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## Volume VI, Issue 2, 2014

BUCHAREST-ILFOV REGION – BETWEEN ECONOMIC AND SOCIAL CONVERGENCE AND DIVERGENCE - <i>Catalina Mihaela Badoiu</i> .....	6
WELL-BEING INEQUALITY AND THE ECONOMIC CRISIS: EVIDENCE FROM LIFE IN TRANSITION SURVEYS IN EASTERN EUROPE - <i>Alina Botezat, Livia Baciu</i> .....	22
TOURISM AND SUSTAINABLE DEVELOPMENT - <i>Gina Ionela Butnaru, Mirela Stefanica</i> .....	32
THE SUSTAINABILITY OF ROMANIA’S EXTERNAL DEBT DURING THE RECENT FINANCIAL CRISIS - <i>Sorin Calea, Ioana Mihut, Mihaela Lutas</i> .....	46
REGIONAL DISPARITIES OF THE EUROPEAN UNION LABOR MARKETS - <i>Laura Diaconu (Maxim)</i> .....	57
THE ECONOMIC PARTNERSHIP BETWEEN THE NETHERLANDS AND USA - <i>Razvan Hagima</i> .....	68
DERIVATIVE USE BY ROMANIAN BANKS AFTER THE EU ADHESION: A FINANCIAL REPORTING PERSPECTIVE - <i>Maria Carmen Huian, Ciprian Apostol</i> .....	74
EUROPEAN ENTREPRENEURSHIP IN TIMES OF CRISIS: REALITIES, CHALLENGES AND PERSPECTIVES - <i>Andreea-Oana Iacobuta, Oana-Ramona Socoliuc</i> .....	85
CAN SOCIAL PROTECTION REALLY MAKE A SIGNIFICANT CONTRIBUTION TO POVERTY REDUCTION? THE CASE OF ROMANIA - <i>Mihaela Ifrim</i> .....	97
”THE EUROPEAN DREAM”- A MORE SOCIAL EU. FROM THE ECONOMIC AND FINANCIAL CRISIS TO EUROPE’S 2020 AGENDA - <i>Claudia Anamaria Iov, Claudiu Marian, Claudia Maria Mera, Ioan Bogdan</i> .....	108
CHRISTMAS – FROM RELIGIOUS TO LAIC. THE STIMULI THAT “SELL” CHRISTMAS - <i>Teodora Roman. Ioana Amarghioalei, Adriana Manolica, Liviu-George Maha</i> .....	117
TRENDS IN THE EVOLUTION OF WORLDWIDE FOREIGN DIRECT INVESTMENTS - <i>Maria Ramona Sarbu, Iuliana Mazur (Gavrea)</i> .....	135
A COMPARATIVE ANALYSIS OF REAL AND PREDICTED INFLATION CONVERGENCE IN CEE COUNTRIES DURING THE ECONOMIC CRISIS - <i>Mihaela Simionescu</i> .....	142
INTERNATIONAL TRADE DURING THE CRISIS. DETERMINANTS - <i>Cristian Spiridon</i> .....	156
CURRENT ACCOUNT DYNAMICS IN THE EURO AREA - <i>Yannick Timmer</i> .....	165

# BUCHAREST-ILFOV REGION – BETWEEN ECONOMIC AND SOCIAL CONVERGENCE AND DIVERGENCE

Catalina Mihaela Badoiu\*

**Abstract:** *This paper aims to highlight the main economic disparities between the developing regions of Romania, during the 2005-2011/2012 period. We will focus on the Bucharest-Ilfov region, which differs both in terms of population density, and the galloping economic growth, relative to other regions. In terms of the convergence-divergence analysis, it will be based on key indicators, such as the factors that led to increased inter-regional divergence and to what extent the differences between regions were reduced in the analyzed period.*

**Keywords:** Regional disparities; Convergence; Concentration; Distribution analysis.

**JEL Classification:** F30; F50; O52.

## 1. EU REGIONAL POLICY

### 1.1. Evolution of Regional Development

EU acts to promote "harmonious development", targeting in particular "reducing differences among regions." To achieve these priorities, in parallel with the European integration, the EU develops a series of regional European policies applicable to each member state.

