development, protection of the environment and social justice.

Gross domestic product (GDP) is the best-known measure of macro-economic activity and is seen by some scholars as a proxy indicator for societal progress. However, by design and purpose, this indicator cannot be relied to inform on all policy-related issues and its deficiencies as a measure of well-being have either been increasingly recognized. GDP stays closely related to a number of issues highly relevant for economic development, such as employment or R&D[2] investment. Reflecting changes in consumption and production patterns, the GDP growth is equally linked to the resource use and climate change, especially when not matched by similar increases in resource efficiency.

The economic dimension of socio-economic development is analyzed in view of investment, disposable household income, net national income and household saving. Investment directly affects the economic prosperity since contributing to capital accumulation and to capital goods, physical capital or the same as knowledge**.**

Disposable household income is an important means for achieving higher living standards, so is crucial for pursuing the social objectives of sustainable development**. Household saving** also has an important role, in ensuring resources and opportunities to share fairly between generations. It determines the amount of financial resources available to invest in improving the stock of productive, natural and human capital.

An economy's capacity for **innovation, competitiveness** and **eco-efficiency** is analyzed through indicators on R&D, labor productivity, eco-innovation and energy intensity. **R&D expenditure,** through its links to education, innovation, employment, labor productivity and economic growth is crucial for the prosperity and competitiveness of EU economies..

[1] Some details of socio-economic development will be discussed below, with afferent factors.
[2] Research and development (R&D).

Labor productivity is, in its turn, an important determinant of an economy's future competitiveness and long-term economic growth.

Sustained economic growth, however, if not counterbalanced by eco-efficiency improvements, can damage the natural environment, thus significantly affect well-being in the long run. Also, economy's energy intensity is important in this respect due to that it highlights progress in the decoupling of economic growth from environmental degradation.

Employment is essential for the well-functioning and competitiveness of economies. Rising employment can help society to become more inclusive by reducing poverty and inequality in and between both regions and social groups. In contrast, high and persistent unemployment can lead to social exclusion, degradation of individual skills and increased poverty, which in turn slows economic growth. Young people are particularly vulnerable to weak economic conditions. Improving their education and employment opportunities is key to social inclusion and the sustainability of our economic systems.

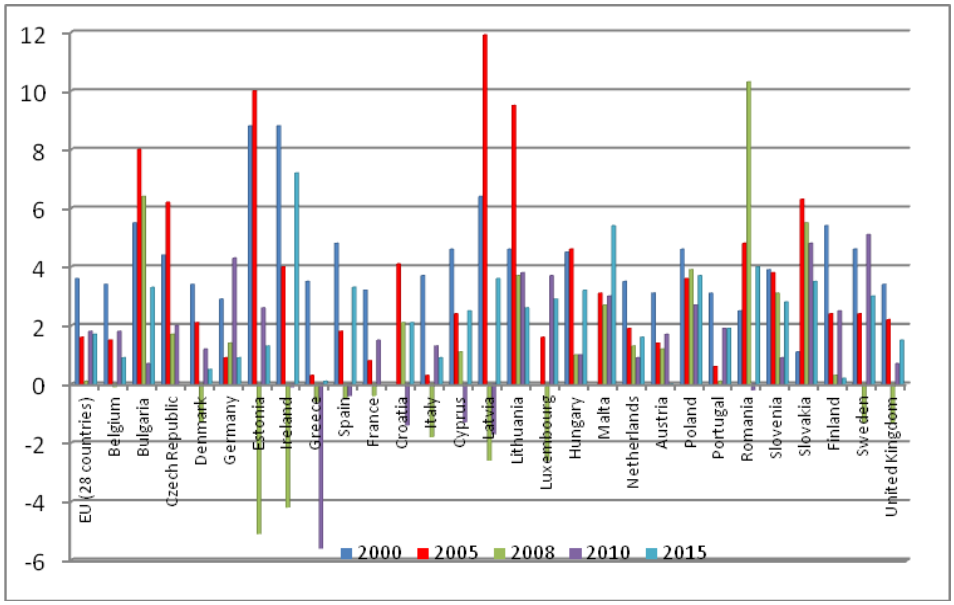
3. Real developments in the area.

3.1 Per capita gross domestic product (GDP)'s evolving

Recent changes in real per capita gross domestic product GDP indicate some fragile recovery under way. Real per capita GDP in the EU area continuously grew at a 2.2 % a year rate on average along the 1995-2007 interval. This trend reversed when the economic crisis in late 2008 and in 2009 a 4.7 % GDP decline was recorded. This was the highest one-year drop of the past two decades. Then, the more recent developments tried to be different. Between 2009 and 2011, real per capita GDP raised again, up to a moderate 1.6 % per year on average rate. Then, between 2011 and 2013, economic activity met a new decrease of 0.8 % a year, before returning to positive growth in 2014.

As the same for the interval between 2000 and 2014, the real per capita GDP grew by 0.9 % a year on average, which is an upward long term trend. In the short term, since 2009, the average annual growth rate has been slightly lower at 0.7 % due to the protracted effects of the economic crisis. It should be noted that real GDP per capita has developed differently across EU Member States. Some national economies, particularly the ones that had accumulated large macroeconomic imbalances before 2008, have been more exposed to effects of the crisis and so experienced larger drawbacks in 2008-2009 and 2012-2013 intervals. Other national economies have concomitantly shown less affected (see also Figure 3.1. /1).

Figure 3.1/1. Real GDP per capita, growth rate*
Percentage change on previous year, EUR per inhabitant

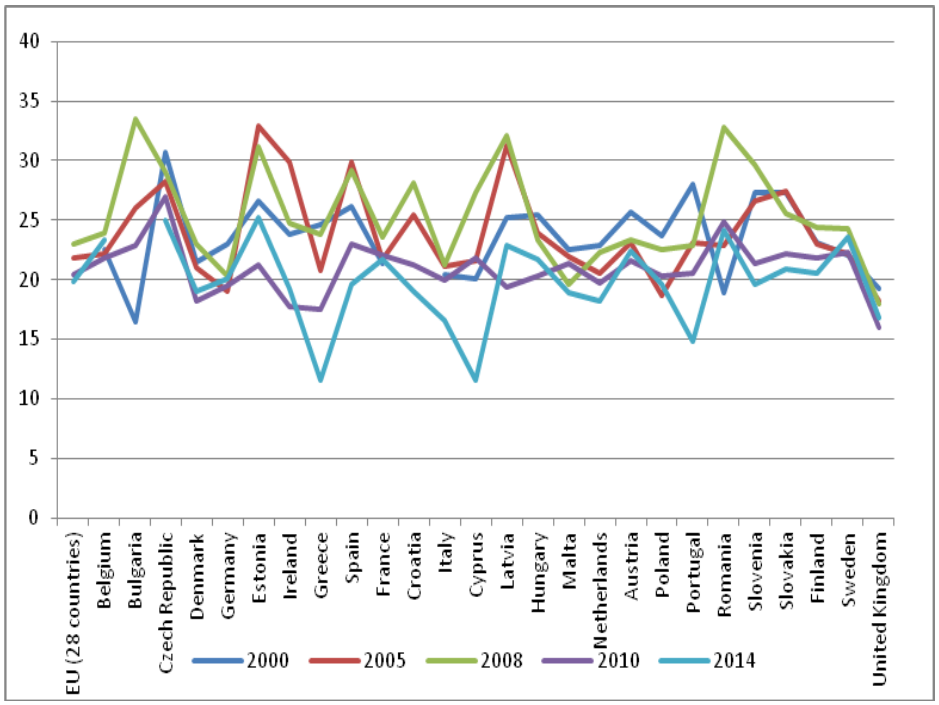


Data source: *Eurostat*

3.2 Developments of investment by institutional sectors in GDP percentages

It seems that the part of GDP used for total investment in the EU (Figure 3.2/1) has closely followed the economic business cycle. Between 2002 and 2007 investment grew continuously, reaching a peak of 23.0 % of GDP in 2007. Since the economic crisis of 2008, however, the indicator met a downward trend. Over the long-term 2002- 2014 period, it fell by almost two percentage points, i.e. 21.7 % - 19.8 %. This was mostly due to a steep fall in business investment in 2009 and to a decline in household investment. Total investment was further reduced by a decline in government investment during the 2009-2014 intervals. Note that total investment had been improving in most EU countries before the crisis. Romania, Latvia and Estonia were the strongest performers, increasing their investment as a share of GDP by ten or more percentage points between 2000 and 2007. However, as a result of the crisis total investment was halved in Cyprus, Greece and Ireland and was strongly reduced in Spain and Portugal. Loss of investor confidence was also strong in Slovakia, Lithuania and Latvia.

Figure 3.2/1 Total investment*(% of GDP)

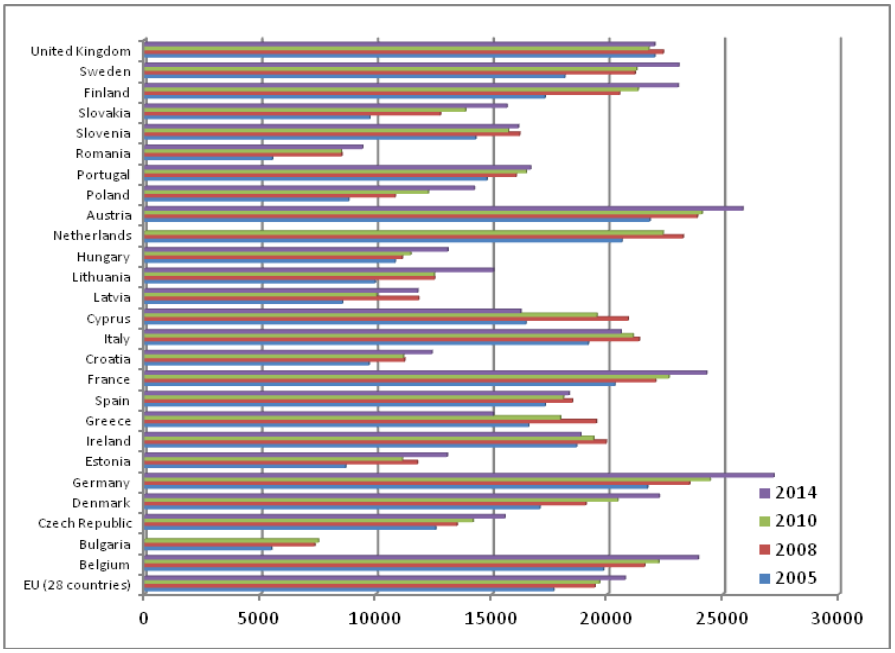


Data source: *Eurostat*

3.3 Households' proper related real adjusted per capita gross disposable income

As belonging to households, this indicator refers to the income available to households for spending and saving after paying taxes. It includes social benefits and social transfers in kind -- goods and services provided by the government, such as education and healthcare. In the long run, disposable per capita household income in the EU expressed in purchasing power standards (PPS) has increased markedly, from 16,366 PPS in 2003 to 20,307 PPS in 2013. Progress was slower in from 2008 to 2013, due to effect of the economic crisis on labor market conditions and social spending. This short-term slowdown in growth put more people at risk of poverty and social exclusion and has increased the long-term unemployment rate.

Figure 3.3 Real adjusted gross disposable incomes of households per capita*

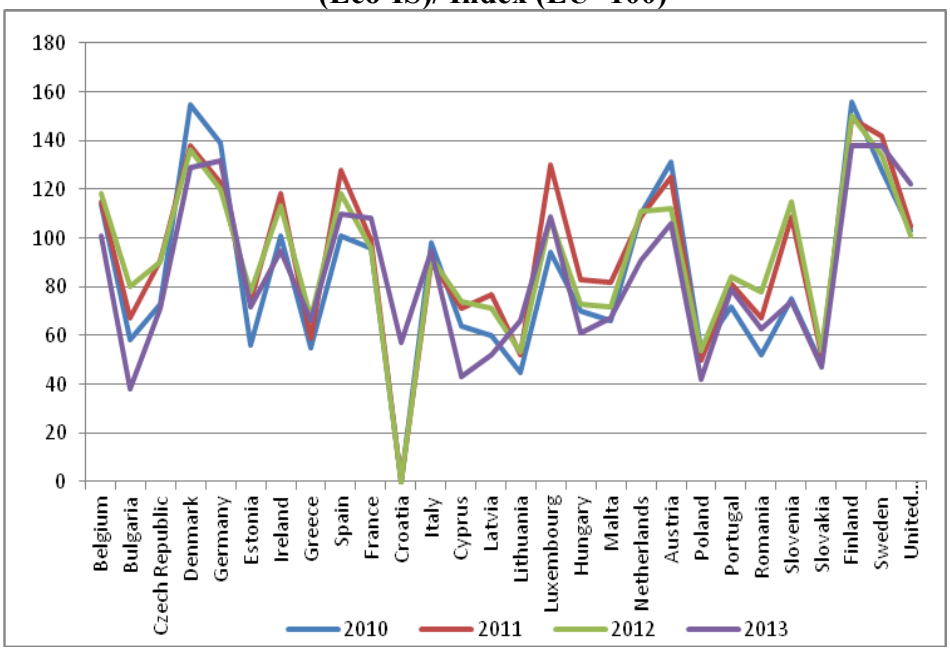


Data source: *Eurostat*

3.4 Eco-innovation

Eco-innovation refers to development of new or significantly improved products (goods and services) or organizational practices that reduce the use of natural resources and decrease the release of harmful substances throughout the entire life cycle. It plays an important role in addressing environmental challenges without compromising economic and social objectives. Eco-innovation brings new products to the market, contributing to economic activity and job creation. The eco-innovation index shows how well individual Member States perform in eco-innovation compared with the EU average. It is based on 16 indicators in five areas: eco-innovation inputs, eco-innovation activities, eco-innovation outputs, environmental outcomes and socioeconomic outcomes.

Figure 3.4 Eco-innovation index*/The Eco-Innovation Scoreboard (Eco-IS)/ Index (EU=100)



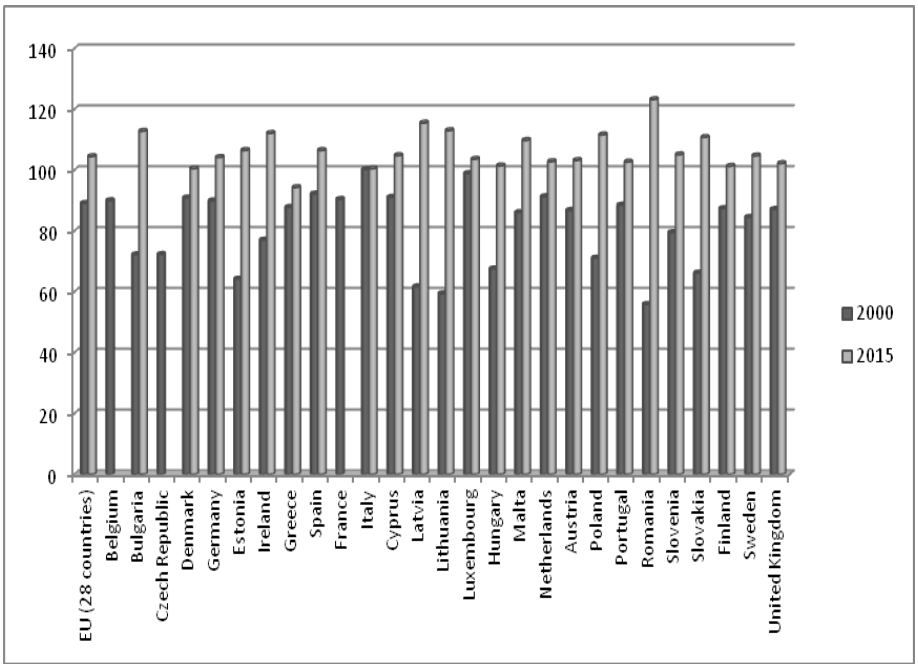
Data source: *Eurostat*

3.5 Labour productivity

Seen as the output of workers per hour worked, labor productivity in the EU increased continuously between 2000 and 2007. This trend was interrupted by the start of the economic crisis in 2008 and the following deterioration of economic conditions. As a result, labor productivity in the EU fell from EUR 31.3 per hour worked in 2007 to EUR 30.7 in 2009. A slowdown in productivity during crises could reflect weak investment under conditions of high economic uncertainty, resulting in slow capital accumulation. Weak productivity could also result from companies retaining labor during the downturn, leading to underuse of labor and spare capacity. In 2010, labor productivity rebounded to its pre-crisis level and continued to grow in the following years

Almost all Member States benefited from increased labor productivity between 2000 and 2013. The only exception was Luxembourg where productivity fell marginally. Improvements in labor productivity were most pronounced in Latvia (100 %), Lithuania (89.3 %), Romania (86.7 %), Estonia (62.9 %) and Slovakia (61 %).

Figure 3.5 Labour productivity per hour worked (ESA2010)
2010=100



Data source: *Eurostat*

3.6 Employment and unemployment

3.6.1 Employment rate for persons aged 15 to 64, as measured by the EU's labor force survey (EU LFS and see Figure 3.6.1), stood at 64.9 %. Although the indicator raised again in 2014 and the EU is off-track to meeting the Europe 2020 target to reach a 75 % employment rate by 2020. The EU-28 employment rate rose in 2008 to 65.7 % and then lowered during next years to stand at 64.1 % in 2010. This decrease during the global financial and economic crisis — a total fall of 1.6 percentage points — was followed by a period of stability between 2010 and 2013 during which the EU-28 employment rate was as high as 64.1- 64.2 %. Finally, in 2014, the employment rate returned to the upward path noticed prior to the crisis moment, namely increasing by 0.8 percentage points since 2013 to reach 64.9 %.

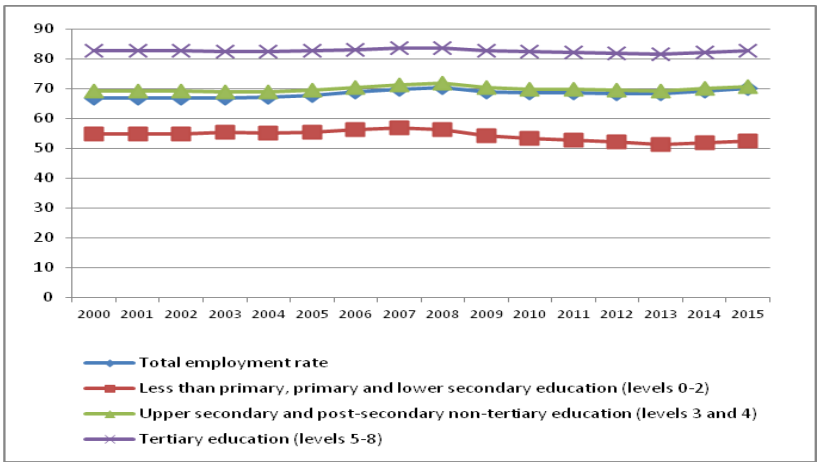
Between the start of the crisis in late 2008 and 2014 (the latest data available), there were considerable differences in the performances of the individual national labor markets. The overall employment rate for the EU-28 in 2014 remained 0.8 percentage points below its level of 2009; there

were 11 EU Member States which reported an increase in their respective rates.

3.6.2 Employment and education

Roughly, people with higher levels of education have better job prospects; the difference to be made is priory between those who have attained upper secondary education and those who haven't (Figure 3.6.2/1). In all countries, tertiary graduates are more likely to be in work than non-graduates. Concomitantly, men generally have higher employment rates than women; the gap being especially large among people with low levels of education.

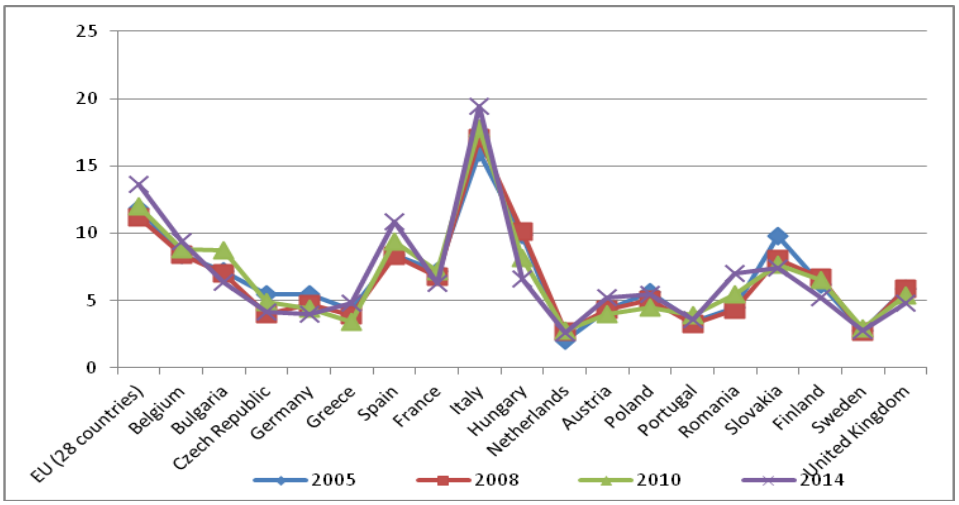
Figure 3.6.2/1 Employment rate by educational attainment level in E.U.* (%)



Data source: *Eurostat*

Then, employment rates also vary considerably according to different levels of educational attainment: for statistics on this issue employment rates are based on the age group 25 to 64 rather than 15 to 64. The employment rate of those who had completed a tertiary (short-cycle tertiary, bachelor's, master's or doctoral levels (or equivalents)) education was 83.7 % across the EU-28 in 2014, much higher than the rate (52.6 %) for those who had attained no more than a primary or lower secondary education. The EU-28 employment rate of persons with at most an upper secondary or post-secondary non-tertiary education was 73.4 %. The largest falls in employment rates since the beginning of the financial and economic crisis (comparing 2008 with 2014) were witnessed for persons with at most a primary or lower secondary education, while smaller falls were observed for persons with a tertiary education and persons with at most an upper secondary or post-secondary non-tertiary education .

Figure 3.6.2/3 Territorial (regional) dispersion of employment rates, from total*



Data source: Eurostat

3.6.3 Men and women employed

Employment rates are generally lower among women and older workers. In 2014, the employment rate for **men** stood at 70.1 % in the EU-28, as compared to the same 59.6 % for **women**. A longer-term comparison shows that while the employment rate for men in 2014 was below its corresponding level 10 years earlier (70.3 % in 2004), there was a marked increase in the proportion of women in employment — rising 4.1 percentage points from 55.5 % in 2004. Males' employment rates were consistently higher than those for women across all of the EU-28

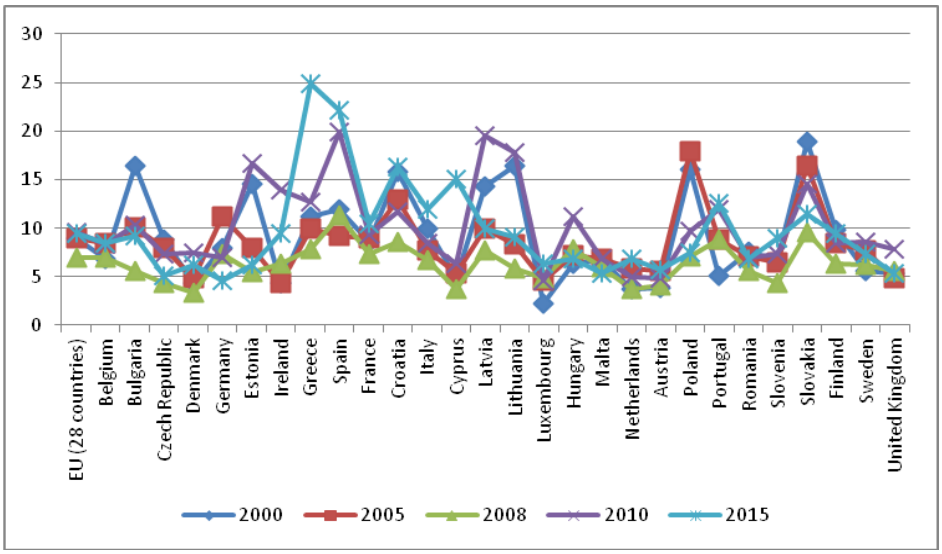
3.6.4 The unemployment, overall

Paid employment contributes to individual well-being by providing resources needed for decent living standards and the pursuit of personal goals and aspirations. High unemployment rates, on the other hand, can endanger social cohesion and increase the risk of poverty and social exclusion. Spells of prolonged unemployment among young people, in particular, can have adverse consequences for their career development as well as for the economy as a whole.