Starting from a simple mention in the Preamble of the Treaty of Rome, which focuses on "economic and social cohesion" in Europe, it gradually becomes part of cohesion policy in Title XIV (now Title XVII) after the adoption of the Single European Act. Additionally, the Treaty Council Regulation no. 1260/99, (which) establishes general operating provisions for the Structural Funds (and amended by Regulation no. 1447/2001). Beside the legal standpoint, policy has also grown, financially speaking, from the stage which represented almost 10% of the European Communities and 0.09% of EU-15 GDP in 1980, with more than a third of the budget and about 0.37 of EU GDP as an average for the 1998-2001 period (Second Report on Economic and Social Cohesion, 2001). Development policies, such as the Common Agricultural Policy, became the second largest European policy in terms of the implementation area size (Puigcerver-Peñalver, pp. 179-208).

As a first step, the single market was preceded by the 1989 reform of the Structural Funds, which means, not only the coordination of the three Structural Funds (European Social Fund - ESF, European Agricultural Guidance and Guarantee - EAGGF and the European regional Development Fund - ERDF), but also a broad reorganization of the governance principles, doubling the amount of

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money for regional development from 15.1% of the EU budget in 1988 to 30.2% in 1992\*. Secondly, the decision taken by the Treaty of Maastricht to create a single European currency was closely related to the decision to set up a Cohesion Fund.†

Changing the economic and social context of the Member States has led the Commission to enact general guidelines to ensure the added value of Community (Priorities for Structural Funds programs complement the end of 1999). They were intended to establish a general policy framework and priorities which can be changed according to Objective 1 (1994-1999). The guidelines set out a number of thematic priorities that support the main goal of the Structural Funds interventions: to help identify conditions that encourage sustainable economic development, growth and competitiveness and thereby indirect employment. This general objective was secured through the following specific priorities: primary infrastructure, productive environment (numerous measures to improve the growth and complexity of the business and industry), the development of research and technology, environment and sustainable development, human resources development and equal opportunities.

After the Maastricht reform, more than two thirds of Structural Fund allocation were concentrated in the so-called Objective no.1 regions, representing less than 75% of the European average GDP per capita, estimated by Purchasing Power Standards.

Regional policy was further increased by reducing the number of targets from 7 (programming period 1994-1999) to 3 targets (programming period 2000-2006) (Council Regulation, 1999):

- Objective 1 - promotes the development and structural adjustment of regions whose development is lagging behind;
- Objective 2 - promotes economic and social conversion of regions with structural difficulties other than those eligible for Objective 1;
- Objective 3 - serves as a reference framework for all measures to promote human resources in the Member States, development of education, training and employment of people.

Since the implementation of the Maastricht Treaty in the European Union in November 1993, which aimed to strengthen economic and social cohesion, it became one of the objectives of the European Union, in addition to the establishment of the internal market and EMU. Throughout the post-war European integration history, cohesion turned into a primary objective. Concomitant with

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\*European Council in Brussels in February 1988 reforming the functioning of the Solidarity Fund, called "Structural Funds" and decide to allocate 68 billion ECU (at 1997 prices).

†Treaty on European Union entered into force in 1993, considers cohesion as one of the key objectives of the Union, alongside economic and monetary union and the single market. The Treaty provides for the creation of a Cohesion Fund projects designed to support favorable environment and transport in the less prosperous Member States.

the EU enlargement, economic and social cohesion complicated, as the Member States were more and more a heterogeneous entity (EU Structural Funds beyond Agenda 2000: Reform and Implications for current and future Member States, the European Institute of Public Administration, Maastricht, The Netherlands)

Structural policies have been developed based on three main assumptions: the existence of disparities among EU regions, the ability of structural policies to reduce these disparities, and regional growth and convergence that lead to cohesion. Therefore, the EC Structural Funds impact assessment conducted in supporting the future policy and maximizing the impact on economic development (Puigcerver-Peñalver, pp. 179-208).

## **1.2. Reform of Regional Development 2007-2013**

From the six founding members in 1952 to twenty-five in 2004 and then to twenty-eighth in 2013, the European Union can now be rightly named a neo-colonial empire; stretching from the Atlantic to the Black Sea, it combines Western and Eastern Europe for the first time since their separation from the Cold War, 60 years ago.

EU expansion to 27 Member States in 2007 generated challenges in terms of its competitiveness and internal cohesion. Disparities between Member States and their regions widened. These differences come from structural deficiencies in the key factors of competitiveness, namely an inadequate endowment of physical and human capital (infrastructure and manpower), insufficient innovation capacity, support enterprises and the low level of environmental capital (natural environment and/or urban pollution). Implementation of cohesion policy at EU level involves reducing disparities between regions in terms of production, productivity and employment. A particularly strong growth in the new Member States - the 10 that joined in May 2004 plus Romania and Bulgaria - can be a significant boost for the rest of the economy in the enlarged/expanded European Union.

Therefore, the policy aims to reduce disparities between regions in the European Union. For this purpose, Member States and regions need significant financial help to solve various structural problems and achieve their potential widespread growth.

There are significant disparities between Member States and its regions, these differences outside the Gross National Product (GNP) being given by:

- infrastructure provision
- environmental quality
- unemployment and labor skills required for future development



- size and diversity of the business
- difference in the use of new technologies.

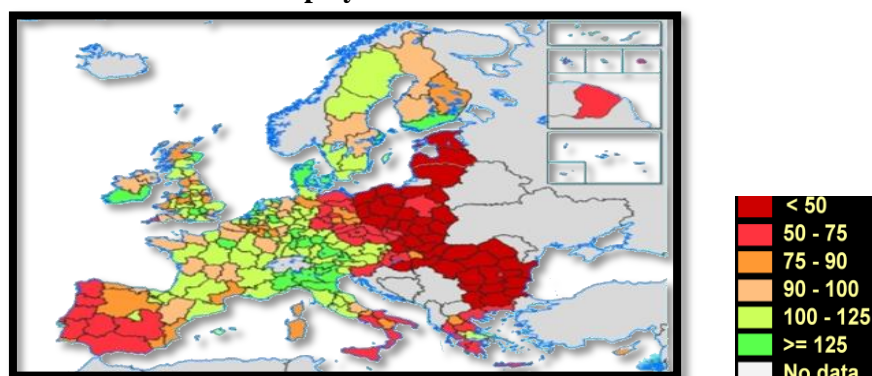
To reduce disparities between regions through Cohesion Policy 2007-2013, the European Union has set the following objectives, together with grants and other measures to achieve them (Council Regulation, 2006):

Objective 1. Reduction of the disparities between different regions and EU Member States with a GDP / capita less than 75% of the Community average and regions covered the so-called "statistical effect" are also eligible to be financed under the objective of the Cohesion Fund, Member States whose GNP per capita is less than 90% of the Community average.

Thus in the current financial perspective, 81.54% of the structural funds are dedicated to this purpose, namely 251.163 billion allocated for investment in infrastructure, human capital, innovation

Objective 2. Regional competitiveness and employment is funded with 15% of the budget for structural funds and cohesion. These targeting regions are not eligible under the convergence objective.

**Figure 1 - Regions eligible for Objectives "Convergence" and "European Competitiveness and Employment"**



Source: European Commission

The two objectives are closely related, as improving cohesion within the EU depend largely on increasing competitiveness.

Objective 3. European territorial cooperation is funded by 5% of the budget for structural and cohesion funds and targeting transnational cooperation, cross-border and interregional. For this objective was allocated a sum of 7.75 billion, respectively 2.52% of the funds for cohesion policy, being fully funded by the ERDF. To achieve the three goals in the 2007-2013 period, the EU has allocated 347 billion for its 27 Member States, representing 35% of the total EU budget for the same period (975 billion).

**Table 1- Financial allocations 2007-2013**

Structural and Cohesion Funds	Eligible areas	Financial allocations
<b>Objective „Convergence” 81,54%</b>		<b>251,16 Mld. Euro</b>
ERDEF	Regions with GDP / capita <75% of GDP / EU 25	57,04%
EFS		189,6 Mld Euro
CF	Member States with GNI <90% GNI / capita, EU-25 24.5%	24,5%
		61,55 Mld Euro
<b>Objective „ Competitiveness and Employment” 15,95%</b>		<b>49,13 Mld. Euro</b>
ERDEF	Member States shall propose a list of NUTS I or NUTS II	15,95%
EF		49,13 Mld. Euro
<b>Objective „ European Territorial Cooperation” 2,52 %</b>		<b>7,75 Mld Euro</b>
ERDEF	Border regions and regions transnational cooperation	2,52 % 7,75 Mld Euro