The unemployment rate measures the number of unemployed people as a percentage of the labor force. The labor force consists of all employed and unemployed persons in the 15 to 74 age group. Unemployed persons include people aged 15 to 74 who were: (1) without work during the

reference week, (2) available to start work, (3) actively seeking work -- i.e. who had taken specific steps in the four-week period ending with the reference week to seek paid employment or self-employment or who found a job to start within a period of at most three months.

Figure 3.6.4 Total EU unemployment rate* (%)



Data source: *Eurostat*

Since 2000, gaps in specific unemployment rates of men and women rather offset. In 2014, the gender unemployment gap was nearly non-existent, mainly as a result of the pronounced increase in male unemployment compared with a small increase in female unemployment during the economic downturn. In 2014, unemployment rates across the EU varied by more than 20 percentage points.

4. Closing remarks

Besides all of the above headline indicators proper to the social and economic dimension of the sustainable development, the last's analysis ought to deepen on the so-called explanatory indicators, associated to the operational ones (here above). Each operational indicator is supposed to reach several explanatory indicators as its specific dimensions. Net national income, households' saving rate, eco-innovation, energy intensity and dispersions of all kind are just some examples and individually associate to the above discussed operational indicators.

And not to be omitted that, besides its socio-economic dimension, the sustainable development pattern includes sustainable consumption and

production, social inclusion, democratic changes, public health, climate change and energy, sustainable transport, natural resources, global partnership and good governance.

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DIFFERENT APPROACHES ON CONTEMPORARY INTERNATIONAL MONEY

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Abstract

Two theories do regard the today international money, (1) international monetary system (IMS) and (2) optimum currency area. The previous stays more related to presumable postwar international monetary order, i.e. stability, whereas the latter rather relates to the European integration process and even more interesting is that not only European scholars involved in such research undertakings. Interestingly, once more, the two thinking areas keep similarities and differences of particular significances. And that will be seen here below in a comparative analysis.

Key concepts: *money representative, fiat, neutral, international, barter, international monetary system, common currency, optimum currency area, price system, market, monetary policy.*

Jel classification: *E4, E5*

There are international monetary system (IMS) and optimum currency area (OCA) to debate about in this text below. Both are postwar theories of money and these are not so simply dealing with its representative-fiat definition duality either. These theories appear as pretty the same age and interestingly encounter each-other since regarding the international money topic. Also the differences between are rather significant and the first one sees their sizes.

1. International monetary system (IMS) is a concept regarding inter-States monetary mechanisms which were assumed to be, one after another, Gold Standard (1870[1]-1933[2]), the Bretton Woods international

[1] Davies (1994) here finds the 1850-1931 interval for Gold Standard.

[2] In 1931 Bank of England gave up the gold convertibility of its pound sterling. First, some people might think that such a measure wasn't unprecedented, but all Napoleon's wars and World War One had brought similar events. But not only this was forever, but two years later the monetary authorities of France and US came to do the same with their national currencies. All agree now that the big economic crisis of 1929-1933 was the Gold Standard's terminator. But even this did not end the crisis

agreement (1944-1971[1]) and later on the *European Monetary System (1979-1999).* As in theory, IMS[2] shapes as in Box1 (Triffin, 1973). The *unique reference value* expression tends to be larger than here assuming just an individual national currency freely used internationally, as in the restricted views of fiat money and OCA theories. In facts, it is the *metal* (i.e. *gold*) *money* reference to talk about and this is found as 'neutral' among all member States forming the System (IMS). Reciprocally, national currencies are admitted to compete for such a privileged position inside the IMS.

Box 1

The international monetary system (IMS)

De iure	a ***unique reference value*** for all money and their State issuers, as member States of the System
	a remaking ***balances of payments (BP)' equilibrium*** *mechanism* for all the IMS' member States
	member States' equal *legal commitment* for the System
De facto	***fixed exchange rates***, as compulsory
	biasing ***money parity***

Remaking mechanism for the individual States' BP is basically supposed to be a job done by might-be different contextual *instruments*. And the last might develop between presumably *automatic mechanisms* that was the case of Gold Standard and *international financial institutions* assigned by the System to manage the inter-States flows equilibrium, primary through watching on all such imbalances. *Financial institutions* as such were claimed for the Bretton Woods IMS, i.e. the *International Monetary Fund (IMF),* and for the EMS, i.e. the *European Monetary Institute (EMI)* (McKinnon, 1993). As in detail, these institutions were

auspices, but another crisis was immediately following – that was the post-IMS international monetary disorder that lasted up to the next World War.

[1] 1971 was an interesting year case. The Bretton Woods IMS' working collapsed resulting into exchange rates' entering high floating – actually, it was the US$ strongly depreciating against all the other national currencies and the last appeared to differently floating against each-other. In reality, the US$ had been the IMS' reference value up to that event, so what the gold metal had been for its former IMS. Or, the dollar did depreciate when its IMS collapsing, unlike gold that never did, but something else came up very similarly between 1931 and 1971 (at forty year distance). In 1931 Bank of England was giving up its gold convertibility of the pound sterling that then started floating; in 1971 it was the turn of the other Bretton Woods IMS to do the same with dollar floating consequence. London and Washington had both been centers for Gold Standard and Bretton Woods IMS, as respectively, in 1931 and 1971. Collapsing from its very heavy center so seemed to be another IMS's working rule that was rather skipping to its proponents.

[2] i.e. unlike national and federal State's monetary systems.

supposed to work with their own *account money*[1] against their flows equilibrium aimed.

21 As for the member States' *commitments against the IMS* in place, they filled a dimension also provoking some misunderstandings in the topic area the way that some supporters here restrict to inter-States agreements form to be admitted – i.e. and so the famous Gold Standard finds itself as nearly excluded from the IMS concept. On the contrary, Andrei (2011a, pp. 151-154) explains that Gold Standard was all over benefiting from States' *monetary laws that were naturally harmonized amongst* – no need for international agreements in this case[2] since equally those agreements rather couldn't prove able to shape stronger IMSs than the other cases (i.e. this is about the same Gold Standard, as unique case of an IMS missing corresponding international financial institutions of management[3]).

On its *de facto* zone of the IMS, *fixed exchange rates* look not being an aim in itself[4], but properly resulting from either Gold Standard's and Bretton Woods IMS' environments – i.e. the latter IMS was as such since its fixed parity settled for the US$ in 1944, the date of the international agreement done[5]. *Money parity* looks biased by IMS up to the date of the other EMS that is the case of *fixed exchange rates without parity*[6], but reclaimed by particular price systems' development throughout *economic integration* process. And this is the aspect arguing that *fixed exchange rates* truly overpass the *parity* environment[7].

Criticism on the IMS might notice that, limiting to some rules explained, here including the rule of IMS's birth under legal States' commitment, the theory sees neither the IMS in its usual declining

[1] i.e. *special drawing right (SDR)* for the Bretton Woods IMS and further on money of the IMF; *European Currency Unit (ECU)* for the EMS as respectively, see McKinnon (1993).

[2] The author here has a longer explanation about, related to the metal's monetary place in the ancient history of money and in the pre-money barter system; a history that equally included non-modern monetary systems based on gold, e.g. the Roman Empire's and Middle Ages' moneys. Shortly, Gold Standard, besides its fixed exchange rates and price stability, was equally exemplary for its law expression that was highly convenient for all State, organizations and citizens.

[3] Though not to be omitted that the *Latin Monetary Union* (1865-1927) did expressly mention Gold Standard, as its basic working monetary system. That remains the lonely ever official mention of Gold Standard .

[4] Here also see the OCA theory in detail that is the case of fixed exchange rates aiming.

[5] Also see paragraph 2., above for money parity circumstances.

[6] That in practical terms means foreign exchange market *interventions* of the monetary authority (i.e. central bank), as part of its *monetary policy*. Recall from above that monetary *policy* and money *parity* rather exclude each-other, but the very problem of this fiat money aspect lays in the number, amplitude and so costs of these market interventions that actually are selling-purchasing different moneys in short and very short periods (i.e. everyday). On the contrary, when money parity, fixed exchange rates stay natural issue and properly work as such.

[7] Note that Triffin (1973), the IMS basic theory's supporter, did not express about the EMS case.

perspective all over, nor how much of international monetary order would ever be covered by IMS[1].

Fact also is that beyond all the above three IMSs examples, Gold Standard seems to have been reversed by a fiat money subversive motion in the international market area and then the Bretton Woods IMS met a deeper story of the same kind when being founded as a *representative-fiat money mixture* shape. As for Gold Standard, it had required rather international monetary and economic homogeneity, similar to nowadays economic integration, whereas authors claim at least a '*center-periphery'* difference as a reality (Officer, 2010, pp. 96-107). Then, apparently this system proven once more stronger when the British Empire took it under its power support (Andrei, 2011a), but this initiative equally did establish the *central bank versus commercial banks* system, specific to fiat money. Finally, Gold Standard did collapse when *Bank of England* was equally the same as the IMF for the next following Bretton Woods IMS[2].

As for the last, it was contradictory design since 1944, i.e. whereas its *unique reference value* at the time was the US$ and it was claiming its 35 dollars per troy ounce price and fixed exchange rates against the other member States' currencies. The System also was typically established by *inter-States agreement,* in which actually IMF was founded as *financial management institution* support.

The EMS (1979-1992) case looks apparently different than the IMS' general rules, as seen from its European founders. The System has been designed as transitory, i.e. aiming to find and test the real exchange rates of its European member States' currencies at the delayed time of its turning into the *unique common currency*. On the contrary, as seen from outside McKinnon (1993) confirms a structure that is the same as for the other precedent IMSs[3].

[1] i.e. how could the IMS theory explain and qualify the global exchange rates' relative stability after 1985, the year after the 'La Platza-Louvre' event, as international conference , when no any more IMS, in such a view, asks once more McKinnon (1993, p.32) ?

[2] Let us just make the distinction that the latter authors here cited argue that it was the British Empire who admitted Gold Standard as an international monetary order to be supported and internationally managed during its whole life existence. That is why a good number of scholars prefer to see the same IMS as actually the one of the British pound. Unlike them, Andrei (2011a) argues that the Gold Standard's roots are historically much deeper than thought so far. In other words, the same as primitive money had been coins stamped by authorities on metals previously winner of a special market competition as market equivalents, in the 19th century the British Empire, under its glorious Victorian era, might have taken over Gold Standard as something previously market confirmed. In other words, once more, the British Empire didn't ever invent or design the Gold Standard IMS, as possibly understood by this System's opponents of such a group.

[3] See details in the next following paragraph.

2. Optimum currency area (OCA)

As in all our previous contributions to this issue – i.e. in which concomitantly talking about IMS and OCA –, our top reference remains McKinnon (1993). The last actually argues about two IMSs – i.e. the Bretton Woods IMS (1944-1971) and the EMS (1979-1999) – similarly working since structurally similar due to claiming OCA as priory to IMS. And actually McKinnon here has just a completion made to the large *OCA theory*[1], the one called *Nominal Anchor theory.* Box 3 keeps a brief description on the last.

Unlike the IMS theory, the *nominal anchor* explains not only about its internal mechanism and rules – i.e. there are entirely different rules to talk about for the IMS' and OCA's cases --, but equally about how the same anchor is born and then dies, here emphasizing that all *OCA is limited life*. Then, nominal anchor and OCA dislike all about *formal* and *law* terms, unlike the IMS theory, once more. No any mention about external balance of payments' controlling mechanisms from the nominal anchor view either.

There is something that finally appears similar between the two theories, and this is about two issues, be they inter-related. The one is *nominal anchor* itself that directly corresponds to the 'unique basic value' for all prices in the area of IMS. The other is the *fixed exchange rates* aspect. The difference is that what was very 'natural' and so an assumption for the other theory, for the nominal anchor and for OCA as a whole stays a wish to be fulfilled in the multi-country region, a target, a stake or a bet – i.e. besides, the two theories stay found of fixed exchange rates as both yet prove unable to accept the money floating of any kind.

It is equally interesting that nominal anchor sees *fixed exchange rates* without parity corresponding – i.e. this theory repudiates all parity and '*unique basic value',* except for a *national currency that gets internationally free usable.* This really is *fiat money* that the nominal anchor theory stays captured by, similarly as the IMS one for the other *parity* (i.e. metal standard) related stuff.

In another development, equally to be noticed for the nominal anchor's theory its being captured by what can be called '*hegemonic motor'* – i.e. no international monetary order in the absence of a strong anchor country; plus, this is supposed to be just one in the area.

[1] Mundel (1961) is the unanimously recognized parent of the OCA theory. Mongelli (2002) has, in our view, the most appropriate, i.e. exhaustive contribution on the OCA theory's description, as a whole, unlike our lines that won't have any of this, except for the McKinnon's nominal anchor theory.

Box 2 The nominal anchor theory
• The *nominal anchor* is assumed to be the national currency issued by the *anchor country.*
• The *currency area* is a multi-country region to which the *anchor country* and its *nominal anchor* national currency belong
• The anchor country ensures the *free movement of its own currency issued* (i.e. the nominal anchor) within the region, i.e. this currency freely lives its own issuing country.
• This last above idea actually means *unrestricted imports and payments abroad from the anchor country* and of course directly in the nominal anchor currency.
• Whether these last above imports and payments abroad are not entirely free, the same country is still admitted as anchor country whether keeping *the less restricted national (individual) currency movement* within the whole multi-country region.
• The whole picture of the above ideas is the one of the anchor country's non-*intervention* -- i.e. no any kind of intervention, be it monetary, trade or other policies -- on its own balance of payments' problems.
• And consequences of this are of two kinds are: (a) creating *imports market* on the anchor country's territory (virtuous evolving); (b) creating premises for the nominal anchor's international *depreciation* against the other national currencies in the region (vicious evolving); (c) especially since these other currencies do remain backed by their State issuers' monetary policies .
• The result of all these above facts is the *nominal anchor's bankruptcy* within a horizon while.
• Then, the symptom of *searching for a new nominal anchor* in the region area.
• Except for the anchor country and its nominal anchor, there are *no other special regimes for the rest of countries and their national currencies* in the region area (McKinnon, 1993).

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EVALUATION AND RESOURCE ALLOCATION IN THE ROMANIAN HEALTH SYSTEM

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Abstract

Labour force ageing in the medical field combined with challenges related to recruiting or maintaining health workers because of the exigencies in job conditions and of the relatively low wages in some of the medical care professions lead in many countries to labour force deficits in the health sector.

Just like the educational system, health represents a priority focused on national realities and traditions.

The Romanian medical system is and was subjected to reforms for a considerable number of years. Most health care institutions are faced with serious issues in particular because of the financial resources allotted to them.

Thus, in the study "Euro Health Consumer Index 2015" (EHCI) realised by the Swedish research company Health Consumer Powerhouse, and that evaluates the way in which European health care systems provide for their patients both from the viewpoint of the quality of medical services and from the one of costs and profitability in 35 countries, Romania is ranked on the 32nd position.

The paper presents a brief analysis of issues facing the health care system in Romania and especially the particularities of the human resources in the field. The differences regarding labour resources are analysed and underpinned for the health care system in Romania's development regions.

Key-words: *health care system, health care workers, health expenditures, regional inequalities in the health care sector, migration*

JEL Classification: *I11, I18, E24, O15, R23*

1. Introduction

Health care systems are some of the largest consumers of resources, during the last 30 years recording continuing increases in the levels of necessary resources. This is due both to population ageing, to the discovery of more efficient drugs and more advanced technologies, and to the increase in the number of individuals benefitting of medical care.

In Romania the health care system was and is subjected to reforms for a considerable number of years. Based on the Law no. 95/2006 the main aspects were redefined regarding the medical sector with the purpose of creating a modern and efficient health care system, compatible with the health care systems in the European Union.

However, the Romanian legislation in the field of health care underwent periodically changes both yearly on the approval of the framework-contracts, and in point interventions for improving the functioning of the health care system. Still, the impact of these interventions was not always to the benefit of health care services and drugs consumers.

Most health care institutions face serious issues because of the financial resources allotted to them. The weight of public expenditures for health in GDP varied in time but maintained, nevertheless, a low level.

By the end of 2014, in Romania were employed 215806 health care workers (physicians, dentists, pharmacists and nursing personnel), 64.12% in the public system, and 35.83% in the private system, hence the number of health-care personnel is suboptimal. In relative terms, in Romania are 276 physicians and 649 nurses for 100000 inhabitants, a level significantly under the European Union average, or of other comparable Member States.

The challenge of facing the issues triggered by the system deficiencies, the absence of job satisfaction, the lacking motivation, the low incomes earned by the health care workers, opposed to the much more performance improving means in practicing their profession abroad associated to better social status determined a considerable share of the health care professionals to opt for the solution of working abroad. Paradoxically, health care units that few years ago claimed to have surplus of nurses and auxiliary personnel begin to face the situation of not being able to ensure health care services and resort to employing personnel for determined or undetermined periods of time.

Due to the trends in the labour force market, and according to the forecasts regarding skills, the health care and social assistance sectors shall be faced with insufficient personnel on medium term[1]. At the Meeting of the Council from July 2012, the Health ministers within the EU discussed about the high potential of labour force employment in the field of health, and about the need of innovative approaches and strategies for attracting youths

[1] CEDEFOP, (2012). *Skills demand and supply forecasts*, www.cedefop.europa.eu

and for developing adequate competences in the health sector (European Commission, 2012).

Also, in the "Draft Joint Employment Report from the Commission and the Council" (accompanying the Communication from the Commission on the Annual Growth Survey 2016)"[1] is highlighted the role of the health care systems in preserving and restoring the good health state of the EU population, in view of supporting economic growth by improving the participation on the labour force market, the labour productivity and by diminishing leave of absences on health grounds from job. In this context is shown that in the near future is required "the evaluation of health care and long-term care systems and the enforcement of consistent and ambitious reforms" [2].

2. Brief Presentation of the Romanian Health Care System

The changes within the Romanian society after 1989 have influenced strongly the reforms in the health care system. Up to 1990, the public health care system from Romania was Semashko-type, completely centralised, of the command-control type and financed by the public budget. The hard inheritance of this type of system was reflected in the issues the health care sector faced also after the year 1990.

In developing the health care policies after the Revolution of December 1989, three periods are distinguishable: 1990-1996, 1997-2007, and the third as of 2008. The main differences between the first two periods result from implementing the Health Care Insurance System after the elections in 1996.

The reform in the health care field triggered as the Law no. 95/2006 was passed, provided for the decentralisation of the health care system as one of the links in the modernisation and European standards alignment process with respect to the health sector. Both the reorganisation and the decentralisation of financing and health care services' supply began in parallel with the implementation of the Health Care Insurance System when, for the first time, the patient was placed at the core of the health care system and provided the option of choosing freely the provider of health care services.

As result of the accession process to the European Union in 2007, Romania was obliged to harmonise legislation also in the field of health with the requirements of the European Union. Nevertheless, some gaps exist still between the legal developments and their enforcement. As of 2007, the health state of the population and of the health care services from the other

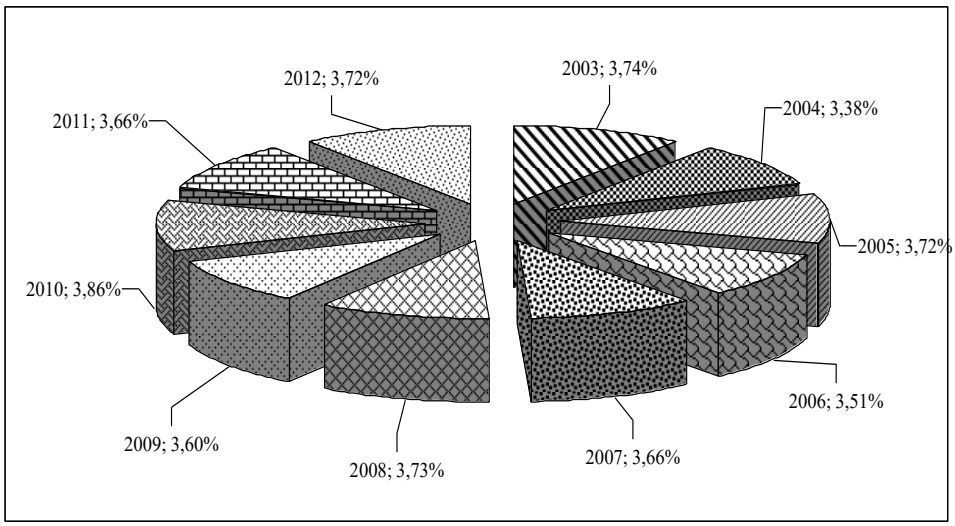
[1] European Commission "Draft Joint Employment Report from the Commission and the Council", www.eu.europa.eu;
[2] Ibid. 2

member-states of the EU turned into comparison criteria of reference for the Romanian health care system.

Currently, to the financing of some administrative and functioning expenditure for public health care entities of local interest participate also the local public administration authorities within the boundaries of approved budgetary credits. However, the statistics for the last few years show an unequal involvement of local public administration authorities in managing health care entities, with broad variations between the regions of the country. These are triggered either by deficient management, or by the unequal distribution of the financial and human resources. Just as well are highlighted inequities in accessing health care services, triggering imbalances in the health care state of the various population groups, of some communities from different geographical areas, but also of the economically disadvantaged groups. At present, in Romania, the financing sources for public health are: the state budget, the budget of the Single National Fund of Health Insurance (which contributes with about 75% in total health expenditures), local budgets, own incomes, external credits, non-reimbursable external funds, donations and sponsorships.

The weight of health care public expenditures in GDP varied, yet it maintained a low level which affected the maintenance of the system, the management, investments in equipment, and access to personalised services for individuals with low incomes (Figure 1).

Figure 1 Evolution of Public Expenditures Allotted to Health

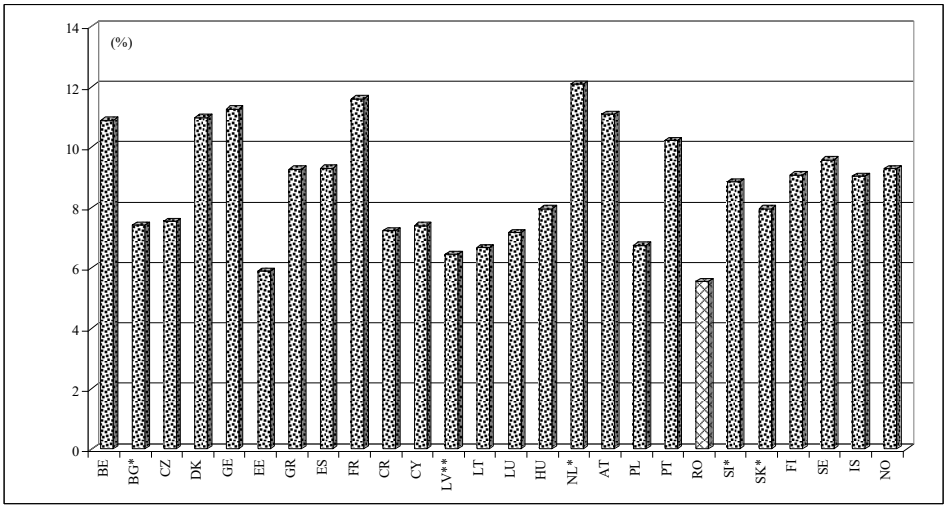


Data source: Eurostat statistics, online code [hlth_sha2p]

By comparing the *weight of total expenditures made by health care services' providers* in GDP for a number of 27 European member-states, for

the year 2012, which is the last available year in the Eurostat database, it is highlighted that in 19 from them the weight did not exceed 10.0% (Figure 2), and that Romania is ranked on the last position with a weight of 5.56%.