Source: European Commission

### 1.3. The legal basis of regional policy

The legal framework of EU regional development policy has established regional policy objective of Title XVII of the Treaty in the European Union "reducing disparities between the levels of development of the various regions and the backwardness of the less developed regions or islands, including rural regions". Add:

- Regulation no. 1080/2006 on the European Regional Development;
- Regulation no. 1081/2006 on the European Social Fund;
- Regulation no. 1082/2006 European Territorial Cooperation;
- Regulation no. 1083/2006 laying down general provisions on the European Regional Development Fund, European Social Fund and the Cohesion Fund Regulation no. 1084/2006 establishing a Cohesion Fund.

## 2. ROMANIA IN THE EUROPEAN CONTEXT

### 2.1. Romania and European Union Relations

Romania is the first country in Central and Eastern Europe that has established formal relations with the European Community. First official relations between RO and the former Economic European Community have been established in 1967, by initiating the negotiations for a series of sectorial and technical agreements on food products, such as: cheese, eggs, pork. In 1974 Romania enters the generalized system of preferences (GSP) of the European Economic Community. In 1980 it is signed the Agreement on trade in industrial products subsequently suspended by the Community because of human rights violations during the communist regime.

Although in the next years Romania - EU diplomatic relations worsened near the western structures, this is resumed 10 years later, with the end of communism and the "Cold War" (Berlin Wall), thus in 1991 the Trade and Cooperation EU Agreement was signed.

On 01.02.1993 Romania signed the European Union Association Agreement (Europe Agreement), which became applicable in 1995; this agreement determines the legal and institutional relations between Romania and the EU, having the main objective to get prepared for adhering to the European Union. Formal application for membership is submitted on June 22, 1995, the next period scrolling down (??) the Commission's analysis and publication of a series of documents concerning the accession of Romania:

- July 1997 - "Opinion on Romania's Application for membership of the EU";
- November 1998 - "Regular Report on Romania's progress towards accession";
- October 1999 - "Periodic Report" on Romania, the recommended starting accession negotiations, subject to certain conditions;

In June 1999, Romania adhered to the National Programme for Accession to the EU, so that in the same year, the European Council decided to open accession negotiations with six candidate countries (Malta, Slovakia, Lithuania, Latvia, Bulgaria and Romania) – Helsinki 1999. To support efforts to prepare for accession to the EU, the European Commission issues a "Roadmap for Romania and Bulgaria" (November 13, 2002), followed seven days later Parliament proposed on 1<sup>st</sup> of January, 2007 target date for accession of Romania to the European Union. In the Copenhagen European Council on 12-13 December 2002 was decided the accession of 10 new Member States. On the 26<sup>th</sup> of March, 2003 the European Commission presented a revised edition of the Romanian Partnership Accession. Following the assessments presented in the 2004 annual report, Romania obtained the rule of functioning market economy, which influences the dynamics of the accession negotiations, so on December the 17th, 2004, at the European Council in Brussels, it receives confirmation to completion of accession negotiations.



On April the 13th, 2005, Romania and Bulgaria received the opinion of the European Parliament, followed by the signing of the Accession Treaty to be held on 25th of April, 2005 at the Neumunster Abbey in Luxembourg. Since that time Romania has observer status in the work of the

European institutions, being involved in the drafting of Community legislation, but having no right to vote. January the 1st, 2007 is the date when Romania becomes a Member State of the European Union accession accompanied by a series of measures to remedy existing national deficiencies (agricultural funds, legal system, corruption etc.) for the last two components being established a Cooperation and Verification Mechanism (CVM).

## **2.2. Regional Development Policy in Romania**

Although the Maastricht Treaty (1993) says that the EU should "promote economic and social progress and a high level of employment of labour as creating an area without internal frontiers and strengthen economic and social cohesion in the European Union" in Romania, until 1996, the Government committed for the first time, regional and local development policy chapter of its program "funds to finance programs and projects of regional and local development will be established ... the principles of decentralization and subsidiarity will be applied, where local authorities will become privileged dialogue partner. National restructuring programs will be linked to regional and local development projects ... the adoption of regional and local variants will be stimulated" (Romanian Government Program, 1996)

Officially, in Romania, regional development policy exists from mid-1998. Until then, there were only certain spatial planning activities related to identifying of priority areas, such as the Black Sea and the Danube-Black Sea Canal Zone (Pascariu, 2002). Thus, with the support of the European Union, following closely the recommendations of the "Green Paper on regional development" (1997), and Law 151/1998 on regional development in Romania, in late 1998 the 8 regions of Romania are being constituted. They function as tools to promote economic and social development and research, being affiliated to the European Commission Eurostat Statistical Services. According to the Nomenclature of Territorial Units for Statistics (Oltean, 2004), NUTS II regions are statistically similar to other regional levels in EU Member States, counties are at NUTS III level, and the towns and cities correspond to NUTS V.

The 8 regions are not administrative units, they do not have legal personality and they are the result of an agreement between the county and local governments to organize "framework development, implementation and evaluation of development policies and collection specific statistical data in accordance with European regulations issued by EUROSTAT for the second level NUTS II territorial classification, existing in the European Union." (Law 315, 2004)

**Figure 2 - Map of the regional division in Romania**



Source: <http://scmdfiliala1constanta.blogspot.com>

**Table 3 - Regions of economical development in Romania**

<i>Development Region</i>	<i>Departaments</i>
<i>North East</i>	<i>Iasi, Botoșani, Neamț, Suceava, Bacău, Vaslui</i>
<i>Vest</i>	<i>Arad, Caraș-Severin, Hunedoara, Timiș</i>
<i>Nord West</i>	<i>Bihor, Bistrița-Năsăud, Cluj, Maramureș, Satu-Mare, Sălaj</i>
<i>Centre</i>	<i>Alba, Sibiu, Mureș, Harghita, Covasna, Brașov</i>
<i>South East</i>	<i>Vrancea, Galați, Brăila, Tulcea, Buzău, Constanța</i>
<i>SouthMuntenia</i>	<i>Argeș, Dâmbovița, Prahova, Ialomița, Călărași, Giurgiu,Teleorman</i>
<i>South West Oltenia</i>	<i>Mehedinți, Gorj, Vâlcea, Olt, Dolj</i>
<i>Bucharest-Ilfov</i>	<i>Bucharesti and Ilfov</i>

Source: <http://www.mdrap.ro/>

### 2.3. Considerations on regional disparities in Romania

In Romania regional disparities were not measured officially until 2000. The Green Paper on Regional Development Policy developed in 1997 by the Government of Romania has been prepared based on a preliminary analysis of the level of disparities in Romania. The next period - 1998-2000 - was also characterized by a thorough analysis of rural areas, which revealed significant disparities. All these studies have shown significant differences in levels of economic and social development between the regions and counties and inside the counties.



The existence of regional disparities in Romania is a legacy of the interwar period, where, in the context of reduced overall economic development, industrial activity was concentrated in a small number of areas dependant on the access to mineral and energy resources, with a favorable location in terms of Lodging important transport (Bucharest, Prahova Valley, Brasov, Hunedoara, Jiu Valley, Resita, Braila, Galati, Constanta).

Since the creation of regions in 1998, there are a number of indicators measuring disparities at this level and became compatible with EUROSTAT. Because the 8 regions grouped counties and areas with lower or high development levels, the inter-regional disparities are smaller than those between counties. This leads to the general opinion that the level of disparities in Romania is not too high and that, more or less, the entire country can be considered as underdeveloped compared to the EU average level of development. Such an attitude can lead to a wrong approach in structuring a policy of economic and social cohesion and a rational and effective regional policy.\*

Data on GDP, calculated for the period 1993-1998, showed a tendency to widen the gap between the most developed and the less developed regions, confirming the opinion that political reforms and adjustment of economic structures and social economy market lead to increased disparities. Moreover, the transition of economic weakness revealed less developed areas, such as heavy dependence on a single industry (mono-industrial areas), poor development of spatial planning process, low attractiveness of municipalities, insufficient utilities and underdeveloped infrastructure, while the demographic structure is fragile and inadequate.