Figure 2 Weight of total expenditures made of health care services' providers in GDP, in 2012



Data source: Eurostat statistics, online code [hlth_sha2p]
Note: * data available for the year 2011

Even if the health indicators highlighted some improvements, within the EU member-states, Romania still maintains one of the weakest positions with respect to health indicators.

According to Euro Health Consumer Index (EHCI)[1], which analyses the national health care systems for 35 countries based on 48 indicators (for instance, in fields such as patients' rights and the information they can benefit from, access to care, treatment, outcomes, services' coverage, prevention and use of pharmaceutical products, etc.) for the year 2015, Romania was ranked on the 32nd position with a score of 527 points. This result is due to the obsolete structure of health care with a high and costly ratio of in-patient care over out-patient care, like in the case of Albania and Bulgaria.

3. Health Workforce

[1] EHCI is a comparison of European health care systems based on waiting times, results, and generosity. The information is presented as a graphic index. EHCI was produced 2005–2009 and 2012-2015 by Health Consumer Powerhouse

In the health care field, human resources are the main category of absolutely necessary resources for ensuring and providing health care services. If in western countries ensuring an optimum rate of the specialised medical staff, the development and improvement of the nursing quality are major components of health care policies, in Romania is obvious the lack of regulations in these fields of concern.

The creation of viable, patient-focused health care systems assumes the existence of health care workers providing the necessary services. But, in order to have well-educated and motivated health professionals, sustained and costly investments are necessary for education and, in particular, for the subsequent remuneration of physicians, nurses, and of the other categories of health care personnel, along with jobs that allows them to practice their profession under adequate conditions corresponding to their experience level and to their professional development and social acknowledgement aspirations.

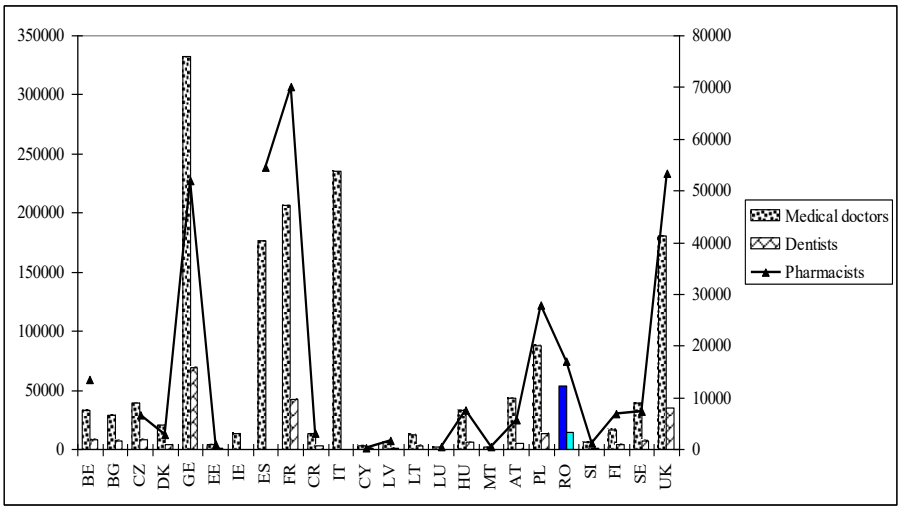
According to Eurostat statistics, Romania is ranked on the second last position in the top of European Union countries regarding the number of health care workers in relation to population: 2.6 physicians for one thousand inhabitants, under the European average of 3.4, but also under the level of some other EU member-countries, such as: France, Germany, Spain and Italy. The same situation is applicable also for the year 2015 for nurses (6.7 per 1000 inhabitants), dentists (0.8 per 1000 inhabitants) or pharmacists (0.9 per 1000 inhabitants).

By comparing the number of physicians, dentists, and pharmacists from Romania with their numbers in other European Union member-states, is found that in 2014 Romania ranked on the 7th position in the hierarchy of Member-States, registering 53720 physicians, much under Germany, Italy, France, Great Britain and Spain, but above the number of physicians from Slovakia, Finland, Ireland, and Lithuania (Figure 3).

Regarding the number of dentists (14846), Romania is below Germany (69089), France (42281), and Great Britain (34281) and above countries such as: Bulgaria, Finland, and Slovakia (Figure 3). Regarding the numbers of pharmacists, France registered the highest number in 2014: 70136, followed by Spain (54567), Great Britain (53261), Germany (52004) and Poland (27747). Romania registers 17025 pharmacists, and Cyprus, Luxemburg and Malta record below 500 pharmacists.

Figure 3 Numbers of health workforce by professional categories,

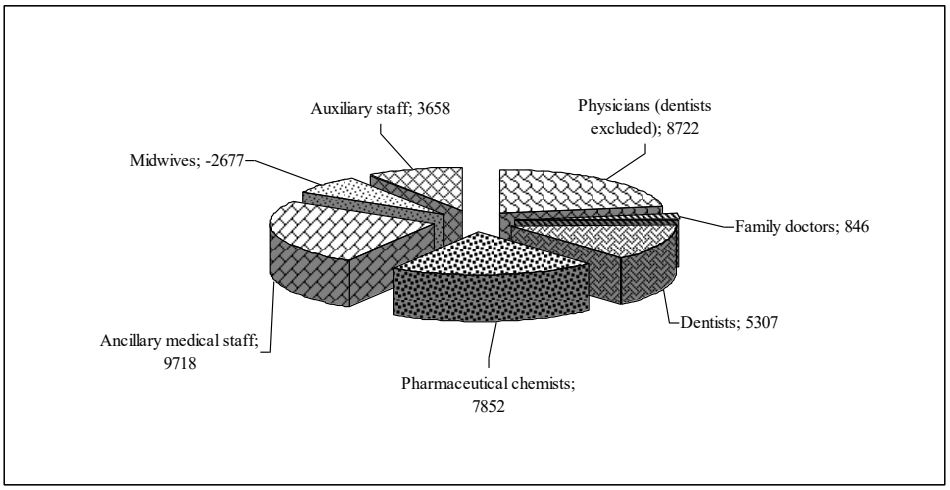
in 2014



Data source: Eurostat statistics, online code [hlth_rs_prs1]
Note: * data available for the year 2013

This situation is recorded under the conditions in which during the last decade the number of physicians in Romania increased by 18.4% (Figure 4), the one of nurses by about 8%, the number of pharmacists by 84.6%, while the number of midwives diminished by half.

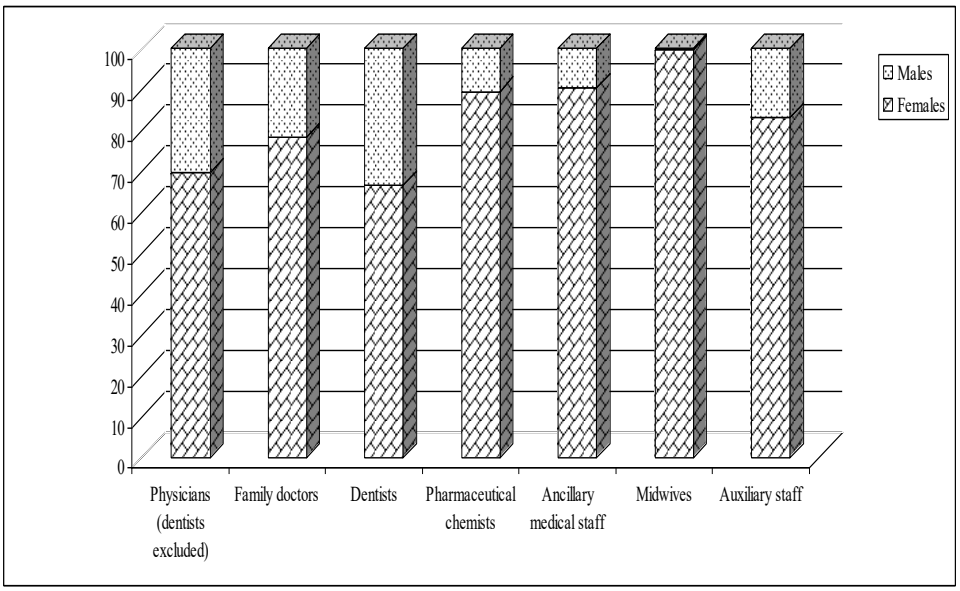
Figure 4 Absolute changes in the numbers of health care workers in 2015 against the year 2005



Data source: TEMPO online databank of the National Institute of Statistics, www.insse.ro

A feature of the medical staff within the Romanian health care system is that the women population represents the majority (Figure 5). Thus, in the year 2015, women represented 69.6% from total physicians (without dentists) and 66.5% from total dentists. Regarding family physicians, the weight of women was of 78.2%, and within the pharmaceutical sector and nursing staff, women represented 89.6%, respectively 91.3%.

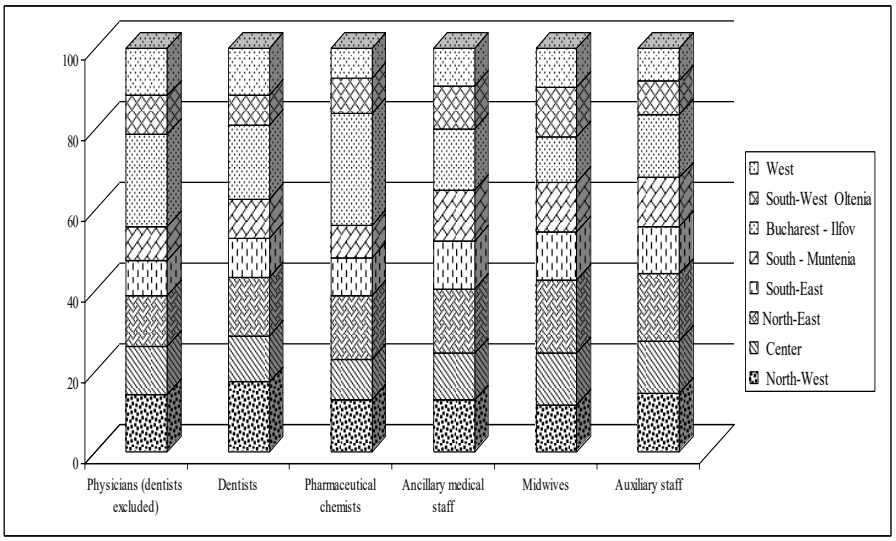
Figure 5 Weight of health care workers on genders, in 2015



Data source: TEMPO online databank of the National Institute of Statistics, www.insse.ro

Moreover, there are significant differences between the development regions of Romania regarding health care personnel. Thus, in the year 2015, the highest numbers of physicians (22.7%) were practicing in the region Bucharest-Ilfov, and in the region South-Muntenia were recorded only 8.3% from their total number at national level (Figure 6). The highest numbers of dentists (18.3%) practiced in the region Bucharest-Ilfov, and in the region South-West Oltenia were recorded only 7.4% from the total number of dentists at national level (Figure 6).

Figure 6 Weight of health care workers on Romania's development regions in the year 2015



Data source: TEMPO online databank of the National Institute of Statistics, www.insse.ro

Regarding the numbers of pharmacists 27.8% from their total numbers at national level were exercising their profession in the region Bucharest-Ilfov, while in the West region were present only 7.6% of them (Figure 6).

The highest weight of the nursing personnel, midwives or auxiliary health workers is recorded in the North-East region where are found over 16% from the total of these professional categories (Figure 6).

In Romania in 2015, in the rural area only 10.04% out of the numbers of physicians, and 12.59% dentists developed their activity, while in the same area were working 17.02% out of the total number of pharmacists, 10.64% nursing staff and 11.74% from the numbers of auxiliary health care staff.

The discrepancies on residential areas regarding the provision of required health care staff are highlighted also by the high number of inhabitants who were allocated to a health care worker in the rural area as compared with the urban area, respectively: 7.7 times more inhabitants per physician; 6 times more inhabitants per dentist; 4.2 times more inhabitants per pharmacist and, finally 7.2 times more inhabitants per nurse.

The penury in the numbers of health care staff with higher and upper-secondary training is determined by the inadequate planning of the health care staff, but also by the intensified phenomenon of their migration to

countries where the profession and individual are acknowledged and where professional and living conditions are better.

Moreover, the graduates of the medical schools entering on the labour market fail to cover the required number of specialists at local level. Many young individuals have opted and still think about leaving Romania for working within the health care systems from abroad.

The reasons leading to *physicians and nurses migration* are triggered on one hand by the "push" factors from the "source" country: difficult working environments, lack of adequate infrastructure and professional development opportunities, extended working hours and low wage levels. On the other hand, the "pull" factors to the countries of destination which include: the perspective of better remuneration and better living conditions.

The estimates from the field show that by 2020, Europe expects a deficit of 1 million health care workers. With a high number of vacancies and domestic personnel training levels lower than the necessary, the high-income countries from Europe shall require an increasingly higher number of migrant medical staff to provide the services demanded by their inhabitants. As result, also in the following years we will witness a "*medical exodus*" of physicians, nurses and other health care workers to high-income countries, a situation leading to the weakening of the health systems in less developed countries of origin and which multiplies inequities in the field of health.

Conclusions

The health care system from Romania registered significant progress as of the passing of the Law no. 95/2006. Medical services show superior, and continuously developing parameters as compared with the end of the years ninety, and the data infrastructure represents a reference at European level. The recent economic-financial crisis determined the authorities from the field to take measures for controlling costs, which often had unintended consequences.

In 2015, Romania ranked on position 32 out of 35 evaluated countries in the Euro Health Consumer Index. On the background of economic, social policy, and health issues some mortality and morbidity indicators place Romania on the last positions in Europe.

From among the most significant reasons generating the issues of the health care system from Romania, we mention:

- limited resources invested in medical care, including within the pharmaceutical system;
- the payment-settlement system for health care services;
- the lack of performance technical/medical devices endowment;

- the inequity in the provision of services (for instance, discrepancies between the rural and urban area, but also between the development regions);
- inefficient organisation and financing in the health care sector;
- the transfer of funds to the 43 health insurance houses is not made on objective bases, the largest five county health insurance houses absorbing about 35% of the resources, while the smallest five receive ten times less.

In this context, also the outcomes of the Eurobarometer regarding health care services published in June 2014 are relevant, as they showed that 73% of the Romanian population regarded the general quality of medical services as "bad", as compared with an EU average of only 27%. If the European average improved by 1 pp during the last four years, the value for Romania deteriorated by 4 pp.

Regarding the migration of health care personnel, the reasons triggering this phenomenon are related to difficult working environments, lack of adequate infrastructure and opportunities for professional development and low wage levels, but also by the opportunities provided by the countries of destination: the perspective of professional accomplishment, better remuneration and living conditions.

The success of reforms within the medical system depends on changing the mentality of all involved stakeholders, so that the patient is placed at the centre of the activities, and decisions, including financial ones are aligned to the patient's interests.

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BRIEF DISCUSSION ON SUSTAINABLE TOURISM

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Abstract

"Sustainability" means property of a system, where the emphasis is on maintaining a particular state of the system in time (Vidrascu, 2015).

Developing sustainable tourism is not just a concept discussed, supplemented or restated in conferences held on the subject, but imposes the need to protect natural resources, social and cultural rights which form the common heritage of mankind and meeting the needs and requirements of tourists and the local population, which led to the existence of associated forms of sustainable tourism.

Objectives, principles, requirements of sustainable tourism development are common forms of tourism such as ecotourism and sustainable tourism. Through its practical forms, sustainable tourism development, reconcile conflicting interests and objectives, and encourages partnership and increased the number of intra-makers, operators and consumers. At the same time, it promotes the general interests of long-term disfavoring particular interest immediately.

Indicators supporting sustainable tourism and tourism planning and monitoring processes are also important communication tools.

Keywords: *Sustainable tourism, sustainable development, sustainable tourism indicators.*

JEL Codes: *L83; Q56; Q01; E00***.**

1. Introduction

According to the literature review, sustainable tourism, sustainable development through tourism associated with the principles and development of tourism in sustainable tourism, they are most often treated as a whole for the same phenomenon. Thus, the concept mentioned above has become increasingly interesting to researchers and practitioners' worldwide tourism.

In other words, institutional, sustainable tourism is considered as the most desirable form of tourism development on certain reception areas, especially those who have preserved the values of naturalness, authenticity and culturally.

Sustainable tourism highlights the broad spectrum of sustainable development, emphasizing the importance of rational management of natural environmental resources.

Tourism sustainability is one of the complex concepts because of its latent multidimensional and relative nature.

As a result of the above, it is necessary to list the criteria that this category of tourism must achieve, namely:

a. The objectives of sustainability must be defined and coordinated management system efficiency.
b. Tourism must generate most potential socio-economic benefits associated local communities and be able to be able to minimize any possible negative effect.
c. The cultural heritage of settlements must be respected and must take into account the opportunities that it can strengthen its integrity and richness.
d. Minimizing environmental impact globally and locally by pollution and depletion of natural resources and the existence of local support for landscape conservation and biodiversity.

2. Institutions and researchers

Concepts, terminology and information on tourism development, specifically on sustainable development have appeared in literature from the International literature since the mid-1980s. However, since 1965 Hetzer, it was noticed by formulating the definition of so-called responsible tourism, which really was very close to the principles of sustainable tourism (Blamey, 2001), quoted in (Kowalczyk, 2010).

Discussions on new ways to develop tourism began to occur when the alternative tourism has emerged terminology (Niezgoda, 2006). Krippendorfer (1986), recognized by the publication in Annals of Tourism Research, the article entitled *"Tourism in the system of industrial society"* is considered to be actually defined by the foregoing. Thus, the name, we see

opposition to the so-called mass tourism, seen by supporters as a "bad option". Alternative tourism, often identified as small-scale tourism and treated as a "good option" was created to oppose the idea of alternative tourism (Clarke, 1997), (Lanfant, 1992), (Weaver, 2001).

However, the rich literature on sustainable tourism focuses expressly on descriptive presentation of its various aspects, emphasizing the idea of the origins and evolution of the phenomenon, terminology and aspects related to it. Theorists pays special attention to the discovery of the relationship between sustainable tourism as a form of tourism development and certain types of tourism as tourism forms of movement. Simultaneously, there should be marked skeptics, referring in particular to the role assigned to sustainable tourism, like a remedy for all the problems of contemporary tourism. Also, taking into account scientific publications related to sustainable tourism so far, works dedicated to theoretical aspects of this form of tourism are considered to be made in very small numbers.

One of the most important publications referring strictly on sustainable development worldwide is the report *"Our Common Future"*, which contained a summary of the work of the World Commission on Environment and Development (Brundtland Commission). That fundamental document still valid, supposedly to pursue sustainable development needs and aspirations of the present without disadvantage next meeting of the foregoing.

From the study for the entire literature I achieved a selection of the most important documents which refer directly to sustainable tourism, as can be seen in Table no. 1.

Table 1

Summary documents that refer to sustainable tourism

Document	Publishing subject	Year	Place of publication
Charter for Sustainable Tourism	World Conference on Sustainable Tourism	1995	Lanzarotte, Canary Islands
Agenda 21 a for the Travel and Tourism Industry: Towards Environmentally Sustainable Development	WTTC, UNWTO, Earth Council	1995	Madrid (1996)
Berlin Declaration	International Conference of Environment	1997	Berlin

Document	Publishing subject	Year	Place of publication
	Ministers on Biodiversity and Tourism		
Global Codes of Ethics for Tourism	UNWTO	1999	Santiago de Chile
The encyclopedia of ecotourism	Weaver, D.B. (ed.), CABI Publishing	2001	Oxon (UK), New York (USA)
Sustainable development of tourism. Conceptual definitions	UNWTO	2004	Madrid
Global Sustainable Tourism Criteria	World Conservation Congress (Rainforest Alliance, UNEP, UNWTO)	2008	Barcelona

Source: Leszek, 2001

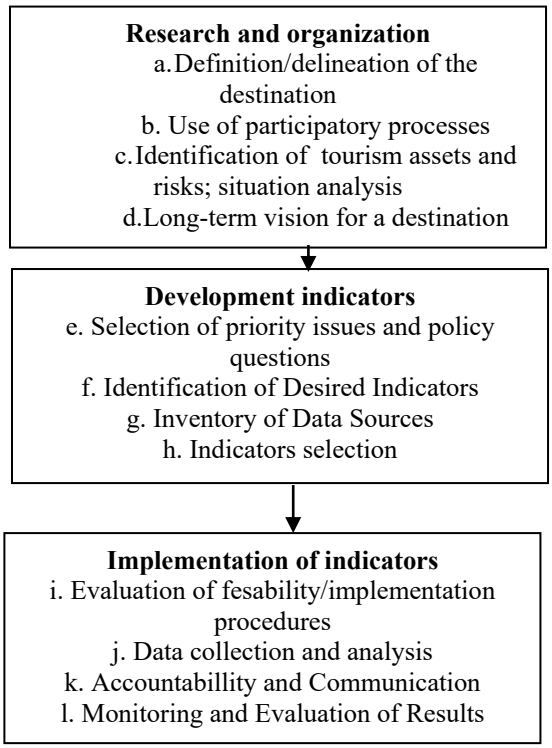
3. Exemplifying a possible procedure associated indicators of sustainable tourism development

In destinations where tourism planning and strategic process in place, focusing on sustainability indicators can stimulate improved data sources, analysis and reporting processes. For destinations that has not been started a process of formal procedure for developing indicators can be a real catalyst.

Therefore, the procedure to be recommended for possible indicators related to sustainable tourism development, containing certain basic elements of tourism planning, including specialized assessment indicators in order to make a selection as relevant and feasible.

In other words, the proposed procedure can be divided into three distinct phases: *a. Research and organization; b. development indicators* and *c. implementation of indicators* (see figure 1).

Figure 1. Steps for a possible development procedure for durable tourism
Source: Personal processing after (Yunis, 2004)



4. The importance of indicators for sustainable tourism study

The importance of quantifying sustainable tourism can be demonstrated by the succession of reports provided by the United Nations (see Project Millennium rating Ecosystem Millennium, the Intergovernmental Panel on Climate Change) that coincide in their diagnosis, with some of the reasons why the last two decades, progress towards sustainability was difficult. The main reasons for the lack of sustainability globally recognized in the literature (Bass, 2007), as follows:

• The economic growth remains an indisputable principle, regardless of the rights and welfare of people and the environment load limits.

• Outsourcing benefits and environmental costs.

• Ignoring the marginalization of the poor and social injustice.

• The current governance models are not designed to internalize environmental factors, to confront social injustice or develop economic models that converge in the process of sustainability.

Sustainable performance measurement and monitoring its results will enable local authorities to undertake the following:

• Getting better data for policy decisions knowingly;

- Establishing a comprehensive approach to tourism planning;
- Identifying areas for improvement;
- The action of prioritization the projects;
- The efficiency of risk management;
- Creating performance benchmarks.

Conclusions

Due to the rapid expansion of the tourism sector, traditional and emerging tourism destinations are facing the pressure of increasingly large on natural environments, cultural and socio-economic. Currently, they are confident that an increase in uncontrolled tourism aimed at obtaining short-term benefits, which often can lead to negative effects, may negatively affect the environment and society and also can destroy the basis on which it is built and that tourism thrives. Only when tourism is planned, developed and managed using sustainable criteria, its benefits can be spread through society and the natural and cultural environment.

Indicators can provide the necessary information to support their active involvement and commitment to accountability emergency unavoidable managers of the tourism public and private sectors, so as to create a tourism sector more sustainable and contribute more strongly to sustainable development and reducing poverty, which represent two major challenges of our contemporary societies.

The use of indicators of sustainable tourism generates multiple difficulties mainly due to diverse interpretation of the concept of sustainability and development through the concept studied in this research. Add to those difficulties is the absence of a strong academic background, who represent the result of incompatibilities arising between the need and academic goals versus politics, which most often are the reason we need the existence of specific indicators.

Finally, I have to say that regardless of the models followed or indicators used, the need to estimate and forecast of tourism activity is and will continue to be an important advantage in implementing strategic decisions for sustainable tourism there.

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ENVIRONMENTAL POLICY – COMPONENT OF EUROPEAN SECURITY

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Abstract

The current security environment, the direct consequence of the profound transformations that have occurred in Europe's configuration of the world, is particularly complex, constantly changing, being still marked by destabilizing phenomena regionally or globally.

Emphasising the importance of what should be given to the risks and threats to the non-classical, asymmetrical, organic, given the international character of their cross-border dimension and negative effects, and sometimes irreversible in time, materialise by producing disaster, with direct impact on national security, continental and even planetary.

Ecological security, included in national security objectives, represents, in the new context, an important objective on the agenda of all Governments responsible for maintaining balance planetary environment.

Keywords: *environmental policy, sustainable development, ecological security.*

JEL Classification: *Q56, Q57*

1. Introduction

As noted by the representatives of the school in Copenhagen in the 1980s-1990s, addressing the concept of security only in terms of traditional military is no longer satisfactory, nor sufficient. Barry Buzan, representative of the Member Schools, identifies five dimensions of security and at the same time five sources of threat to it. Thus, for him human collectivises security is affected by various factors into five major sectors: military, political, economic, societal and environmental issues [Barry, 2000].

At European level, rules on the protection of the environment have arisen after the 1970s, when awareness of problems in this area, by diversifying the channels of dissemination of information. Until then, the only intervention as a result of events was accurate and had a short temporal character. Moreover, the treaties that formed the basis of the European Communities do not provide community skills in this area.

It all began in 1972, when during the first Conference on the environment of the United Nations is determined that environmental protection is a cross-border phenomenon, requiring a sustained effort at an international scale, not only on a national scale. Therefore, the European Commission proposed the elaboration of a programme of action in 1973, in the form of a combination of medium-term programmes and strategic thinking, which emphasize the need for protection of water and air, and which contained a sector approach to the fight against pollution.

In subsequent years, develops strong and the Community law on the environment, which subsumes more than 200 directives and regulations for water protection, air quality, protection of flora and fauna, noise pollution and waste management; in the context of all these regulations is involved and the economic factor.

2. Community action programmes in the environmental field

Since 1973, the European Community and then the European Union have adopted several action programmes on the environment (known under the abbreviation PAM), without legal documents, which expresses a "theory" in regard to the protection and improvement of the environment, and to set a timetable for implementation of the proposed measures. [Dragoș et al, 2004]

1. The First Action Programme (1973-1976). Defines the basic principles and fundamental objectives of Community policy on the environment and identify actions to achieve general. Soon, however, it became evident that environment, it is easier to prevent than to combat and certain principles that are necessary to address the actions of environmental protection.

2. The Second Action Programme (1977-1983). Dedicated in particular to the implementation of the first program, it shall pay particular attention to the protection of the marine environment, as well as improving the quality of the environment by introducing compulsory environmental impact assessment of major industrial projects and infrastructure.

3. The Third Action Programme (1983-1986). He is best known for two achievements: then you have established for the first time the priorities of the Community action in the field of environment and have accepted the principles of the new approach to environmental considerations, how to be the integration of environmental considerations in other Community policies or the preventive approach. Thus, ecological considerations become incidents since the phase of elaboration and conception of economic decisions in the fields of agriculture, energy, industry, transport and tourism.

4. The Fourth Action Programme (1987-1992). Continuing preventive strategy, this program had as its objective the integration of

environmental protection into all Community policies, as a key element in the idea of a more inclusive approach to pollution control and reduction, designed to prevent the transfer of pollution from one region to another. In this respect, it was stressed the importance of four aspects: full and effective application of Community legislation in the field; controlling the environmental impact of all substances and sources of pollution; ensuring better access to information for the public; the imperative of creating new jobs.

5. The Fifth Action Programme (1993-2000). It bore the name "towards sustainability" and took many ideas from the fourth. The program focused on environmental issues, with the medium-term objectives and long established in five specific areas: industry, agriculture, energy, transport and tourism and had the following priorities: the integration of environmental considerations in other Community policies; initiatives relating to public transport, green technologies, and regional and local issues; other areas of interest, such as education, to promote the protection of the environment; strengthening the European Union's role in international initiatives.

The document also provided for the establishment of an institutional structure for the implementation of Agenda 21, adopted at the Conference by Dan Savage in Rio de Janeiro in 1992.

The fifth programme had an important role in trying to reconcile development with the environment into EU policies. It was noted also the need of seeking new instruments to contribute to the implementation of its provisions, such as the polluter commitment to repair the damage, or imposition, through tax law or economic, to such liability.

6. The Sixth Action Programme (2001-2010). This action programme, hereinafter referred to as "our future, our choice" fixed priorities of the European Union by the year 2010, being mainly targeted four large areas of protection of the environment: climate change and global warming-aims to reduce the emission of gases that produce the greenhouse effect compared with 8% of 1990 (the Kyoto Protocol) by 2012, and long-term 20-40% by 2020; protection of nature and biodiversity-is aimed at the protection and restoration of the structure and functionality of natural systems and halt the destruction of biodiversity, both within the community and at world level; health in relation to the environment aims at ensuring an environment that does not have a significant impact or may not be hazardous to human health; preserving natural resources and managing waste aims to increase recycling of waste by 20% by 2010 and 50% by 2050 and their prevention.

For the implementation of this programme have been taken a series of measures, such as improving the application of legislation in the field of the environment; cooperation with citizens, who must be empowered in the

process of changing behaviour towards the environment; the integration of environmental considerations in other Community policies; partnering with business, encouraging companies to make public the performance in terms of environmental protection and the application of the relevant rules.

Also, EAP 6 provides for the development of seven thematic strategies, which correspond to important aspects of environmental protection, such as protection of soil, protection and conservation of the marine environment, the use of pesticides in the context of sustainable development, air pollution, urban environment, waste recycling, resource use and management in the perspective of sustainable development. The approach of these strategies is the gradual one, being structured in two phases: first, a description of the status and identification of issues; second, the presentation of the proposed measures for solving these problems.

7. The Seventh Action Programme (2014-2020). This program for the environment, hereinafter referred to as "the good life, within the limits of our planet", was adopted in November 2013 and will guide the European policy by 2020. This program creates a framework for all EU environmental policies from now until 2020. The program is consistent with the current strategy Europe 2020, which stresses sustainable growth as one of its priorities, and the efficiency of resource use as one of its flagship initiatives.

The most recent program objectives for the environment has the following objectives: preserving, protecting and improving the natural capital of the EU; the passage of the EU at a "green" economy and competitive low carbon dioxide and efficient in terms of resource use; protecting EU citizens of environmental pressures and risks to health and well-being; enhancing the benefits of EU environmental legislation to improve implementation; development of environmental knowledge and database for policy; insurance investment policy in the field of environment and climate and justification of the environmental costs of any activity related to the company; a better integration of environmental considerations into other policy areas and to ensure consistency in the time of new policies formulation; increasing the sustainability of cities in the countries of the European Union; EU support for more effective approaches to the challenges of environmental and climate issues internationally.

3. Strategies of environmental policy

Environmental protection strategy is defined as "the totality of actions and measures of conservation of natural resources you destination and maintaining the quality of environmental factors at an acceptable level" [Petrescu-Mag, 2008].

Strategies for the realization of environmental policy strengthen the principle of subsidiary (delegation of responsibilities to the Member States,

whilst the European Union sets out only general framework, objectives should be taken into account) and try replacing the traditional vertical approach, type command-and-control, by promoting an alternative model for achieving EU environmental objectives.

A strategy must include several elements: to cast a major goal; establish the means by which to accomplish that objective; leading to measurable results [Rizea, 2005].

On 12 December 2003, the European Council approved the European security strategy entitled ' a secure Europe in a better world ". The European Union has managed to produce a document that provides a coherent picture of the security threats and European political reactions. What the new European strategy brings new security environment analysis is extensive and thorough at the same time: more attention paid to the effects of globalization; accolades for "old" and "new" forms of terrorism; the proliferation of weapons of mass destruction was redefined as being potentially the largest but not the only threat; the inability of the State and organized crime threats list appear distinct key, and regional conflicts have been added to it.

It can be said that these are some kind of "AIDS", to complement the standard instruments and which act as incentives for the adoption of measures for the protection of the environment or which emphasizes the tendency towards an approach based on the voluntarism principle. [Popovici, 1989]

A. Sustainable Development

In addition to promoting economic and social progress and a high level of employment and work, the European Union has set itself the objective of achieving a balanced and sustainable development. This goal was enshrined in the Treaty of Amsterdam by the 15 member States and was viewed as a key aspect of Community law to be adopted in the framework of the negotiations with the ten new Member States, the candidate then. Environmental policy is therefore of great importance not only in the EU 15, but will continue to be so in a Union enlarged to 25, 27 and 28 Member States.

The common goal of sustainable development is defined in detail in the chapter dedicated to the environmental policy of the EC Treaty (art. 174): "the community will preserve, protect and improve the quality of environment, protect human health, natural resources will be used prudently and rationally and will promote measures at international level to deal with regional or worldwide environmental problems".

The European Union strategy for sustainable development was adopted in 2001 at the international working meeting in Gothenburg (Sweden) as long-term strategy what sustainable development policies

focused in the following areas: economic, social and environmental protection and which has seen a significant appreciation in the coming years. The concept of sustainable development, however, is present in the environmental policy of the European Union since EAP 5 and delineated as a stand-alone strategy in 2001. [Bran et al., 2013]

Through this framework were identified four priorities: climate change and "clean" energy use (energy sources, environmentally friendly); public health; responsible management of natural resources; transportation systems and land use.

To treat these priorities have been established three strands, which materially alter the structure and strategy of sustainable development and that at the same time, complement each other. These include: proposals affect several sectors; measures of achievement of long-term objectives; progressive revisions of the degree of implementation of the strategy.

B. Program promoting NGOs active in the field of environmental

This program operates as a financial instrument and encourages systematic participation of NGOs in the development of Community environmental policy as well as supporting small local and regional associations that contribute to the implementation of the acquis communautaire. His role of incentive is materialized through the non-repayable financial support to NGOs active in the field of environmental protection, on the basis of proposals sent by them.

C. Integrated Products Policy (IPP)

IPP is based on a green paper integrated products policy (February 2001) and exists as a strategy since June 2003, with the adoption of the Commission communication relating thereto. IPP aims to minimize degradation of certain products causes environmental during their life cycle and proposes a voluntary approach with a view to "green products", as well as close cooperation with stakeholders.

The basic principles of this strategy are: thinking in anticipation of the life cycle of products; involvement by creating market incentives to encourage demand and supply of "green products"; stakeholder involvement; updating and further development; creation of various tools.

In order to ensure the effectiveness of this strategy, the Commission has provided for a review of its every three years.

D. Voluntary Environmental Agreements

Environmental agreements represent a form of co-financing the regulatory role to support active involvement and empowerment of economic operators against environmentalists. They are voluntary and are used routinely in all Member States, at national, regional or local level. Among their advantages are: proactive approach on the part of industry;

effective solutions and created specifically for the problems identified; achieving environmental objectives quickly.

Areas in which these agreements at Community level can have an important role are: PVC products impact the environment, integrated products policy, climate change and waste management.

E. Fees and taxes for the environment within the single market

Fees and environmental taxes were adopted in 1997, as a way to promote the use of fiscal instruments in order to increase the effectiveness of environmental policy. These are fees and taxes imposed by the MS (and not at Community level), what strategy was encouraged by the Standing Commission and involving the use of two categories of fees and environmental taxes: the applicable pollutant emissions (for example, taxes on water pollution, noise emissions; in aviation); the products (excise tax on oil, pesticides).

Revenue from these fees and taxes are added to the budgets of MS and may be used for the purpose of financing environmental protection activities, but also to reduce other taxes (such as taxes).

F. The European Environmental Strategy and Health (SCALE)

Considering the complex causal relationship between pollution directly, changing the characteristics of the environment and human health. SCALE is the result of constant concern to the European Commission in this direction and was initiated in June 2003, being drawn up by DG Environment DG Research and DG Health. The element of novelty of this strategy is focusing on children's health-representing the most vulnerable social group most affected by environmental pollution effects-unlike the rest of the environmental legislation, which is based on the norms and standards for adults.

G. Thematic strategy for waste management

For this strategy implementation, the waste has been classified into domestic or industrial.

In Romania, only 22% of the total waste produced are capitalized, the highest amount being removed by storage and only 1% being incinerated.

The objective of this strategy is the Elimination of the causal relationship between the rate of economic growth and resource use/production waste. The following issues are identified: to formulate a good policy on waste prevention is necessary scientific analysis, at present there is no reliable statistical data; in respect of recycling, must place greater emphasis on materials instead of emphasis on products that have completed the period of life; a new debate on the definition of waste; need to establish a common level of recycling of all Member States.

The European Union seeks a reduction in the period 2000-2010 with 20% of the quantity of waste generated, and by 50% by 2050. Union policy in waste management involves three complementary strategies: eliminate waste production at source through improved methods of manufacture of products; encouraging recycling and reuse of waste through their recovery in the special collection points; reduction of pollution caused by the incineration of waste. This measure requires careful monitoring due to the damage that can be made to the environment.

H. Management of emergencies and environmental risks

Extreme manifestations of natural phenomena such as storms, floods, drought, landslides, earthquakes and others, combined with technological accidents (serious pollution, for example) and conflict situations may have direct influence on the life of every person and of society as a whole.

Vulnerability highlights how much they are exposed to the man and his belongings in front of various hazards, indicates the level of damage that they can cause a phenomenon. The destruction of the environment results in an increase in vulnerability. It differs depending on the mode of the equipment and training of the population. Most vulnerable to the action of natural phenomena are poor States and social groups without material resources to protect themselves.

Classification of disaster from the point of view of NATO should be presented as follows: natural disasters: earthquakes, tsunamis, volcanic eruptions, landslides, flooding, drought technological accidents: a nuclear accident in nuclear power stations, chemical and industrial accident, plane crash, railway, naval, and acts of terrorism.

I. Thematic strategy for the urban environment

Following the Council meeting in June 2006, was adopted "thematic strategy for the urban environment", suggesting actions in four priority areas: sustainable urban management, transport, construction and urban design.

The measures set out in this strategy aim to contribute to a better implementation of EU environmental policies and legislation at the local level by supporting and encouraging local authorities to adopt a more integrated approach to urban management and inviting Member States to support this process.

Conclusions

The expansion of the European Union successive waves of put problems not just political, institutional, economic and social, but also from the perspective of the environment, and matters of environmental policy in the EU were boosted considerably.

As the security aspects of the environment worsens, the conflicts between States of the following causes: access and control of natural

resources; the decline in the standard of living and mass migration due to degradation of the environment; altering the actual power of States as a result of the degradation of their environment; pollution across national boundaries; global degradation of the environment (air, water).

Current threats to the security of the environment are related to the overrun of the support capacity of the natural conditions through population growth and multiplication of economic activity. Environmentalists assert that people would be able to reverse this trend of undermining their own living if he understands this. The fact is, for the time being, that environmental security is a security sector that tends to gain prominence over other sectors.

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HUMAN CAPITAL AND COMPETITIVENESS IN UE[1]

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Abstrat
The competitiveness is the engine of development and welfare's countries. The human capital has an important role in the construction of the competitive and sustainable economy. This paper is focus on human capital and tray to show how the human capital, as an important factor economic growth, can contribute to the competitiveness of the economy. Bontis (1999, cited by Bontis at all, 2000, p.89) "argues that human capital is important because it is a source of innovation and strategic renewal". G. Becker higlight on his work that:"many workers increased their productivity by learning new skills and perfecting old ones while on the job" (Becker, 1962, p11.) He consider that the training „has an important effect on the relation between earning and age" (Becker, 1962, p15.) and „could raise the new employee's productivity but would require additional expenditures by the firms" (Becker, 1962, p19), expenditure links with the training process. The relation between competitiveness and human capital is analyzing in relation with the innovation and R&D process (W. J. Baumol, 2002) or as factor of the increasing the competitiveness (factor al creşterii economice (Riley, 2012), or as factor of competitiveness increased (Russu, 2012, Kagochi and Jolly, 2010, Bontis at all, 2000). This paper is focus on relation between human capital and competitiveness based on the different technics trains to highlight the role of human capital in increasing the countries competitiveness".

Key Words: *human capital, human development, innovation, competitiveness*

JEL Classification: *E24, J24, F63, O15,O31*

1. Introduction

There is a large literature regarding the human capital and its contribution to the increased the competitiveness at national and regional level. Some papers highlight the human capital in relation to research and

[1] This paper represent a short part of the research program of Institute for Economic Forecasting

innovation processes[1] (Bontis 1999, Riley, 2012), or as factor of increases of competitiveness. Bontis (1999, cited by Bontis at all, 2000, p.89) "argues that human capital is important because it is a source of innovation and strategic renewal". Huggins and Izushi (2007, p.3) consider that "knowledge is the ingredient that underlies the competitiveness of regions, nations, sectors or firms".

G. Becker is one of the most important experts who try to evaluate the investment in human capital, showing that "many workers increased their productivity by learning new skills and perfecting old ones while on the job" (Becker, 1962, p11.) He consider that the training „has an important effect on the relation between earning and age" (Becker, 1962, p15.) and „could raise the new employee's productivity but would require additional expenditures by the firms" (Becker, 1962, p19), expenditure links with the training process.

Bhatt, in accordance to Grant, Marsh and Ranft, Nonaka, Simonin opinions considered that the development of the human capabilities based on knowledge give a sustainable competitive advantage (Grant 1996; Marsh & Ranft, 1999; Nonaka, 1994; Simonin, 1999). According to the David Lamotte, The ILO's Director considered that "today, human capital may be the most critical source of competitive advantage" (Lamotte, 2013, p.4).

Simion, Tobă and Barbu (2009, p.99) considered that the" the key-competences and the employee's capacities that support the development of new products, the offer of performing services to the customers and the implementation of organizational strategies become relatively more influent."

The present paper highlight the role of human capital as competitiveness factor trying to show its contribution to increase the national competitiveness based on econometric model. The paper is structured on three parts: first, trying a short literature review, second present the methodology and the third the results and conclusions.

2. Literature review

Giegiel and other (2007), analysing the international competitiveness in the context of human capital considered that the discrepancies between the education levels of the population could explain a great part of the productivity differences across OECD countries. „Competitiveness at the national level refers to a country's ability to achieve sustined high rate growth in GDP per capita that means constantly rising standard of living, by generally focusing on productivity trends." (Giegiel A, Anna Wildowicz,

[1] W. Baumol, in "The Free-Market Innovation Machine, considered innovation as a 'prime competitive William J. Baumol: "The Free-Market Innovation. Machine: Analyzing the Growth Miracle of Capitalism",. Princeton University Press, 2002

p.58). More than that, they consider the competitiveness as a dinamic concept, focus our day on the science and knowledge as one of the main source of competitive advantage, so the education, knowledge, intangible goods and technological infrastructure have had a more important role in achiving the competitive advantage at macroeconomic and microeconomic level.

Many studies in the literature (Becker, 1964; Mincer, 1974; Becker and Lewis, 1973; Psacharopolus, 1994; Belamy, 1999 demonstrated the positive impact of human capital on productivity, poverty and health. Salahodjaev, Nazarov, (2013 p.64) considered that "It should be noted that the competitiveness index in human capital is an important tool in evaluation of the overall economic stability of the country and (N.a)…… having a better understanding on relative development of human capital in the developing countries enables policymakers to make timely policy interventions to address unmet needs of the general population."

C. Russu (2012) highlight the differences between Romania and other UE countries regarding the human capital as main competitiveness factor and the argument used was the underfinance of the research and development (R&D) at the national and manufactured sectors. So, Romania invests around 0.4 per cent of GDP for R&D as compare to 3% establish by Lisbon Strategy.

Kagochi and Jolly (2010, p.58) considered that "productivity growth, reliability, delivery times, quality, after-sales service, financing arrangements, technological innovation, investment in physical and human capital, management style, and the institutional and structural environment play roles in competitiveness". They improves the Almarwani (2003) methodology by including human capital and technological innovation, measured by research and development (R&D) as the factors of competitiveness in their study, and the conclusion was that in some cases, for same countries, the investment in R&D improve the export competitiveness for agriculture products.

Luthans and Youssef (2004) treat the human capital as an investment in competitive advantage considering that the explicit knowledge of human capital is not unique and interconnected but is cumulative like financial and structural traditional capital, but the tacit knowledge of human capital (which is intangible), like positive psychological capital and social capital is on long term, unique, cumulative, interconnected and renewable, so that the "that traditional resources may no longer qualify as ideal sources of sustainable competitive advantage"(p.145) but "the positive psychological capital management in particular can effectively channel people's talents, strengths and psychological capacities toward achieving worthwhile

productive, ethical, sustainable outcomes and result in competitive advantage" (p.157).

Carlson (2001, p.1) considered that "Knowledge and an educated work force, along with an effective technological infrastructure, are among the most important competitiveness factors and most of the countries which are competitive are those that have developed an excellent education system and an educated labor force through additional training"

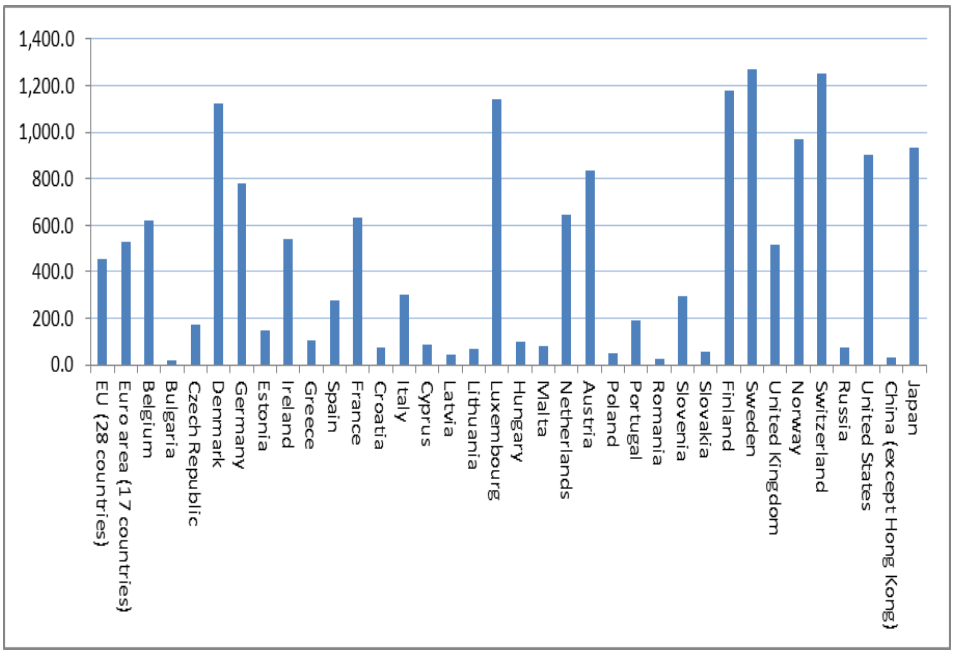
Saha, Pavelková & Sáha (2014, p.123) prove in their study that the performance, competitiveness and their productivity could be improve "through clustering and developing human capital, i.e. Human Resource"

3. Some consideration regarding the national competitiveness and human capital

First we must discuss about how we can measure the national competitiveness taking into consideration the long debate regarding this concept. But, beyond the debate, we leave now in a world that is divided by technological dynamism which influences the development speed of the countries. So, "the ability to sustain incomes and growth depends, in a globalizing world, on each country's ability to innovate or import and use technologies created elsewhere". (Lall, 2001,p.1505). So, the national effort to sustain the innovation process at national level could make the differences.