In terms of GDP per capita, in 2004, the least developed four regions of Romania were also the last four in the hierarchy of regions in Central and Eastern Europe. Although Romania seems to be the least developed of the new Member States, GDP alone is not sufficient to characterize the level of economic and social development. Romania has the highest rate of agricultural population (45.2 %) and the lowest level of development of the tertiary sector (29%). However, Romania still has a low level of unemployment, falling soon after Slovenia, Hungary, Malta and Cyprus. According to statistics published by the European Commission in recent years, Romania has seen a notable improvement of real convergence in terms of GDP per capita expressed in purchasing power standards, reaching in 2004 28.8 % of EU-15 and 31.1 % of the EU-25, compared to 23 % and 25.2 % in 2000. Nevertheless Romania continues to be placed behind all the new Member States.

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\*Cohesion Policy is a compensating current to ensure economic and social cohesion, but should also aim to promote endogenous development capacity of regions. This reorientation is required by emphasizing regional disparities in development, due to the evolution of European integration. Less developed regions tend to have competitive disadvantages which will not allow them to benefit long-term accumulation of capital, technologies and positive externalities generated by economic activities.

Romania is characterized by an increase in disparities between Bucharest-Ilfov region and others, by an unbalanced development between East and West of the country, and between the North-East, South-East, South-West Oltenia and West, North-West, Center. Chronic underdevelopment is concentrated in the North-East, on the border with Moldova and South-East, along the Danube. Small and medium towns, mono in particularly, are in decline due to industrial restructuring.

### **3. CONVERGENCE OR DIVERGENCE BETWEEN DEVELOPING REGIONS OF ROMANIA (2005-2011)**

#### **3.1. Case Study Bucharest-Ilfov**

This paper aims to analyze the disparities between developing regions of Romania, during 2005-2012 (pre-accession and accession), with the Bucharest-Ilfov region case study, considered the richest region of Romania (113% of the average purchasing power EU). As of top poorest regions in the EU27, Eurostat 2008, Romania is in the top 20 with 6 of its 8 regions as follows: NE region ranks second (after Severozapaden, Bulgaria), where purchasing power is 29 % of the EU average. SW Oltenia region ranks 6 to 36%, SE ranks eight (39 %), South Muntenia (39 %), North West on 15 (41 %), Central (45%). The West region has 51 %. At the other extreme, the richest region in Europe is London's financial district, where purchasing power is 343 % compared to the EU average, followed by Luxembourg with 279 % and Brussels with 216 %. Prague is the richest city in the former communist states, ranking sixth in the EU with 172 % of the average buying power over Stockholm and Vienna. As a result of these raw data, the gaps between regions of Romania and the EU average are very large, so we will try to see to what extent they have been reduced after the EU.

Bucharest-Ilfov region, consisted of Bucharest Municipality and Ilfov county, is located in the south-east of Romania, in Vlasiei, and it is the most populated region of Romania, with a population of over 2 million inhabitants, 85 % living in Bucharest (population density/area is approximately 1288.2 inhab/km<sup>2</sup> of which 8000loc/km<sup>2</sup> are in Bucharest Municipality). According to the territorial classification level of the European Union, Bucharest-Ilfov is part of NUTS II developing regions similar to those with a demographic threshold located between 800 000-3 000 000 million inhabitants).

The population of a region is one of the most important aspects when considering economic development and identifying disparities at the local level. "This indicator represents the base to classifying a region in a NUTS category (1, 2 or 3) and at the same time the criteria weighting

performance indicators (GDP, GVA, SMEs etc.). Often the existence of large populations in a region can be advantageous, provided that this population possess skills which can be characterized by a high degree of specialization, etc."

During the 2005-2012 period we have noticed a downward trend in regional population density, meaning that that the discrepancies are decreasing. The North - East region is an exception, with a downward trend between 2005 and 2011, followed by a slight increase in 2012, reaching the same level as in 2005. Consulting NE Regional Development Plan, in 2006 a number of villages were declared cities, for which there is a decrease in the rural population. In the following period there can be seen a migration of rural population to the cities, and external migration. "According to statistical data from July the 1st, 2012, the Northeast region had a population of 3,699,239 stable inhabitants, representing 17.3% of the total population of the country. In this regard, of the eight regions, the Northeast region has the largest number of inhabitants. The distribution by counties is as follows: Bacau - 709.272, Botosani - 440.968, Iasi - 838.653, Neamt - 556.599, Suceava - 708.297 and Vaslui – 445.450." (NE Regional Development Plan 2014-2020)

On the other hand, in the Bucharest-Ilfov region is an increase in population density inh/km<sup>2</sup> 69377, being the largest urban agglomeration in Romania, leading to a divergence growth over the other 7 development regions. The smallest variation of density is recorded in the North West, with a difference of 143.799 (decrease), and the largest in SE with 311.010 inhab/km<sup>2</sup>.