If we compare the Romania R&D average efforts express on euro per habitant with the average efforts of other countries (see figure 1) we can see that Romania during the 2003-2012 period invest only 24 Euro per inhabitant, the lower level (Bulgaria invest 21 Euro per inhabitant) as compare to 456 Euro per inhabitant the average efforts of EU (28 countries), 526 Euro per inhabitant as average Euro area (17 countries) or 1270 Euro per inhabitant in Sweden, 1139 Euro per inhabitant in Luxembourg, 1121 Euro per inhabitant in Denmark or more than 900 Euro per inhabitant in USA and Japan.

Figure 1 Total R&D expenditure (GERD) by sectors of performance and type of R&D activity as average during 2003-2012 period expressed on Euro per inhabitant

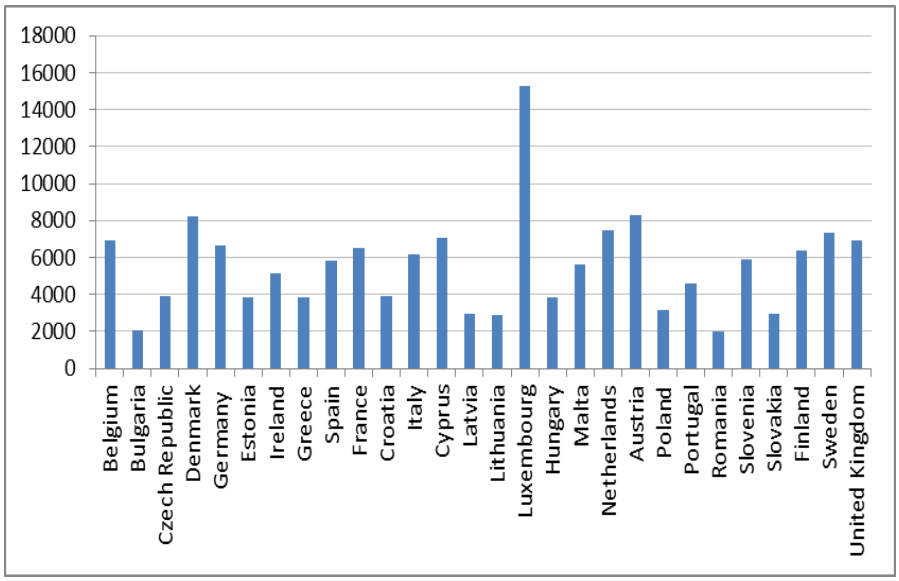


Surce: table rd_e_gerdact, Eurostat

But, the innovation capacity depend the human resource ability to create new products and technologies, in other words, depend on the human capital defined as "the knowledge, skills, competence and other attributes embodied in individuals that are relevant to economic activity" (Hartog, 1999, p. 1).

Of course the education process is very important for human capital development. But the education expenditure differs very much between EU countries. During the period 2000-2011, the annual expenditure on public and private educational institutions per pupil/student in PPS, for all levels of education combined, based on full-time equivalents was between 1970, the lower level registered on Romania (average for 2005, 2009 and 2010) as compare to15273 registered on Luxembourg, the higher level, or around 8259 registered on Austria and Denmark or 7348.6 on Sweden, as we see on data from figure 2.

Figure 2 The average annual expenditure for 2000-2011 on public and private educational institutions per pupil/student in PPS, for all levels of education combined, based on full-time equivalents



Source: Author computing based on Eurostat data table [educ_fitotin]

The relation between human capital and competitiveness expressed as number of patent[1] was highlight by Pelinescu Elena and Elisei (2014) using a panel model for EU countries. They found a positive and statistically significant correlation between the actual number of patents and R&D effort at national level, between number of patents on one side and graduate per 1000 of population aged 20-29 with a 4 years lags, taking into consideration the necessity of experience for young researchers.

3.1.The model and results

In order to highlight the relation between competitiveness and human capital we apply a panel models dedicated to cross-country data analysis as Islam used on this study from 1995. The selected data indicators are as follows: the number of the patent (noted as Pat) used as dependent variable and proxy for competitiveness on the one side and as independent variable: the expenditure of R&D as percent of GDP(noted as RDExp), the participation rate in training (last 4 weeks) for first and second stage of

[1] Composed as the sum of domestic ownership of foreign inventions in patent applications to the EPO by priority year at the national level and foreign ownership of domestic inventions in patent applications to the EPO by priority year at the national level

tertiary education (levels 5 and 6) from 25-64 years noted RTERTTRAIN, and the GDP per capita at PPP (international $, current 2011), noted GDP.

The sample data covers the period 2004-2011 and all the 28 European countries and the source of data is Eurostat database, and the descriptive statistics of the data are presented on the table 1.

Table 1 Descriptive statistics of the time

	DLOG (PAT?)	**DLOG (RDEXP?)**	**DLOG (RTERTTRAIN?)**	**DLOG (GDP?)**
Mean	-0.008828	0.031246	0.016555	0.047896
Median	0.014422	0.020836	-0.006858	0.045473
Maximum	1.945910	0.712950	0.916291	0.282358
Minimum	-1.427116	-0.298493	-0.554997	-0.195210
Std. Dev.	0.413333	0.087685	0.184935	0.070320
Skewness	0.245817	1.942237	1.517593	-0.204616
Kurtosis	7.068411	17.05555	8.254675	5.050413
Jarque-Bera	194.5267	2463.167	426.5443	50.63845
Probability	0.000000	0.000000	0.000000	0.000000
Sum	-2.454318	8.686445	4.602167	13.31509
Sum Sq. Dev.	47.32391	2.129766	9.473643	1.369719
Observations	278	278	278	278
Cross sections	28	28	28	28

Source: The processing of the author

All the data were stationary on logarithm of the first differences. Statistical analysis of the series shows big differences, standard deviations vary in reaching a low range. Also there is a asymmetry, Skewness values were mostly positive except for GDP, while Kurtosis indicator varies above 3 and the high level of the Jarque –Bera test indicate the non-normality of the distributions.

The chosen model is with cross fixed effects for countries and periods since both national and specific changes in different periods influenced the relationship between indicators. The independent variable was the number of patents (Pat) as expression of innovation pillar for national competitiveness.The model revealed the existence of negative coefficients in 2009 and 2011 that could show the impact of the financial crisis started in autumn 2007 and felt late in EU member states (Table 2).

Table 2 Pooled Least Squares model for 2004-2011 period

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.129522	0.046901	-2.761607	0.0064
DLOG(RDEXP?)	0.533655	0.237783	2.244293	0.0260
DLOG(RTERTTRAIN?(- 1))	-0.222623	0.109735	-2.028730	0.0440
DLOG(GDP?(-3))	0.989489	0.600819	1.646900	0.1013

Source: The processing of the author

The R-squared is 0.521648 and Adjusted R-squared is 0.422771. Statistically, the data model indicates a positive and significant correlation between patents and the explanatory variables.. Negative relationship between patents and the participation rate in training (last 4 weeks) for first and second stage of tertiary education (levels 5 and 6) is less than the theoretically expected and indicate the adverse effects; however, an explanation could be the specificity of innovation activity which depend more by tacit knowledge.

Conclusions

This paper highlighted the importance of human capital in ensuring national competitiveness expressed as number of patents.

The model revealed a positive relationship, statistically significant between the innovative capacity of nation as a main pillar of the competitiveness indices used by the international organizations (evidenced by the number of patents) and human capital express by the the expenditure of R&D as percent of GDP.

Unexpected is the negative relationship between the participation rate in training (last 4 weeks) for first and second stage of tertiary education (levels 5 and 6) and the number of patents.

Moreover, the model showed negative influence both the economic crisis (negative coefficient for years 2009 and 2011) and differences deriving from specific countries.

In the future we will use in the model as alternative variables for human capital, weighted average of the population enrolled in primary education, secondary and tertiary to highlight how the results were influenced by choosing the proxy for human capital.

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Annex 1

The Pooled Least Squares Model

Dependent Variable: DLOG(PAT?)				
Method: Pooled Least Squares				
Sample (adjusted): 2004 2011				
Included observations: 8 after adjustments				
Cross-sections included: 28				
Total pool (unbalanced) observations: 217				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.129522	0.046901	-2.761607	0.0064
DLOG(RDEXP?)	0.533655	0.237783	2.244293	0.0260
DLOG(RTERTTRAIN?(-1))	-0.222623	0.109735	-2.028730	0.0440
DLOG(GDP?(-3))	0.989489	0.600819	1.646900	0.1013
Fixed Effects (Cross)				
BELGIA--C	0.021498			
BULGARIA--C	0.027753			
CEHIA--C	0.033511			
DANEMARCA--C	0.076300			
GERMANIA--C	0.047294			
ESTONIA--C	-0.058819			
IRLANDA--C	0.000863			
GRECIA--C	0.056526			
SPANIA--C	0.046037			

FRANTA--C	0.028670			
CROATIA--C	-0.131109			
ITALIA--C	0.067491			
CIPRU--C	0.006852			
LETONIA--C	-0.191548			
LITUANIA--C	-0.312764			
LUXEMBURG--C	0.053988			
UNGARIA--C	0.000544			
MALTA--C	0.105940			
OLANDA--C	-0.066470			
AUSTRIA--C	0.026252			
POLONIA--C	0.097003			
PORTUGALIA--C	0.008651			
ROMANIA--C	0.048222			
SLOVENIA--C	0.032160			
SLOVACIA--C	-0.041695			
FINLANDA--C	-0.018527			
SUEDIA--C	0.064679			
ANGLIA--C	0.008994			
Fixed Effects (Period)				
2004--C	0.124267			
2005--C	0.258541			
2006--C	0.076864			
2007--C	0.113747			
2008--C	0.003109			
2009--C	-0.002128			
2010--C	0.078179			
2011--C	-0.652579			
	Effects Specification			
Cross-section fixed (dummy variables)				
Period fixed (dummy variables)				
R-squared	0.521648	Mean dependent var		-0.047764
Adjusted R-squared	0.422771	S.D. dependent var		0.386188
S.E. of regression	0.293409	Akaike info criterion		0.543218
Sum squared resid	15.40987	Schwarz criterion		1.135090
Log likelihood	-20.93917	Hannan-Quinn criter.		0.782310
F-statistic	5.275711	Durbin-Watson stat		2.846052
Prob(F-statistic)	0.000000			

Annex 2

The tests for fixed effects

Redundant Fixed Effects Tests			
Pool: _DATECONFERINTACHINA			
Test cross-section and period fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.623695	(27,179)	0.9262
Cross-section Chi-square	19.510698	27	0.8506
Period F	22.896780	(7,179)	0.0000
Period Chi-square	138.756836	7	0.0000
Cross-Section/Period F	5.398046	(34,179)	0.0000
Cross-Section/Period Chi-square	153.143688	34	0.0000

TESTING FOR FISCAL CONVERGENCE IN THE EU COUNTRIES

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Abstract
This paper tests for the presence of fiscal convergence in 27 EU countries during 1995-2012. We use the methodology proposed for β convergence in order to check for similarities and divergences between the old and the new EU member states as regards the convergence speed. We are also interested if the pace of convergence was maintained during the whole period or if there are differences between the years 1990s and 2000s. The panel data model is used in order to analyse the convergence on groups of countries and time periods. The results point to the existence of the fiscal convergence process in both the old and the new EU member states, but with major differences depending on the period analysed.

Keywords: *fiscal convergence, β convergence, panel data, European Union*

JEL codes: *C23, E62, O47*

1. Introduction

The abolition of economic frontiers for the establishment of a new economic space (known as dynamic integration, according to Dragan, 2005) is still a debatable and controversial topic among scholars as regards the construction of the European Union (EU). The main instrument of European construction is the voluntary disposal of certain aspects of national sovereignty in order to achieve the common good of the Union. This means that some components of the national economy continue to operate separately, coupled with the integration of several policies (Lupu et al (2014)).

The European Union is far from being completed. At present, common EU policies are coupled with divergences that are still waiting to be negotiated. The ultimate goal, categorically expressed at the beginning of

2014 by Viviane Reding, former Vice President of the European Commission is that "the euro area should become the United States of Europe". In this context, the idea of convergence is the leitmotiv of the European construction. The EU membership implies the responsibility of adopting euro as the single currency, as stated in the Treaty establishing the European Economic Community, and thus being part of the Economic and Monetary Union (EMU).

Still, the single currency leads to an asymmetry in the monetary and fiscal governance of the EU (Demertzis and Peeters, 2001). While the monetary policy is conducted at supranational level, with the precise aim of ensuring medium-term price stability, the fiscal policy rest in the authority of each Member State, with the main purpose of absorbing the country-specific shocks. This calls for a certain flexibility of fiscal policies. But the coordination of the fiscal policy and more exactly its results have a distinctive manner of being assessed. The fiscal policy is in the competence of each Member State, but the failure in the compliance of the fiscal policy criteria falls under the excessive deficit procedure for both the euro area countries and the ones that are simple EU members.

Therefore, fiscal convergence is a central element for the monetary unification (Blot and Serranito, 2006), emphasized with the entry into force of the Maastricht Treaty, which imposed the limit of 3% of GDP for the budget deficit and of 60% of GDP of the public debt in each Member State. The criteria for fiscal stabilization were included in the Stability and Growth Pact (SGP) in 1997; according to this, the obligation of the EU countries is to limit the budget deficit to maximum 3% of GDP and to aim for balanced budgets or for surplus; penalties are added in case of failure. At the time of its entry into force, SGP was considered the strictest commitment voluntarily adopted by a sovereign state (Buti and van den Noord, 2004) with the objective of establishing and maintaining solid public finances.

The present paper investigates the presence of fiscal convergence in 27 EU member states. The paper is structured as follows: section 2 provides some interesting issues in the literature of the fiscal convergence, section 3 presents the data and the methodology used; section 4 discusses the results while we draw several general conclusions in the last section.

2. Literature Review

The studies on fiscal convergence are less numerous; their relative higher frequency in recent years is due to the intensified measures at European level for the coordination of fiscal policies and the surveillance of financial stability. The concept of fiscal convergence is used in empirical studies in various versions, as we shall see below. However, although we note the scarcity of studies in this area and the different variables used to

check for the fiscal convergence, the results prove the existence of convergence in particular in the EU-15, i.e. the countries that formed the EU between 1995-2004.

Esteve, Sosvilla-Rivero and Tamarit (2000) study fiscal convergence in tax burden for the 15 EU member states during 1967-1994 using the method of cross-sections and time series. The authors use the notions of β and σ convergence and find both types of convergence for the period 1979-1994, with a significant period of divergence during the years 1967-1979. Based on the long term properties of time series, the results signal several differences in the evolution of convergence. Therefore, increases in convergence are found in Belgium, Italy, Portugal, Spain, Sweden and United Kingdom (for the first four countries, only during 1967-1990), and in Austria and Finland when compared to Germany. Sosvilla Rivero et al. (2001) reach a similar result. Their empirical study checking for σ convergence during 1967-1995 in 15 EU member states state for a lack of continuity in this type of convergence. Basically, convergence is noticed between 1967-1974 and 1984-1995 and divergence is registered in the decade between them. Moreover, convergence is stronger in the core EU countries and lower in the countries on the periphery.

Delgado (2006) expands the period of analysis starting with 1965 until 2013 for analysing the β and σ convergence in taxes and fiscal burden. The countries seem to follow a convergence trend especially during 1975 to 1990. After this year, the progress is slower.

Țibulcă (2014) analyses the σ convergence during 1965-2011 on a variable expressing the GDP share of income from taxes. The lack of convergence is signalled during 1965-1988 and 2008-2011, especially as a result of the economic crisis. Instead, starting with 1989 until 2007, there is a period of fiscal convergence, largely as a result of the European regulations in this regard. With the crisis, Member States chose to focus on fiscal needs in their own countries, leaving aside the efforts in increasing convergence that were achieved before.

Based on the Gini coefficients, the results of Gemmell and Kneller (2003) indicate the presence of convergence in 10 EU countries for the period 1970-1995. The notion of convergence is verified for the fiscal pressure.

The Eurozone accession could be a favourable moment for increases in convergence. In this view, Fatas and Mihov (2003) analyse the position of the fiscal policy in the first two years of the EMU functioning by using a comparison between a measure on the cyclically adjusted primary balance with a measure of discretionary fiscal policy for the 10 countries of the euro area in 1999 and 2000. The results point that the fiscal convergence is more important than the budgetary convergence started with the Maastricht

Treaty. There is an increase in the symmetry of fiscal policies as compared to the previous years and a decrease in discretionary policies. The efforts towards fiscal stabilization continued after the accession to the euro area. The fiscal convergence has been accompanied by a convergence of average rates of taxation, which was stronger than the real convergence process.

Blot and Serranito (2004) test if the fiscal policy in the EMU countries has led to enhanced convergence. They find that the convergence process preceded the Maastricht Treaty. Convergence is noticed only for fiscal revenues adjusted for the cyclical component, but not in the case of the fiscal expense.

De Bandt and Mongelli (2000) seek to determine whether the integration of economic, financial and monetary policy on the one hand, and institutional factors on the other hand, led to a gradual convergence in the key fiscal variables in the euro area. The authors use cross-correlations, dispersion and cointegration tests during 1970-1998 for variables such as the net government borrowing, the total current revenue and current expenditure. Their aim is to discover common trends as signs of fiscal convergence. The results point to an increase in cross-correlations during the whole period of analysis, a constant reduction of dispersion for the fiscal variables used and cointegration for several countries in the euro area as regards the total current revenues and expenses.

The main objective of Onorante's (2006) research is to identify if the reduction of public deficits is necessary or useful in adopting the single currency. The author uses a game theory model where he analyses the interactions between the monetary, fiscal and wage policies. The process of reducing deficits should be finished before a country become part of a monetary union, since the incentives to reduce them after this moment are lower.

Furceri (2009) concludes that there is a positive relationship between fiscal convergence and the volatility of the business cycles. The author uses a panel model where 21 OECD countries are included, among which 11 countries in the Euro Area. A 1% increase in fiscal convergence will reduce the volatility of the business cycles by 0.6%; for the countries that are EU members, the impact on business cycles is stronger. Moreover, a reduced volatility due to fiscal convergence is responsible for stimulating economic growth. Fiscal divergence, caused by a 1% increase in the volatility of the business cycle, will reduce by 2.4 percentage points the average rate of economic growth. Therefore, the importance of fiscal convergence especially for an economic and monetary union could be seized in boosting the long-term economic growth by reducing volatility in business cycles and in reducing the cost of stabilization arising from the creation of a single currency.

Delgado and Presno (2010) use an empirical approach based on time series, while the fiscal convergence is expressed as the GDP's share of total fiscal revenues in the EU countries as compared with the benchmarks in Germany, United Kingdom and the EU average in the period 1965-2004. For the analysed period, the authors find that the convergence process is rather low, despite the efforts made in this period for the tax harmonization. UK and Germany are the most important countries where convergence can be found.

Avi-Yonah (2010) found evidence for the convergence in the tax rates during 1980-2010. Still, the asymmetry in the income tax rates endangers the distribution of revenue growth rates and the mobility of capital and labour, as notifies Frenkel and Razin (1996), cited by Sosvilla et al. (2001). Convergence in tax rates would solve and eliminate such problems.

3. Data And Methodology

The aim of the empirical analysis is to complete the studies in the literature by using a similar methodology for all the 27 EU countries (except for Croatia, due to relatively few available data to cover the period of analysis) in order to check for β convergence.

We will also emphasize the differences or the similarities between the old and the new EU member states as regards the speed of the fiscal convergence. The first group of countries is composed by 15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom), while the second one comprises 12 countries that joined the EU in 2004 and 2007 (Bulgaria, the Czech Republic, Cyprus, Hungary, Estonia, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia).

The division between the two groups of countries rather took into account their level of development than the membership of the euro area. The first reason for such a division is the different years of adopting the single currency in the countries that joined the EU starting with 2004; under these circumstances, the remaining period for testing the convergence would not have been relevant as regards the econometric requirements. The second reason is that Denmark, Sweden and United Kingdom are among the countries that have not adopted the single currency, and their introduction among countries like Lithuania, Hungary, Bulgaria or Romania would distort the results, given the different levels of economic development.

We analyse the convergence during 1995-2012, which encompasses the efforts of the old EU member states to meet the convergence criteria established through the Maastricht Treaty and of the new EU countries for joining the economic structure. Vintilă and Țibulcă (2012) use a similar

period, considering that a country that is not interested in the EU adhesion has no interest for measures in realising the fiscal convergence. In 1995, the countries in EU-12 started the adhesion process, therefore is reasonable to encounter signals of fiscal convergence.

We split the period of analysis into two sub-periods: the years 1995-2003 and 2004-2012. The importance of different analyses on both groups of countries and periods of time is emphasized in other studies, even on other topics, such as Popovici (2015). For the first period, we expect a higher speed of convergence for the old EU countries, which introduced the single currency in 1999. The convergence speed should increase in the second sub-period for the new EU countries due to the fact that some of them meet the Maastricht criteria for convergence and adopted the euro and that EU intensified its efforts in fiscal stability, through the strengthening of the SGP. Still, we expect that part of these efforts to be offset by the fiscal divergences arisen during the economic crisis (the period 2008-2012), which led to the explosion of budgetary deficits and public debt in some countries and meant austerity measures that affected the national tax system (increases in taxes, expansion of tax base, etc.).

We proxy the fiscal convergence by using three variables found in the literature: the budgetary deficit (DB), the public debt (DP) and the fiscal burden (expressed as the share of tax revenues to GDP). All the variables are expressed as percentage of GDP. The data sources are the Eurostat database and several editions of the report „Taxation trends in the European Union", issued by the European Commission. Since the negative values registered for the budgetary deficit do not allow the use of logarithms, necessary in modelling the β convergence, we proceeded to summing the minimum value of the deficit for each variable, thus obtaining positive data only. The procedure is accurate since we are concerned in observing the evolution of the variable.

The empirical model

β convergence is frequently used in the case of a group of countries which register, at the beginning of the analyzed period, an average income below the income of the whole group of countries (that is, for example, the case of the less developed countries) and whose incomes have a growth rate higher than another group of countries which, at the start of the period, had an average income over the average of all the analysed countries, such as the advanced countries (Esteve et al, 2000). More simply, the revenues from less developed countries grow faster than those of developed countries.

Moving this logic to the fiscal variables - such as the tax burden - the β convergence will occur if there is a negative relationship between the average growth of the fiscal pressure and the logarithm of its initial level.

The concept of the β convergence is derived from the neoclassical growth theory developed by Solow. The production factors and especially the capital register negative yields. The growth process should lead to a long term equilibrium characterized by a growth rate depending on the technological progress and the growth of the labour force. The decreasing return implies that, for less developed economies, the growth rate is higher, and therefore their revenues or the level of GDP per capita should become similar to the one in the rich countries.

To determine the β convergence, we use the following formula:

$$ln\left(\frac{y_{it}}{y_{i,t-1}}\right) = \alpha + \beta ln(y_{i,t-1}) + e_{it} \quad (1)$$

Where y is the variable where convergence is examined at the beginning of the period and throughout each year, α is the constant, β is the parameter that allows for checking the existence of the convergence, t is the year, i represents each of the countries analyzed, and e_{it} is the error term.

A significant negative relationship captured by the β coefficient indicates a convergence process. Also, the value of the coefficient indicates the rate at which the country is approaching the equilibrium - so it provides the speed of convergence.

We will use the panel data model as proposed by Baltagi (2005) and Hsiao (2006), as we consider that is the most appropriate in fulfilling our objective of analyzing convergence on groups of countries and time periods. We will estimate, totally, 27 cross-sections and period fixed-effect panels, as a result of the division in group of countries and periods.

4. Results

a) The results for the budgetary deficit

The results of the panel analysis confirm the existence of β convergence for both the EU-15 and EU-12 as regards the budgetary deficit. The result is validated for all the three periods of analysis and each of the coefficients is significant at 1% (Table 1). The signs of the β coefficients are negative, as expected, in each of the 9 panels for which we estimated the equations.

For the whole period of 16 years, the countries in EU-12 register a faster rate of convergence than those in the EU-15, given the higher value of the β coefficient. The convergence process was faster during 1996-2003 in EU, EU-15 and EU-12. The EU-15 countries converge faster to the equilibrium level in the 1996-2013 period than in the second period analyzed, for two reasons: the necessity of keeping the deficit at a low level

in the first 7 years in order to adopt the single currency and the divergence that followed in the next 8 years, imposed as a result of the economic crisis.

The pace of convergence is not similar between the two groups of countries. In both periods analyzed, the EU-12 converges towards the equilibrium faster than EU-15. The pace of convergence of the EU-12 is almost double the one in EU-15 in 1996-2003 and is kept higher in 2004-2012. Moreover, the results for the whole period of analysis indicate that the speed of convergence for the EU-12 countries is two times higher than that of EU-15.

Table 1. The results of the β convergence for the budgetary deficit

		β		α		Adj. R^2
		Coefficient	t-Statistic	Coefficient	t-Statistic	
Period 1996-2012	**EU**	-0,434279	-11,699,100	1,445,527	11,710,820	0,455023
	EU-15	-0,302283	-7,081,738	1,013,604	7,091,113	0,597708
	EU-12	-0,660294	-10,172,610	2,177,826	10,180,250	0,436120
Period 1996-2003	**EU**	-0,807843	-13,702,540	2,700,631	13,746,830	0,486215
	EU-15	-0,535344	-7,641,398	1,820,260	7,707,117	0,602459
	EU-12	-1,063,920	-10,861,710	3,493,441	10,862,760	0,531381
Period 2004-2012	**EU**	-0,383209	-7,361,610	1,266,596	7,332,287	0,580494
	EU-15	-0,344473	-4,838,319	1,134,965	4,790,180	0,609175
	EU-12	-0,438606	-5,472,179	1,453,121	5,482,653	0,545310

Note: all coefficients are statistically significant at 1%.
Source: authors' computations

b) The results for the public debt

Regarding the results for the public debt, although the negative sign of the β coefficients indicate the existence of convergence, the coefficients are significant only for the whole sample of countries and for EU-12 (Table 2).

In comparison to the previous situation for the budgetary deficit, the convergence speed is lower. We notice that the effects of the economic crisis are negatively affecting the fiscal convergence. This time too, the speed of convergence is higher in the period 1996-2003 that in the following years in both EU-12 and EU.

Table 2. The results of the β convergence for the public debt

		β		α		Adj. R^2
		Coefficient	t-Statistic	Coefficient	t-Statistic	
Period 1996-2012	**EU**	-0,112298	-5,664,477	0,439304	5,951,049	0,370487
	EU-15	-0,018972*	-0,700215	0,088872*	0,816815	0,413859
	EU-12	-0,145651	-4,835,374	0,520508	5,152,182	0,411392
Period 1996-2003	**EU**	-0,238606	-7,958,246	0,882058	7,937,420	0,468207
	EU-15	-0,067588*	-1,554,305	0,246408*	1,408,282	0,399635
	EU-12	-0,338942	-7,105,408	1,145,698	7,278,909	0,540712
Period 2004-2012	**EU**	-0,146083	-3,826,565	0,587124	4,121,400	0,408032
	EU-15	-0,062345*	-1,344,662	0,296240*	1,595,255	0,426575
	EU-12	-0,184795	-3,055,460	0,662836	3,233,413	0,449682

Note: all coefficients are statistically significant at 1%, except those market with *, which are not significant.
Source: authors' computations

c) The results for the fiscal burden

On the topic of the tax burden, we notice that the convergence process occurs for all the three group of countries, due to the negative and significant convergence coefficients (Table 3). This time, the countries in EU-15 are converging faster than those in EU-12 in each of the two sub-periods. One possible explanation is given by the fact that the EU accession increased the pressure of the fiscal competition and the equilibrium level is reached faster.

As compared to the previous results for the two variables, the convergence speed is higher in the second period, between the years 2004-2012. Moreover, if in the first seven years there is an important difference between the convergence speeds of the two groups of countries, in the next period they become very similar.

Table 3. The results of the β convergence for the fiscal burden

	β		α		Adj. R^2
	Coefficient	t-Statistic	Coefficient	t-Statistic	

Period 1996-2012	**EU**	-0,204166	-7,764,258	0,730722	7,758,936	0,193217
	EU-15	-0,302475	-6,453,897	1,109,950	6,459,426	0,247745
	EU-12	-0,166123	-4,697,249	0,575036	4,678,532	0,236723
Period 1996-2003	**EU**	-0,326492	-6,373,758	1,169,235	6,365,391	0,210944
	EU-15	-0,333901	-4,993,995	1,228,030	4,996,548	0,373821
	EU-12	-0,261723*	-3,348,033	0,904840*	3,332,519	0,211875
Period 2004-2012	**EU**	-0,386190	-7,100,962	1,381,932	7,103,239	0,235291
	EU-15	-0,390258	-4,802,835	1,428,762	4,807,012	0,165652
	EU-12	-0,385354	-5,001,504	1,339,089	4,999,449	0,322303

Note: all coefficients are statistically significant at 1%, except those markets with *, which are significant at 5%.
Source: authors' computations.

Conclusions

Fiscal convergence appears as a necessity given the need of maintaining the health of public finances and the monetary sustainability at the EU level. The measures taken so far increasingly relate to the coordination and the supervision of the fiscal instruments in order to avoid the collapse of the single currency project and to strengthen the present initiatives for the economic integration. Therefore, the fulfilment of the Maastricht convergence criteria should become durable, which has been implemented already through the SGP reform and the launch of the fiscal compact.

The present study confirms the existence of the convergence for the fiscal variables not only for the EU-15 countries, but for the latest members of the EU in Central and Eastern Europe. The aim of this research was to cover some of the gaps found in the literature especially that the studies on the fiscal convergence are quite few. Therefore, we used three variables for expressing the fiscal convergence and we applied a similar methodology for identifying convergence in all the 27 EU countries. Moreover, our aim was to identify the differences or similarities between the new and old EU Member States as regards the fiscal convergence speed and the periods when the convergence was amplified.

The results of the panels confirm the existence of β convergence for all the groups of countries. Regarding the fiscal convergence criteria established through the Maastricht Treaty, we identify a similar behaviour:

the speed of convergence for both the budgetary deficit and the public debt is higher for the countries in EU-12 and in the period 1996-2003. This situation mirrors the divergent impact of the economic crisis on convergence at the whole EU level. We signal a lack of significance for the coefficient of convergence measured on the public debt for the EU-15 group of countries, the only case where we face such a situation.

The signal of convergence is also available for the fiscal pressure. This time, the highest convergence speed is found for the old EU member states for the period 2004-2012. Still, these results should be carefully interpreted, as they are partially due to the structural reforms or the austerity measures taken for tackling the economic crisis.

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THE MORALITY IN ACCOUNTANCY

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Abstract:

Accountancy integrates directly and indirectly in the procedures of making decisions since economic decisions depend on the availability of financial information, which is generated by accountancy. The accounting system prepares the information to accomplish the needs of stakeholders. That integration can be done throughout two stages: a) designing and implement the accounting system, b) external auditing on the previous stage. The second stage has been highlighted by accounting foundations and institutions, accordingly, the internal standards are widely discussed, but that did not avoid the financial crisis that took a remarkable place in the business world and that led to several corporations' scandals even the financial reports of these corporation was clean from any financial hardship. That motivates academicians to discuss the current accounting qualifications and education in the light of the moral principles, in the light of that, the article tries to treat these qualifications that the accountants must have.

Key Words: *Accounting, Auditing, Morality, Ethics.*

JEL Cassification: *G34, M41, Q56*

1. Introduction

Accounting profession is always being in the center of academic discussion when the financial scandals take place, especial, the recent scandals clarify that the main problem is presented in the accounting profession, basically, the lack in morality and ethical acts in this profession play the main role in these scandals. The Enron scandal presented that perfectly; the financial reports did not mention the risky points even that account standards were applied, in addition, the reports flowed this scandal pointed out the immoral acts of executives and managers besides the non-ethic behaviors of external auditors.

The accounting standards have been improved and the fair value evaluation has been adopted, even though, the risk of repeating certain issues that lead to another scandal. In the light of that, there is a need to not

limit the movements on the practical side since the accounting as a profession is a social science concerning on ethics behaviors and moral acts. That attracts academicians and researchers to look deeply in this scandal besides others to analysis the consequences and the factors behind and to issue certain characters hold by an accountant.

2. The scientific and rehabilitative programs of accountancy:

Accountancy has an important role in the financial community because it offers information that is necessary for facility studies and continues providing information to service the corporation sustainability. The information are used to measure the company's performance and contribute in the investment decision, also accountancy selects the good way to end the company's activities. The information system is generated by accounting system and used to measure the quality of the national economy and that helps the state to restructure companies and recognize projects at the macro level to serve the national needs. Therefore, the importance of accounting represents in the economy unit which represents the core stone of the economic system.

That encourages academicians and concerned institutions to focus more on the accounting as a career, which is divided into two categories; post-graduate of university, and Chartered Accountant and auditor, accordingly, the accounting standards of this career are important, especially, the auditors present reports over the macro and micro economic activities. Besides that, there are no stick terms that can control the individual behavior of the auditor and chartered accountant since both sometimes uses his personal estimations to evaluate certain economic activities.

Important features must be available in who occupies the accounting career:

1- Integrity
2- Objectivity
3- Independent
4- Reserved over clients' secrets.
5- Professional care
6- Ethics
7- Respect the professional standards

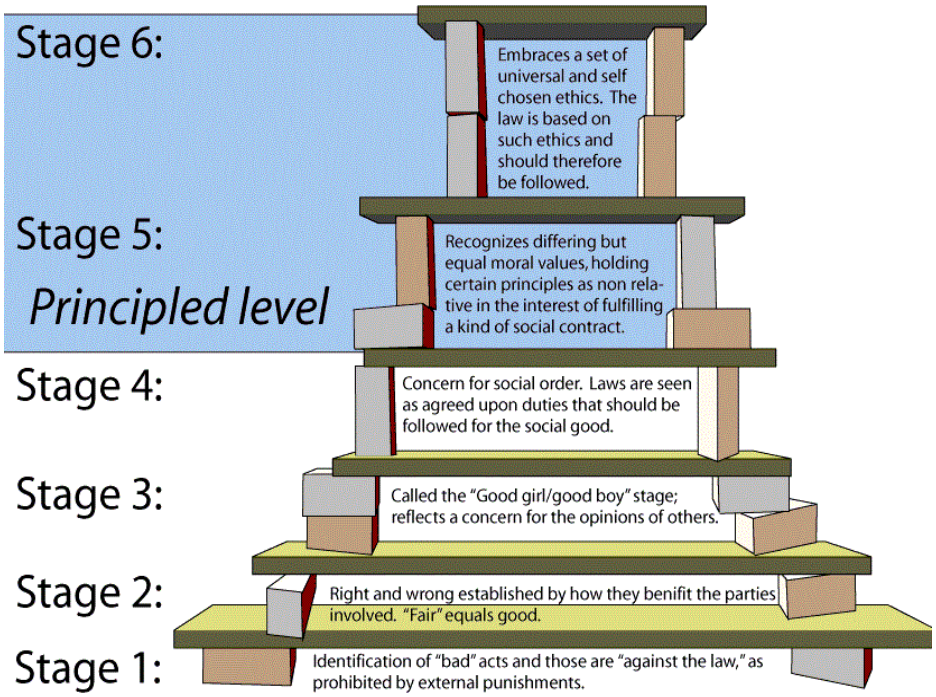
In the light of a statistic study has been done by Stonciuviene and Naujokaitiene (2013), show:

	Perceived ethical behaviour	
	Correlation coefficient	*p*
Sense of duty	0.376	0.000
Integrity	0.431	0.004
Fairness	0.311	0.000
Attentiveness	0.377	0.000
Independence	0.413	0.000
Self-confidence	0.572	0.000

That highlights important topics that concerned institutions and corporations must work over; all the percentage are less 0.50 except self-confident; still independence and integrity points must be adapted continuously to reach a trustable levels.

The concerned institutions and authorities highly apply certain procedures to ensure that these features are strictly respected. For example, the third standard of the American Institute of Certified Public Accountants assures that the chartered accountant must provide the necessary care over the responsibilities in order to avoid sanctions due to his negative behavior. In addition, Anderson County Government restructured the American constitution in 1988 to rebuild the internal structure of accounting as a career (AICPA;1988), The United Kingdom followed that through issuing the moral guide in the accountancy in 1992 to ensure the high quality performance of accountants. Even though, that takes the shape of recommendations rather than codes to be respected when the chartered accountant and auditor practice their responsibilities. In the light of that, any codes have been issued or may be issued in the future cannot avoid any crisis caused by the behavior of chartered accountants or auditors, an example, the financial scandal was integrated among local banks; Emirate Commercial Bank, Union Commercial Bank and Gulf Commercial Bank, the solution was by creating a new bank called Abu Dhabi Commercial Bank and the financial reports of those three local banks did not mention any issue.

Briefly, Kohlberg theory of moral development bases on an important fact that moral is a wide developed topic in physiological researches. The theory contains six stages of moral development from childhood to adulthood as the following:



Kolhberg's Theory of Moral Development
Angels Oswalt (1995)

3. The role of accounting profession in the failure economic units:

In the recent three decades, several financial institutions collapsed and financial crisis affects the international economy besides other surprises that push concerned institutions and authorities to look up deeply over regulations that organize the accounting profession. Here, we may shortly highlight what happened in the United Kingdom, Bank of Credit and Commerce International in 1991; the bank had seventy nine branches around the world. The bank involved in illegal transactions for a while before the scandal, even though, its auditors' reports were free from any sign regarding those transactions.

Due to that, the British codes such as Financial Services Law (1986) and Banking Law (1987) could force chartered accountants and auditors to respect related standards to declare those illegal transactions. Besides that, Barings Bank crisis was sixth biggest bank in the United Kingdom in 1995; the reasons for the collapse are due to fatal errors that are made by one of its directors pointed by two points:

1- Serious deficiencies in internal auditing.
2- Non-application of internal control standards.

3- Serious deficiencies of the main branch responsibilities over controlling branches' activities.

Overall turns on the weak internal auditing system, besides, the financial reports did not include all the obligatory information that referred to the previous points.

Taffler and Meggy (1984) reached an important conclusion that seventy five per-cent of failure companies had clean auditing reports. They studied thirty one companies include the biggest six auditing companies in the United Kingdom.

Auditing Company	**Number of failure companies**	**Number of companies that have reserved reports**	
Arthur Anderson	4	1	25%
Coopers and Lybround	3	-	0%
Deloitte Haskins and sells	4	2	50%
Enest and Whinney	3	1	25%
Peat Marwich Michell	6	3	50%
Price Waterhouse	4	1	25%
Touch Ross	3	-	0%
Thomson	1	-	0%
Author Yound Mccell and Moorse	4	-	0%

That means, the average of reserved reports in these big auditing companies do not exceed twenty six percent and for normal auditing companies is twenty four percent.

In the United States of America, the loss of auditing reports prepared by biggest auditing companies was approximately One thousand three hundred and fifty million of American dollar, in addition, others financial scandals happened without any given sign in auditing reports. That put the American and the international economies on the edge because of useless auditing reports. However, that pushed Price Waterhouse – International Auditing Corporation declares that the creditability of the auditors is lost. Over all opens the door to discuss corporate governance by its codes as a part of solution, thus, governance codes have been continuously adapted after each scandal and crisis even they are still dealt as recommendations.

Cadbury code 1992	-	⇩	Main principles
Greenbury code 1995	-		
Combine code 1998	-		
Revised combine code 20003/06/08	17		
British corporate governance code 2010	18		
Cadbury code 1992	-	⇩	Supporting principles
Greenbury code 1995	-		
Combine code 1998	-		
Revised combine code 20003/06/08	26		
British corporate governance code 2010	24		
Cadbury code 1992	-	⇩	Principles
Greenbury code 1995	-		
Combine code 1998	17		
Revised combine code 20003/06/08	43		
British corporate governance code 2010	42		
Cadbury code 1992	19	⇩	Provisions
Greenbury code 1995	39		
Combine code 1998	47		
Revised combine code 20003/06/08	48		
British corporate governance code 2010	52		

Corporate Governance Relation with Accounting Standards
Saltaji (2013)

4. How the moral sides strengthening the accounting profession?

The issue that leads to failures mentioned above mostly is related to the ideological side of accountancy, which may return to weak procedures in the internal auditing system especial those monitor the moral side of accountants or connected to the character of the person in the charge.

Accounting and auditing are sciences like a social science that are structured on a theoretical and acknowledgement base depending on logic and abstract thoughts, which extrapolate the reality of business and scientific field. These two sciences are not like natural sciences proved through verification the results of the recorded facts, but the social science including accounting and auditing, are under verification till use the results as facts in the light of the objectives. However, the philosophical perspectives and the practical perspectives of the moral side in accounting and auditing sciences are far from each others. Due to that, the American Accounting Association (AAA) concerned on that through studying moral and ethics as courses besides other courses in a college, besides that, the American Chartered Accounts Institution recommended the same courses. Due to Lybrand, Ross Bros & Montgomery accounting firm, now:

Pricewaterhouse Coopers, says that theses two sciences are provide public services. The accounting as a profession and as an asset is provided by the fact that it is responded to certain standards beneficial for the public interests. Accounting is focused with setting professional ethic and moral behaviors standards, and the performance in the financial activities is complying with moral and ethical perspectives. That means, the possibility of developing a consensual reflection on accounting basing on philosophy. Kerven (1993), tried to highlight the importance of accounting system made the distinction among ethics and strategic, in the light of that, individuals and organizations tend to not consider always that accounting standards lay at the social and ethics values. The Anglo-Saxon school tried to present professional ethics rules by accounting institutions, and these standards basically include; competence, objectivity, confidentiality and integrity.

Conclusion

If something is clear regarding the current crisis, it is that lack in the morality of executives and auditors, and the issue is not an academic issue due to an ideological point since it is related to a social science. All the adapts of accounting standards will have a limit effect since governance codes are shaped as recommendations and as an individual opinion, the financial regulations should be rolled back, in the light of that, there is an urgent need to set certain characters of the accounting profession throughout teaching certain courses in the faculty in order to formulate the future accountants and auditors. Besides that, the stages' of Kohlberg theory should be implemented in the faculty's courses and that should be continued to adopt these stages in the procedures of issuing governance codes next to the moral and the ethics codes.

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ANALYSIS OF THE ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM DIFFUSION

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Abstract

As a reaction to the negative effects of economic development on the environment, the international community began to seek solutions to support a sustainable development. One of the solutions is the implementation of the environmental management systems.

ISO 14001 is an environmental management standard which establishes a worldwide environmental management system, with the aim of self-assessment or certification.

At the beginning of the present paper are presented the core concepts of the environmental management and ISO 14001 standard. Then, it is realized an analysis of the 14001 environmental management system diffusion at global, regional and country-level.

Keywords: *environmental management, environmental management systems, ISO 14001*

JEL classification: *Q00, Q01, Q56.*

1. Introduction

Throughout human history, the relationship between economic development and environment has undergone many changes. In essence, the environment has been viewed as a source of raw materials and energy required to sustain the living as a "depository" of unusable results of human activity. From primitive barter to the complex economic relations existing in society today, the economic evolution is reflected in the evolution of the main features of the environment, the environmental factors (water, air, soil, subsoil, flora, fauna) and their composition; structure, and how to make the circuit in nature, global environmental changes and the amount and quality of available natural resources for humans.

Environmental degradation occurs as a consequence of complex processes, in interaction, sometimes hardly controllable: population growth,

economic growth, scientific and technical progress, industrialization, urbanization, changing natural habitats finalized through the decreasing of the environment availability to ensure the necessary resources for the society.

As a consequence, it appeared the necessity to substantiate ecological economic decision to environmental management, which manifests itself in the economic development side of the company as the use of environmental management systems, "part of the general management system which includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources needed to prepare, put into practice, achieving, reviewing and maintaining the environmental policy "[ISO 14001]

2. Environmental management

In recent decades it can be observed the increased interest of organizations in environmental protection, some organizations introducing in their business strategies environmental protection objectives. Thus we believe that environmental management is present and the future in sustainable development of organizations.

In essence, concern for environmental issues took as its starting point the awareness of the gravity phenomena and environmental protection need. The 70 years is a milestone in this regard, through the emergence of environmental policies. The development of Agenda 21 is the cornerstone of environmental management, the first official framework which encourages governments and other bodies to develop environmental management. “Agenda 21 is a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment” [UNCED, 1992].

Analysis of the environmental management system is able to penetrate in the essence of the whole ecological issues. On this basis it can be established guidelines, the entire set of ecological-management strategy problems, which would ensure greater effectiveness of environmental management.

Environmental management, viewed as a coherent set of subsystems that are intertwined and condition, justifies its usefulness in environmental management systems through how the results of its responsible economic and social order, both quantitatively and qualitatively. (Ion, 2005)

One of the models for transposition of the principle: "It is better to prevent than cure", in the environmental management, was proposed by W.E Deming and has established itself as the 'Deming's wheel "or" Deming circle ". The Deming is a cyclical and dynamic model based on four steps:

- plan;
- do;
- check;
- act.

Figure 1. Deming circle

Source: Deming Institute

Introduction of the Deming revolutionized management thinking hastening the transition from a traditional management characterized by a static approach, "what?", "Wait and see what happens" at a systemic management, characterized by a dynamic approach, type “What & Why? " pursuing continuous improvement.

3. ISO 140001

An environmental management system can be viewed as a guide for how organizations should manage social and environmental issues. By using environmental management system as a management tool, organizations can manage their environmental problems, reduce waste and reduce their impact on the environment. Main objectives of the environmental management system are compliance with environmental regulations and pollution prevention. An environmental management system is an important part of sustainable development which much international organizations supports and encourages

These environmental management systems help organizations to reduce environmental impact. Whether discussing a development of a product, process or service by adopting a system of environmental management organization will strive to reduce the need for resources (water, electricity and raw materials) while reducing the amount of waste and air, land and water pollution.

Implementation of the environmental management it is achieved in a not very short time horizon, most often up to a year and involves all members of the organization. First of all organization leaders formulate environmental policy that will cover the entire organization. The next step, before everything is implemented, verified, reviewed and audited for certification, will consist of awareness and staff training in order to acquire new skills related to environmental protection.

Environmental management system (EMS) should provide all details necessary to assess the environmental impact of all processes and procedures, so to facilitate: decision making, strategic projections development of design, processing, packaging, distribution and marketing concepts, without negative effects on the environment. In this regard, along with EMS there is now a comprehensive set of management tools that helps solve environmental problems in compliance with the requirements of sustainable development.

Environmental management systems can be designed using the international standard ISO 14001 and Regulation EC 1221/2009 known also as the EMAS.

Voluntary self-regulatory initiatives such as the eco-management and audit scheme (EMAS) and the international environmental management system (EMS) standard ISO 14001 seek to provide all businesses with the means to develop systematic approaches to improve environmental performance [Ruth, 2004].

ISO 14001 is an environmental management standard created by the International Organization for Standardization (ISO) in September 1996 which establish an worldwide environmental management system, with the aim of self-assessment or certification. "The ISO 14000 standard actually comes from a previous norm BS 7750 'Specification for Environmental Management", which dates from 1992 and has had some success worldwide, and is still used by some companies "[Centrul de informare EMAS].

ISO 14001 takes some basic principles of ISO 9000, namely planning model Plan-Do-Check-Act. The model is based on the 17 points of quality control system. The main chapter headings: policy, action planning, environmental management programs, introduction and operation, control and revision activities, all in the spirit of continuous improvement. The standard don’t establish nothing related to environmental performance than absolute dedication to environmental protection, compliance and continuous improvement principle" [Fundatia Parteneriat, 2003]

Implementation within the firms of an environmental management system ISO 14001 or EMAS is in fact the principal way to introduce an integrated approach of all aspects related to sustainable development.[Burja, 2012].

ISO 14001 is now implemented by companies worldwide. It specifies requirements for an environmental management system to enable an organization to formulate a policy and environmental objectives taking into account legal requirements and significant environmental impacts. It applies to all environmental aspects that the organization can control and influence.

This international standard is applicable to any organization that is willing to:

– Implement, maintain and improve an environmental management system;

– To ensure compliance with its stated environmental policy;

– Demonstrate such compliance to others;

– Obtain certification / registration of environmental management system;

– On its own initiative to make a self-declaration of compliance with this standard.

To implement ISO 14001 in an organization must be fulfilled five stages:

1. Establishing environmental policy;
2. Planning;
3. Implementing of environmental management and operation;
4. Check and corrective actions ;

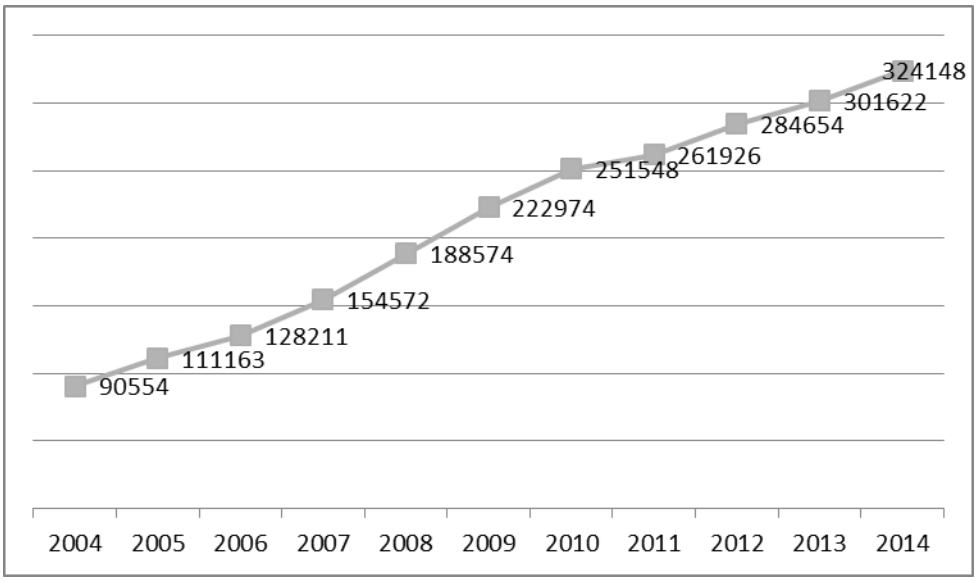
5 Analyses by managemen.t

All requirements of this international standard are intended to be incorporated within any environmental management system. The application extending will depend on such factors like the environmental policy of the organization, the nature of its activities and the conditions in which it operates.

Realizing the benefits of the EMS implementation, the organizations have increasingly allocated more financial, human and material resources, for building such a management system. This is why we are witnessing an increasing number of certifications at an impressive pace, and the main reason being the desire of organizations to increase their environmental performance. ISO 14001 is becoming the dominant international standard for assessing environmental management processes and in Europe many firms are also registering their EMS according to the Eco-Management and Audit Scheme (EMAS)[Morrow, Rondinelli, 2002].

As it can be seen in Figure 2, in 2014 the number of certifications worldwide has increased since 2013 by over 7.5% and compared to 2004 by over 250%.

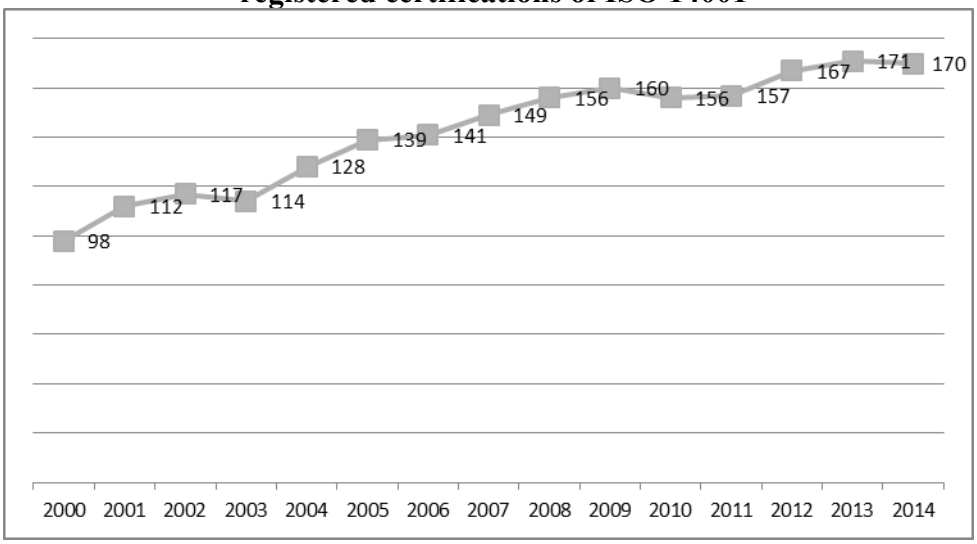
Figure 2. Evolution of the ISO 14001 number of certifications worldwide



Source: ISO Survey, ISO 2015

Also, has increased the number of countries in which are registered certifications of EMS. If in 2000 there were 98 countries with certified organizations at the level of 2014 there are 170 countries whose organizations have a certified EMS.

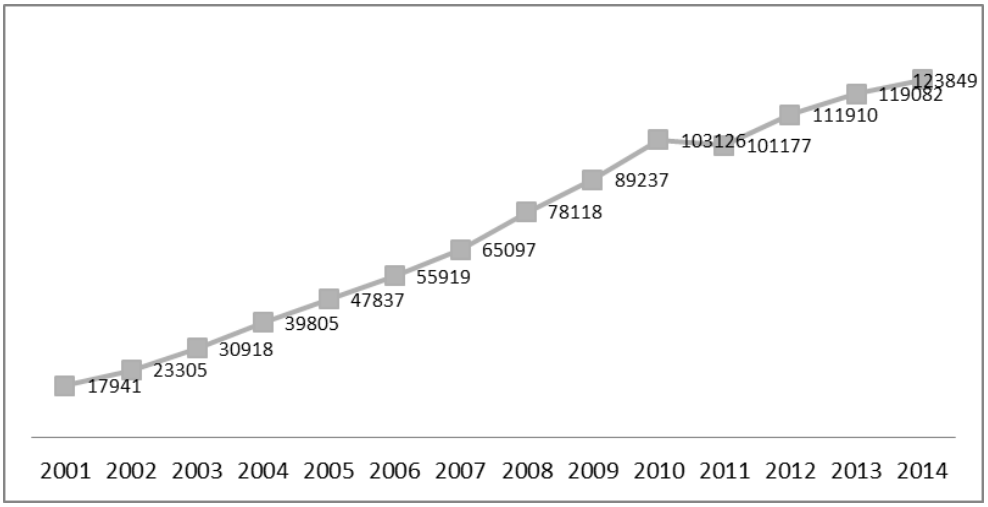
Figure 3. Evolution of the number of countries in which are registered certifications of ISO 14001



Source: ISO Survey, ISO 2015

Worldwide, in 2012, the largest number of certifications is recorded in China (117 758), second place are Italy (27 178) and ends with the podium Japan (23753). At European level the number of ISO 14001 certifications has increased from 17941 in 2014 2001-123849.

Figure 4. Evolution of the ISO 14001 certifications in EU



Source: ISO Survey, ISO 2015

Most certifications are recorded in Italy (27 178), followed by the UK (16 685), Spain (13869) and Romania (9302).

Table 1. Top 10 EU countries with ISO 14001 certifications

No.	Country	Number of certifications
1.	Italy	27178
2.	UK	16685
3.	Spain	13869
4.	Romania	9302
5.	France	8306
6.	Germany	7708
7.	Czech Republic	5831
8.	Sweden	3990
9.	Helvetia	2952
10.	Holland	2411

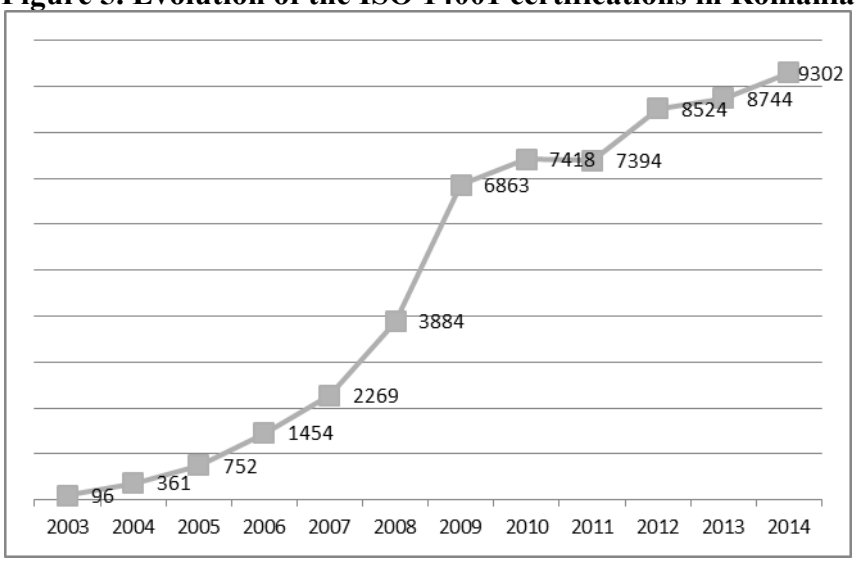
Source: ISO Survey, ISO 2015

A lot of companies in Romania have invested time, effort and resources in environmental activities that European organizations already

have made in the last decade. Some of them already have an environmental management system, others are far to introduce one, while some companies will introduce an environmental management system at the time when it will become a matter of survival.

In Romania the number of companies certified ISO 14001 thundering increased from 96 in 2003 to 9302 certified companies in 2014. The main reasons for this increase were the EU accession, the opportunity to conclude favorable contracts with foreign organizations, accessing external development funds or increase exports.

Figure 5. Evolution of the ISO 14001 certifications in Romania



Given the above and the fact that Romania still makes progress in raising environmental performance, we believe that environmental protection should be a priority for all Romanian organizations.

4. Conclusions

Environment and its condition is one of the major problems of humanity and, therefore, it always must be in the individual but also human communities' attention. More efficient than the corrective approach, designed to solve effects, it proves to be the preventive approach of the environmental issues, aimed at eliminating the causes

When environmental issues have begun to receive significant attention, a number of bodies and organizations have realized the need to develop management systems to correct, to plan and monitor the impact of environmental organizations. Effective control of pollution cannot be achieved by technological solutions, it needs to be approached as an

integrated EMS overall management of the organization. EMS is a tool for identifying, resolving, correction and control of environmental activities in an organization that can be implemented in different ways from one entity correlated with specific conditions. One of the most important families of standards is developed ISO 14000 standards on general environmental management systems designed to control the processes impact the organization overall environment.

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USING INFORMATION SYSTEMS IN DECISIONS FOR BUSINESSES

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Abstract: *The paper presents the benefits of usage of information systems in decisions for businesses, which can reveale the optimal choice of the solution in order to increase competitivity in a strategic economy. Within a company's computer system, systems for decision support are classified as systems for the management / management decision. They take data from specific transaction processing systems and helps management process at the various levels of decision making. These systems help to implement the decisions, orders and the decisions decomposition that is occurring in the system of management of the company. Operational decisions are found in specialized compartments and are available in the directive needed to conduct operational departments that have the peculiarities of origin. For simulation models are created the required applications and helps decision-makers to make the choice based on the measures imposed by reality and the actual conditions in which the business operates in the specific part. Assisting decision means a permanent dialogue with the user, so that the interface has a much greater importance than other systems. The user, person or group of persons through the role they play in making the decision, is considered part of the system.*

Keywords: *Assisted decisions, system support decisions, knowledge database, analytical tools and management decision.*

JEL Classification: *D81, D83, L86*

1. Introduction

Systems of decision support have great applicability in the economic field, to help the decision maker to take the best decision based on existing data in different types of databases and are based on selection, interpretation and processing (data) through specific mechanisms.

To achieve concrete results are not performed repetitive and complex calculations, but there are performed operations like sorting, selection, classification and evaluation, designed to organize information, reduce uncertainty, leading to propose options / solutions and possible recommendations.Within a company's computer system, systems for decision support are classified as systems for the management / management decision. They take data from specific transaction processing systems and helps management process at the various levels of decision making. These systems help to implement the decisions, orders and the decisions decomposition that is occurring in the system of management of the company.

Decision Support Systems are used for decision making made by the management. These systems are implemented in various stages of decision making and tactical or strategic elements put emphasis on general applications easily predictable, and analytical applications. Decision Support Systems based on different models; provide decision-makers options for solving a fundamental decision or a set of interrelated decisions. Decision support systems differ from management information systems which provide management's periodic reports on demand or standard, depending on certain criteria or needs to cover the information needs of a department that has some functionality. On the other hand the information systems of management have different functions in tactical management and focus on current and with some accuracy, data on the elements necessary to manage the company's resources and support systems for driving into consideration elements necessary strategic direction of the company taking more information outside firm / business.

The transactional process management systems are designed to automatically process data, store and report data entered transactions. The recorded data from current transactions may maintain the database updated with the latest data entered. Even if the data volume and quality increased and their processing led to an increased number of information, however, has not increased the quality of decisions. At present there are numerous options for data processing and evaluation of the data obtained and these were adapted to changes. If trading systems have regard to data quality, integrity and their consistency (compliance with business rules) and are managed as a single unitary, systems for decisions take data from multiple

disparate databases that are well defined and the manage data organized especially on topics of analysis according to the needs of business.

Operational decisions are found in specialized compartments and are available in the directive needed to conduct operational departments that have the peculiarities of origin. For simulation models are created the required applications and helps decision-makers to make the choice based on the measures imposed by reality and the actual conditions in which the business operates in the specific part. Management systems are presented and used independently, so they make up a unitary system at the company they manage. Integrating their specific information and communication on different managerial levels, based on data recorded in the primary documents of the company, built around firm decisions taking account of business rules. To substantiate a decision, there are sets goals and are allocate resources that are needed to achieve them. This is achieved through analysis and simulation and is considered the participation of several elements, as follows:

The decision maker is the person or group of persons. An end user can adopt the right solution decisional process based on learning and experience from working effectively.

The decision maker:

- Structure and standardize information needed for data analysis procedures;
- Increment issues streamlines structure, operate individual alternative set of decision
- Change informations depending on context data and sequence of operations that is not known in advance.
- Communicates results

The component that usually works with the user, the interface subsystem, must give to the decision maker the feeling of direct manipulation of information, facilitating creativity and associative thinking, stimulating the ability to formulate different alternatives under those that are poorly structured.The interactive API (interface) allows him to develop individual strategies with the flexibility afforded by set of intuitive tools available for modeling and analyzing the input in the decision represented by data, variable decisions, models, restrictions that limit possible solutions, situations similar decision that already exists.

In the process of making decisions, the input data are from internal and external sources, from several databases managed in different programming environments. Those data must be filtered, tested and strengthened to fulfill the generated objection of appropriate indicators and made on the spot reports for decision making according to the business rules [3], [4].

2. The main features of Decision Support Systems

In order to build models, the decision is based on information provided far more comprehensive than reports and other economic indicators required or provided by the business itself. Quantitative mathematical models are embedded in base models, managed by subsystem a management model that requires separate users from the physical aspects of data processing and storage that extract, create, delete and modify models.

Decision making process, conducted with the help of tools, methods and techniques, conduct to the scenarios constructed according to a definite objective. Interaction replaces classical execution, procedural, with a performance conducted by decider according to the stages of solving a problem decisions that necessitate different inputs. The activity of the coordinations of inputs is done in most cases with specialized software systems that create analytical databases or modeling languages. In the first case, the user is provided customized views of data stored by performing a diverse set of operations on transactional data.

To build specifications the optimal approach is based on the analysis of data to extract information from data and obtaining knowledge for decision making. To be more precise, a specific problem highlighted in a model is called one of the most used tools in the decision making simulation. The next logical of optimization and forecasting, simulation assists with the running complex patterns, resulting variables whose analysis highlights the value adopated lead to a decision. The outputs from the process of decision making, represented by analytical indicators reflecting the performance of the system analyzed variables results the evaluation criteria or implementation plans of the decisions.

Evaluation of search results depends on the method of presenting results and depends on the facilities of component dialog with users that provide inputs. Besides maintaining traditional information representation formats like charts, maps and diagrams used currently to represent multidimensional data there are used new types of dynamic graphs. The decident system uses a dialog interface with the key users of the company, enabling connectivity and communication between networks with different topologies and areas.

After analyzing the results achieved and the objectives of their reporting, signaled differences and after identify problems it was reveal the need to take action. Trying to solve them in a particular category determined tackling by a standard method employment. The information is selected factors that have caused the deviation from the desired result and appreciate the importance they have in context. In complex cases, the problem breaks down into sub-problems more manageable, easier structured. Solving the result of communication between all stakeholders, sharing the general

manager responsibilities both at decision-making levels and the corresponding subproblems defined. The result of the information stage is a formal description of the problem identified the category to which it belongs and responsibilities involved.

For example, after the first phase, the scope may relate to excessive spending decisions of a functional department, inventories too high or adoption of a draft research and evaluation on the introduction of computers.

In the model design phase defines a model for decision shall be tested and validated under real system. Modeling takes expression of reality by means of abstract entities possessing quantitative and qualitative attributes. Based on patterns defined by an efficient simulation can generate alternatives. Intuition, creativity and experience allow decision-makers compare alternatives; predict outcomes of each alternative separately.

For choosing the solution which takes the results of the previous stages, the action is chosen according to the criterion of selection and decision-making model. From model design and solution choice there is a strict demarcation, certain activities may be conducted during both phases, and return of election phase in phase. After the final resolution of the model, select the best alternative is chosen implementation plan. The choice of solution is closely linked to proper evaluation of the results of said solution. The assessment in turn depends on the search method.

Structural problems use mathematical formulas and analytical method to achieve an optimum solution. In order to improve efficiency the best solution search algorithms are used. When the number of alternatives is too large, then testing some or all of the possible solutions is possible by using an incremental search method. Time and memory space limit searches, in most situations the decision maker stopping at the best of the tested solution to a certain moment. For complex problems, solving is carried progressing from one situation to another, until a final statement, which is the solution. Methods called heuristics, based on a thorough analysis of the issue. Basically successive tests are performed, the search progressing from a solution to another.

Implementation is the phase that involves the integration model chosen solution in context and simulating the real system. Issues raised by the communication solution, accepting the decision or the additional costs of implementation are sluggish, and the decision-maker plays the important role of mediator.

Assisting decision states that the decision is the responsibility of the user. It receives relevant and substantiated elements on activity in the real system and builds models for solving future decision making on the basis of current assessments.Of the foregoing that a decision support system provides a filtering of information provided to decision makers and

indicates certain restrictions. Basically, it helps the decision maker during operation and defining the problem, generating satisfactory solutions and retention strategy. The role of a decision support system is to automate the decision making process manager, but rather to assist and develop the capacity of its intuitive, helping him to react as quickly and with greater efficiency.

The architecture of a system aimed at its components and how they interact, types and operations allocated to each component.

For an interactive decision support system architecture includes the following subsystems:

- Data management subsystem
- Subsystem management models
- User subsystem dialog

Data management subsystem consists of the following elements: database management system oxidase data, data dictionary and declarative query language. The database is built to meet the information requirements of the system and is an interrelated database operated by one or more users, one or more applications. The database contains no internal data, external data and personal data.Internal data consist from the current activities of the organization and operations of various functional departments image. Data external economic information circulated nationally and internationally and usually come from the industrial sector of which the company, legal regulations. Personal data is data that relates to the behavioral aspects of decision-makers in making decisions. Whatever the nature of their data is stored in relational databases, transactional system data or data warehouse, built on subjects of interest. In current systems, the company's intranet, are increasingly present data accessible through web browsers and multimedia items such as maps, images, sounds.

The data source, internal or external, data is extracted and managed by a management database. The management of the database depends on the organization of data. In most cases there is SGBS transactional relational data system and a management database for multidimensional data warehouses created. The data dictionary is a catalog of all data from the database. It contains data definitions, data sources and their intrinsic significance. The data dictionaries are permitted operations to add new data, deletion or retrieval of existing information according to certain criteria. The most common data dictionary used in the first phase of decision making is data mining to identify their problems and opportunities. The SQL language is used, which accepts requests for data from other systems.

The subsystem management model consists of the following components: base models, the management models, dictionary and processor execution models and integration patterns

Base models contain the set of models that make it possible to analyze the facts and the choice of options in terms required by the user. It is the component that differentiates interactive decision support systems to other systems. The models are domain-specific and models can be classified into strategic, tactical and operational models models. Strategic models assist decision makers in developing the overall strategy of the company in matters concerning the development of corporate objectives, choice of location of equipment, environmental impact analysis on the work of the organization. Tactical models are applied to the organizational subsystems and assist the user in taking decisions for allocation and management subsystem resources available.

The models are used currently in operational and transactional system that aims of the organization. Database management system allows creating new models models using programming languages, update and modify existing models, establish interdependencies between models. Manage in a logical manner a variety of models to consistency of the data model and provides integration of application systems components maker.

The dictionary is a catalog of all models modelelelor containing the definitions used, the main functions of their scope. The processor execution and integration patterns to be seen in the light of the functions performed by him as follows:

• Execution processor models interpret instructions received from the user and send management system models; check the conduct of the programs that are built models.

• Integration processor combines operations in several models depending on the requirements of decision making and decision support system integrates other applications.

The subsystem contains a dialog with the user management system user interface and a processor that takes inputs through outputs languages and provides control through language presentation. It is the only system component with which the user works directly.

Define an efficient interfaces should consider choosing devices input / output, design screens, the format of the data and information. Generators interactive decision support systems provide multiple interface styles: menu-based interaction design question-answer style, dialogue based on natural language processing, graphical user interface. Choice is an option and is dependent on decision-making team which ensures information management; the complexity of the real system will be implemented.

Assisting decision means a permanent dialogue with the user, so that the interface has a much greater importance than other systems. The user, person or group of persons through the role they play in making the decision, is considered part of the system. It is involved in all phases. Studying the specific context, correctly defines the problem and lead to choosing an alternative from a set of possible solutions. Quality and efficiency of the decision depends on how they react in the context of decision making on how the adopted solutions.

Managers or specialists in various professional fields, expects the system conclusions or details. It is working in teams constituted for a period of time, according to some temporary tasks. In complex situations there are analysts who arrange the connection managers with decision support systems, are people who have knowledge about management problems, and experience in decision support technologies. Harmonisation with the working environment, the transfer of responsibility to lower levels, seeks the participation of all the success of the business. Communication between managers and other employees, communicating with other sources of information is accomplished precisely through this component dialog. Thus, interactive decision support systems are no longer used just for the planning, organization and coordination but also for inter-personal communication, the establishment and execution of daily tasks.

3. Developing an interactive decision support system

Design an interactive decision support system is a complex process that takes into account the main features of such a system, the specificities of its components, the specific links between decision makers and system. It must be considered the following aspects:

- Uncertainty decision does not allow anticipating future circumstances or the precise terms of the solution. They are therefore designed as a set of tools and not solutions to a predetermined set of problems.
- Emphasizing the partnership between man and computer is found in a blend of computing resources with human skills.
- Being a cooperative and distributed system components that comunicate using information resources dispersed, distributed, involving a distributed architecture.
- Exercising centralized control over decision-making environment, intervention is on several levels, with makers working concurrently on different aspects of the problem and communicates the information discovered.
- Decision maker is the one who identifies conflicts, which determines the type of conflict and the factors that favored the appearance of the

focus is on identifying conflicts rather than solving them automatically.

- The existence of different types and categories of interactive decision support systems involving different approaches in building the system. The main strategies are permissible:
- Programming an interactive decision support system customized. In time, they used classical programming languages or fourth generation languages.
- Using a generator of interactive decision support systems. Even if he succeeds in writing the elimination of numerous instructions, this integrated development tool is limited in terms of flexibility and level of complexitate.Recent occurred generating interactive decision support systems for specific areas. Designed to build powerful systems for textual statistical applications, management and financial analysis.

Decision Support Systems based models have emerged and have been developed with the advent of graphical modeling languages. They are used to assist decision-making situations that require a certain degree of repeatability for which there are specific methods of solving. Their operation is based on building a quantitative model combined with a friendly interface and involves further analysis of "what-if".

Total or partial automation of the process of decision-making depends on the context and limitations of the extent of the problem structurabilitate. For example, if structured decisions, receives computer model and he provides the optimal solution. The decision maker decides not only whether to apply the model. Among the components that make up the architecture of an interactive decision support system based on modeling the most important subsystem management models.Base models consists of theoretical models and practical models. Theoretical models are useful in the formulation of very general recommendations for economic policy because it merely describes the facts from a powerful schematic representation of reality. There are references to economic data or real developments. The equations are essential features of analysis and highlights links cauzalitateale studied phenomenon. Practical designs express the real system behavior restriction taking into account the work is done. Check adequacy of existing theoretical schemes to available statistics; identify conflict situations, possible actions to be taken. They practical finality of the decision-election by a set of precise measures imposed in the real system. Model as simplified representation of reality, has the following components:

• Decision variables, random elements that determine the evolution of a system state. Generate random variables occupies an important

place, due to the correlation with the random element. The decision maker that determines their level at the choice of methods for generating random numbers, so that they respect the laws operating scheme has studied.

• Parameters that influence the outcome, but that can not be controlled by the governor. Take the form of restrictions limiting the possible solutions of the problem. Ex: infletion rate and the interest rate for financial, production capacity, price of raw materials for production.

• varying results, depending on the parameters and decision variables. Ex profit expected profitability of to finance the total cost of data processing cost for the production.

Models can be built with certainty, I know exactly future economic events or conditions of uncertainty or risk in situations where every future event is associated with a probability. In the first case we rely on methods of optimization. Where decisions under uncertainty for choosing the forecasting and decision-making, we rely on historical knowledge of economic events. The decisions under risk, based on criteria mathematical expectancy choose the lowest standard deviation. For each type of problem constructing a model, it defines a procedure for obtaining the solution. The model must measure the expected effects of various alternatives for action. To achieve this, it starts to specify the objectives (maximizing turnover, profit, minimizing cost) and establish possible ways of action; different scenarios are built based on the events that could influence the results of the action.

The management model ensures the creation, maintenance and handling models. The full cycle of building and maintaining models requires specialized software or modeling language. Handling models include formulation and testing scenarios, selecting the best of several possible solutions. It performs the following functions:

- integration function, which ensures the incorporation of a model in a model-based classification and allocation of parameters that allow the selection of pattern;
- selection function that provides choice model based on user-specified selection criteria;
- executive function, which provides assistance in running user patterns;
- Display and interpretation function, which provides display and interpretation of results.

The objectives of the decision-making process aimed at adopting the best solution from many possible alternatives. The optimal solution is obtained using either satisfactory or algorithms or formulas within

optimization models, or by experiencing various possible alternatives in a process simulation. For each class there are methods to solve specific, which is selected based on the small number or large number of alternatives, the availability of statistical formulas or methods. Among the methods most commonly used are decisional analysis and mathematical programming.

Decision analysis applies to situations which have a relatively small number of alternative solutions. Each alternative are attached estimates and the probability of occurrence. Solving the problem is to build decision tables or decision trees, from which it selects the best alternative. Decision tables highlight possible alternative schematic characteristic information. Decision trees, in addition to decision tables, graphically highlight the problem of relationships between variables, making it possible representation of complex situations.

Apply mathematical programming problems which lead to the formalization of a mathematical relationship between decision variables and purpose. In addition to the measurable values are seeking optimum value, the model states and restrictions on them also. The optimal solution is obtained in a finite number of steps. If between variables include at least one non-linear relationship and are satisfied only under explicit finally obtain a feasible solution.

Simulation, directed experimentation process is carried out using computers on a defined model. It is used in complex systems, where it is difficult or impossible to predict beforehand structural and functional changes, or various influences from the environment. It is the only method that can be applied to unstructured problems. Among the advantages are:

- Support the simulation model provides a functional form of expression of the links between the phenomena studied. Such testing may be actions that can be made explicit in the model framework;
- enable better decision-making structure of the problem, allowing exploration of information flows and operating procedures without interfering with the functioning of the real;
- using cybernetic control system that underlies decision making in practice;
- There are a large number of parcel simulation program.
- Simulation models have a procedural nature, their resolution experiments involving processing created in the system.
- Data used in model construction can be real observations (numerical values) or knowledge.

These are translated into algorithms that are executed by a computer system. This led to consideration of simulation as one of the most powerful tools in decision making. Simulation becomes a technical coordination of procedures using the computer. Simulation of the limits includes:

- support the simulation model is a simplified built pursuing one goal, one key criterion. The solution offered is one spot that does not always corresponding real system
- taking into account the unique factors of a problem specific results can not be transferred to other problems;
- results are difficult to interpret, being dependent on random factors; no matter how powerful your computer is, the optimal solution is difficult to obtain a model that has many equations and a significant number of parameters.

These limitations have led to the use of simulation only when the interactions between the components are complex when factors random have a significant and requires a large number of observations on the behavior of the data, the problem can not be solved by an algorithm or experiments direct. If there are problems which can directly apply optimization methods, the optimum results from different experiments possible alternatives. They tested different values of decision variables and highlights the consequences of decisions on the result of values.

• The problem and research purposes;
• Model development and data collection system;
• Model verification and validation;
• Describing experiments on the computer;
• Simulation execution and achieving results;
• Analyze the simulation results.

A Prolog program is a database where data are facts and rules. Any change in the data requires updating software program itself. In traditional programming languages, software update, namely the addition or deletion of data and control flow change in the program are made by the programmer. Prolog database consists of facts and rules of the program is "static" in the sense that it can be modified only between two executions of the program, but there is possibility to define the bases of dynamic data that can be updated automatically during program execution.

A dynamic data base is a collection of facts. The programmer can define in the program more dynamic basis. Predicates associated dynamic database must be stated in the section corresponding database form:

database [-name]

attribute1(type_arg1, type_arg2, …., type_argn)

attribute2(type_arg1, type_arg2, …., type_argk)

……

A predicate in a dynamic database can be used anywhere in the program, but can not be defined in the program. Updating dynamic data is

done using predefined predicates assert (deed) assertz (deed) and retract (the act). Asserta predicates and facts assertz allow adding a dynamic database.

The difference between the two is that at the beginning of the base asserta added and assertz at the end of the base.

The contents of a dynamic database can save them for reuse. Saving is performed using predefined predicate save (Filename) where Filename is the name of the external file that contains the basic facts. The resulting file will be a collection of works, the only difference being that a program contains sections. Any other program will be able to use this base. This is achieved by using predefined predicate consult (name) where name is the file name that is stored in the base.

The following is a model support system for decision support, using a knowledge base. As an example consider the following program. The program defines a dynamic basic facts as: Client_tst(Name, Surname, List_of_products)

With predicate acts such records are inserted

Client_tst("Name", "Surname", [])

based on dynamic (customer records) and using predicate update this basic facts updated when a customer purchases a product or return the product.

```
domains
  name,surname,product=string
  list_of_products=products*
database
  client_tst(name,surname,list_of_products)
predicates
  id_client(name,surname)
  register
  client_ach(name,surname,integer,product)
  add_product(product,list_of_products, list_of_products)
  remove_product(product, list_of_products, list_of_products)
  actual(name,surname,integer,product)
  update_act
```

```
  list_products(list_of_products)
  execution_line
 start
 base
 menu
  save
  selection(char)
clauses
  id_client(X,Y):-
write("Name= ),readln(X),write("Surname="),readln(Y).
  inregistreaza:-id_client(X,Y), assertz(client(X,Y,[])),
  write("Continuati ?[d|n] "),readchar(Z),nl,Z='d',inregistreaza.
  register:-save.
  client_ach(X,Y,I,P):-id_client(X,Y),write("Enter\n "),
  write("1 if buy one product\n 0 if returns one product\n"),
  write("Option="),readint(K),K>=0,K<=1,I=K,
  write("Product= "),readln(P).
  add_product(P,X,[P|X]).
  remove_product (P,[P|X],X):-!.
  remove_ product (P,[H|X],[H|Y]):-remove_product (P,X,Y).
  list_products ([]):-nl,!.
  list_products ([P|X]):-write(P,", "),list_products (X).
  actual(X,Y,I,P):-I=1,client(X,Y,L),add_ product (P,L,L1),
  retract(client(X,Y,L)),asserta(client(X,Y,L1)),list_products (L1).
  actual(X,Y,I,P):-I=0,client(X,Y,L),remove_product (P,L,L1),
  retract(client(X,Y,L)),asserta(client(X,Y,L1)),list_ products (L1).
  update:-client_ach(X,Y,I,P), actual(X,Y,I,P),
  write("Continue ?[d|n] "),readchar(Z),nl,Z='d',update.
```

```
update:-save.
base:-existfile("client1.dat"),consult("client1.dat"),!.
base.
save:-system("del client1.dat"),save("client1.dat").
execution_line:-makewindow(1,113,36,"Shop",0,0,24,79).
start:-base, execution_line, menu,removewindow.
menu:-clearwindow, cursor(10,20),write("r -> for register client"),
cursor(11,20),write("u -> for updating the list of products"),
cursor(12,20),write("e -> for exit"),cursor(13,25),
readchar(X),X<>'e',selection(X),menu.
menu.
selection('r'):-clearwindow,register.
selection('u'):-clearwindow,update.
selection(X):-X<>'r',X<>'u',menu.
```

In the code above there are methods implemented in the logic of the application and those can make the process of decision making more easy and adaptive for the decision makers and other types of users [3], [5].

The advantage of using a custom commands is that the user can write own set of rules based ob a knowledge database. These types of instructions are more flexible to the requirements of getting the opportune solution by interrogating this database of facts and knowledge. The inputs in this types of databases includes rules and results from the processes specific to the domains they operate.

Conclusions

The Decision Support Systems based on different models and they provide decision-makers options for solving a fundamental decision or a set of interrelated decisions. Decision support systems differ from management information systems which provide management's periodic reports on demand or standard, depending on certain criteria or needs to cover the information needs of a department that has some functionality. [1], [4]. The decisions may be made based on results given by systems that store data in knowledge database and are according to the rules and facts that implement the business logic. Prolog database consists of facts and rules of the

program is "static" in the sense that it can be modified only between two executions of the program, but there is possibility to define the bases of dynamic data that can be updated automatically during program execution [2], [3]. The decisions are choosed from alternatives offered to the decident by systems that include logic and rules, so the best alternative is calculated in such manner that the risk is with the minimum probability.

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GRAPHIC EVALUATION OF COPYRIGHT AND OF RELATIONS BY THE METHOD OF DISCOUNTED CASH-FLOW (DCF)

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Abstract

According to the new technologies and due to the phenomenon of sustainability, in the knowledge economy, intangible assets are renamed, being limited by resources existential any economic entity, the terminology "intangible", "invisible", "intellectual" or "us/immaterial" which emphasizes knowledge by which human capital is undre different forms.

Due to the existence of a variety of approaches, accounting literature, together with the economic but also the specific evaluation activity reflects complexity permanent classification of intangible assets.

As we all know, the moment items related intangible assets can be identified, presented and defined in terms of a wide range and complex standards such as the International Accounting Standards, Financial Reporting Standards and not least the International Valuation Standards.

To support the theme of the current research we have chosen as the case study approach to assess a sampling of copyright and relationships using the discounted cash flow method (DCF).

Keywords: *intangible assets, evaluation, copyright, relations, The Method of Discounted Cash-Flow (DCF).*

JEL Classification: *M40, D04, C89.*

1. Introduction

Through International Accounting Standard IAS 38 Intangible Assets, the intangibles are classified as expenses, development expenses, licenses, patents, trademarks acquired other similar values, copyright and other intellectual property rights, concessions received fund commercial positive (goodwill) and negative (badwill) acquired and other intangible assets (IASB, 2013).

Copyrights belong to intellectual property rights and include works written, spoken and recorded video works, paintings, sculptures, speeches, performances, lectures etc. .

According to Organisation for Economic Co-operation and Development (OECD), the criterion for identifying, classifying accounting intangible assets is evidenced by identifiable intangible assets (which can be identified separately) such as franchise, trademark, copyright or copyright, patent and so on.

Also on copyright and relationships (thematic research), according to International Financial Reporting Standards, IFRS 3 Business Combinations, the identifiable intangible assets, arising as a result of a business combination, are individualized as (Stan, 2010), (IASB, 2013):

a) Customer-related intangible assets represented by: their customer portfolio unfulfilled orders or production, customer contracting and related relationships and contractual relationship with customers.

b) Intangible assets contractual evidenced by: licenses, copyrights and novation agreements; advertising contracts, construction, management, service or supply; leases/rental/leasing; building permits; franchise; operating and broadcasting rights; usage rights (mining rights, water rights overflight, logging roads and authorization); service contracts (mortgage services) and employment contracts that are beneficial for the employer in the event of a contractual salary below the market wage.

Also in the category of intangible assets arising from contractual and legal portfolio also includes undelivered orders or production, contracting with customers and relations involved.

Customer portfolio and contractual customer relationship intangible assets formed from an individual category of rights, which retain the character of severability, being in the definition of intangible assets.

By adopting general standards of practice in evaluation - GN 4 International Valuation Standards Board, grouped intangible assets following form (Banacu, 2005): assets derived rights; assets based on relationships; grouped intangibles; intellectual property.

Relationships based assets are assets that have a value to the parties, which are based on relationships.

As examples we can reffer to: customer relations, relationships with funizorii relationships with distributors, skilled workforce (Burghelea, 2011) or structured relations between the parties.

2. Intangible assets on Romanian territory

The evaluation of intangible assets involves quantifying and specifying the value (in monetary units), identification, movement and modification heritage idea reflection in accounting, ie the optimal solution to identify the best value of an intangible asset, applying minimum two assessment methods.

The entire evaluation process of such asset components is conducted by respecting certain categories of standards, rules or regulations of such specialty:

1. International Accounting Standards (IAS), such as standard IAS 38 Intangible Assets; IAS 36 Impairment of Assets; IAS 10 Events after the balance sheet and standard IAS 8 Accounting policies, changes in accounting estimates and errors.

2. International Financial Reporting Standards (IFRS), namely: IFRS 3: Business Combinations; IFRS 5: Assets held for sale and discontinued operations and IFRS 6: Exploration for and evaluation of mineral resources.

3. International Valuation Standards (IVS) among them: Standard IVS 1: Market value - value type, currently IVS 101 - Terms of reference of the review (ANEVAR, 2015); Standard IVS 102: Implementation (ANEVAR, 2015); Standard IVS 103: Report (ANEVAR, 2015); Standard IVS 210 Intangible assets (ANEVAR, 2015) and standard GN 4: Valuation of intangible assets (International Standard Valuation).

4. Order no. 1.802/2014 approving the Accounting regulations on the annual individual and consolidated financial statements.

All standards, rules or regulations specialized above reflects the way of defining, identifying, recording (initial, ongoing or current and future) of intangible assets, with applicability and evaluation.

Based Order no. 1802/2014 assessment of intangible assets requires knowledge and to assimilate the particular aspects identified in the first instance the special features held by such assets (Finance Ministery, 2014).

Given the time it is performed, the assessment is presented in two forms, namely: current assessment and periodic evaluation. The current one is passed into and out of the estate, while periodic evaluation is carried out at closure of the financial year. The last one is performed simultaneously with the property inventory and annual financial statements.

3. Case study for the assessment of copyright and relationships through Discounted Cash Flow Method (DCF)

3.1. The evaluation process conducted by copyright Discounted Cash Flow Method (DCF)

We believe that S.C. Good Music S.R.L., the company the problem of a famous troops of rock music on the territory of our country, would negotiate on behalf of a contract of sale of the rights of the author of the songs and videos available on CD and DVD with which have made themselves known in this field, recorded and printed at the House of Discs Roton "Music" S.R.L., namely:

- X TV to TV stations (the number of television appearances to 65 euro per year occurrence);
- Radio Y (the number of plays on post 1.3 euros per play);
- publication of the novel and the history of the band in an edition presented in Table no. 1;
- CD + DVD package sale via labels.

As a requirement will have to identify the value of copyright will be generated by the portfolio editing band.

Table 1

Evolution of indicators necessary for evaluation of the copyright (on the 4-year study)

Crit. no.	Indicator/An	Year 1	Year 2	Year 3	Year 4	TOTAL *(euro)*
1	Number of TV appearances	1400	1000	800	600	
2	Price per appearance *(euro)*	65	65	65	65	
3	Revenue from royalties from TV *(r_1*r_2)*	91.000	65.000	52.000	39.000	**247.000**
4	Number of radio appearances	700	700	700	700	
5	Price per appearance *(euro) (2%*preț TV)*	1,3	1,3	1,3	1,3	
6	Revenue from royalties from radio [20%*(r_4*r_5)]	182	182	182	182	**728**
7	Number of copies	10.000	8.000	3.000	1.000	
8	Price per copy	9	7	5	4	
9	Revenue from royalties from Publisher	22.500	14.000	3.750	1.000	**41.250**

Crit. no.	Indicator/An	Year 1	Year 2	Year 3	Year 4	TOTAL *(euro)*
	[25%*(r_7*r_8)]					
10	Number of copies	18.000	8.000	4.000	2.000	
11	Price per copy CD/DVD	80	60	40	20	
12	Revenue from royalties from label 55% [25%*(r_{10}*r_{11})]	360.000	120.000	40.000	10.000	**530.000**
13	Total income *(TI)* *(r_3+r_6+r_9+r_{12})*	473.682	199.182	95.932	50.182	**818.978**
14	General costs *(33%*TI)*	156.315	65.938	31.658	16.560	**270.471**
15	Gross *(r_{13}-r_{14})*	317.367	133.244	64.274	33.622	**548.507**
16	Tax 16% *(r_{15}*16%)*	50.779	21.319	10.284	5.380	**87.762**
17	The net result *(r_{15}-r_{16})*	266.588	111.925	53.990	28.242	**460.745**
18	Discount factor 14%[1]	0,8772	0,7695	0,6750	0,5921	
19	Net result update *(r_{18}*r_{17})*	233.851	86.126	36.443	16.722	**373.142**

Source: Personal processing

By analyzing the indicators listed in Table no. 1, I reflected correctly assess the applicability of copyright through the discounted cash flow method (DCF), obtaining the value of **373.142 euro**.

As a concluding point, it should be noted that through the evaluation of intangible assets we can highlight the effectiveness of intellectual property rights of an enterprise (Balan, 2012), even having the opportunity to realize new objects of intellectual property that can be assessed using licenses.

3.2. The evaluation process conducted by relations Discounted Cash Flow Method (DCF), related to the Income approach (inspired from Gheorghiu, 2010)

Through Discounted Cash Flow Method, the evaluation of relations by the income approach, can be synthesized as to the second table of the present research, which materializes that business value is identified due to customers through an extensive evaluation process.

[1] *For each year in part:* [1/(1+0,14)]=0,8772; [1/(1+0,14)^2]= 0,7695; [1/(1+0,14)^3]= 0,6750; [1/(1+0,14)^4]= 0,5921.

Table 2

The evolution of relations necessary for evaluation indicators (on the 4-year study)

Crit. no.	Indicators/Year	Year 1	Year 2	Year 3	Year 4	Total
1	Number of customers	100	200	400	800	**1.500**
2	Customer contribution/year	1.500	1.400	1.300	1.200	
3	Total income (TI) *(r_1*r_2) (euro)*	150.000	280.000	520.000	960.000	**1.910.000**
4	Operating expenses An1=50%* TI, An2=40%*TI, An3=30%*TI, An4=20%*TI.	75.000	112.000	156.000	192.000	**535.000**
5	General and administrative expenses	8.000	8.000	8.000	8.000	**32.000**
6	Depreciation and amortization of intangible assets	580	560	540	520	**2.200**
7	Total expenses *(r_4+r_5+r_6)*	82.580	120.560	164.540	200.520	**568.200**
8	Result before tax *(r_3-r_7)*	67.420	159.440	355.460	759.480	**1.341.800**
9	Tax 16% *(r_8*16%)*	10.787,2	25.510,4	56.873,6	121.516,8	
10	Bonuses	200	140	100	80	
11	Investment in advertising and maintaining the relationship	8.000	6.000	4.000	2.000	
12	Net cash *[r_8-(r_9+r_{10}+r_{11})]*	48.432,8	127.789,6	294.486,4	635.883,2	
13	Discount factor 10%[1]	0,909	0,826	0,751	0,683	
14	Net cash updated *(r_{12}*r_{13})*	44.025,4	105.554,2	221.159,3	434.308,2	**805.047**
15	**Business value due to customers *(euro)* *(Total r_{14})***					**805.047**

Source: Personal processing

[1] *For each year in part:* [1/(1+0,10)]=0,909; [1/(1+0,10)^2]=0,826; [1/(1+0,10)^3]=0,751; [1/(1+0,10)^4]=0,683.

As a concluding point, I have to mention that the correct application of the income approach through Discounted Cash Flow Method (DCF), highlights obtaining a value of business due to customers **805047 euro**.

Conclusions

Valuation of intangible assets effective settlement requires accurate assessment of their value using one or more methods of assessment. Fairness evaluation method is applied as a starting point to quantify the economic benefit associated with the pool of assets held by a particular entity.

In other words, choosing the right approaches or methods of assessment must take into account the following key elements: type used value, determined by reason of carrying out that evaluation; availability of essential inputs and assessment methods and approaches taken by the persons concerned or a clearly defined market.

The assessor will always review and reconcile data held or disseminated in order to obtain a favorable opinion on the final value.

This article reflects easily that intangible assets have a real impact on corporate performance, the managerial department, involving the holding viable models that allow accurate measurement and evaluation management investment efficiency of intangibles.

Through evaluation of intangible assets we have highlighted the effectiveness of intellectual property rights of an enterprise, from which resulted the possibility of developing new intellectual property objects that could be assessed using licenses.

Research carried out allows me to appreciate the proper application of the income approach through Discounted Cash Flow Method (DCF), can highlight obtain a specific value due to business customers.

Together with nature, labor and capital, intangible assets will continue to contribute to changing the entire economic system.

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