**Table 4 - Population density**

		Population density							
		2005	2006	2007	2008	2009	2010	2011	2012
North-West	inh/km <sup>2</sup>	2742676	2729181	2729256	2724176	2721468	2719719	2717532	2598877 <sup>b</sup>
Centre		2533421	2534378	2524176	2524628	2526062	2524418	2522692	2360578 <sup>b</sup>
North East		3735512	3734946	3727910	3722553	3717621	3712396	3703283	3735512 <sup>b</sup>
South East		2849959	2843624	2834335	2825756	2818346	2811218	2802532	2538949 <sup>b</sup>
South Muntenia		3338195	3321392	3304840	3292036	3279786	3267270	3253712	3128799 <sup>b</sup>
Bucharest-Ilfov		2209768	2215701	2232162	2242002	2253093	2261698	2267419	2279145 <sup>b</sup>
South West Oltenia		2313903	2301833	2285733	2270776	2257752	2246033	2232814	2067357 <sup>b</sup>
West		2313903	2301833	2285733	2270776	2257752	2246033	2232814	2067357 <sup>b</sup>

\* b=break in time series

Source: Eurostat



## Employment

Another important indicator in analyzing regional disparities is the employed population. This indicator provides information on labor market trends and its reactions to various internal and external factors.

**Table 5 - Employment rate of the age group 15-64 by NUTS 2 regions**  
**Employment rate of the age group 15-64 by NUTS 2 regions**

	2005	2006	2007	2008	2009	2010	2011	2012
North-West	55.9	57.1	57.0	56.4	55.2	57.7	58.8	61.6
Centre	54.1	55.9	55.1	56.6	55.1	53.5	52.3	53.4
North East	61.4	60.0	61.3	60.5	60.6	62.0	63.7	64.9
South East	54.6	56.3	54.7	55.3	55.4	55.5	53.9	53.9
South Muntenia	57.9	59.6	60.5	61.1	60.1	59.7	55.3	57.1
Bucharest-Ilfov	59.3	62.8	62.4	63.3	63.8	64.3	64.7	64.5
South West Oltenia	60.1	60.0	59.3	60.0	59.9	59.2	60.3	60.9
West	56.5	58.6	59.6	59.3	58.6	57.9	58.4	58.9

Source: Eurostat

As shown, the highest rate of employment is recorded in the region Bucharest-Ilfov - 5.2%, compared to Central and Southeast regions (which fell by 0.7 %) and South Region (where it decreased by 0.8 %). The largest increase in the employment rate is registered in the North West region (5.7 %), followed by Bucharest-Ilfov (5.2%), West (2.4%) and South West Oltenia (0.8 %). During the crisis, there is a slight decrease in the level of the 7 regions except for Bucharest-Ilfov region. Given the large differences between the two regions (Bucharest-Ilfov and West) and the other regions analysis, we can talk about a slight increase in the divergence and the labour market between Bucharest-Ilfov and the other regions. On the other hand, the difference increase/decrease between the 6 regions is not significant, crisis being an essential element that influenced regions in the whole EU.

## GDP

Another approach aims disparities across regions in low income (total and per capita GDP), trying to provide reliable answers about the economic growth trends. In this sense, here are the following results:

**Table 6 - Regional gross domestic product (million PPS) by NUTS 2 regions**

Regional gross domestic product (million PPS) by NUTS 2 regions								
	2005	2006	2007	2008	2009	2010	2011	Differences GDP 2005-2011
<b>North-West</b>	19911	23187	27052	28629	27425	28413	28439	8528
<b>Centre</b>	19155	22501	26168	28016	27050	28310	28630	9475
<b>Nord East</b>	18976	21440	24307	26868	25762	26707	26576	7600
<b>South East</b>	19226	21948	23864	26363	25042	27042	27661	8435
<b>South Muntenia</b>	21518	24762	27913	31651	30981	31716	32542	11024
<b>Bucharest-Ilfov</b>	40341	45572	53208	65473	58935	62851	69105	28764
<b>South west Oltenia</b>	13869	16148	18172	19737	18980	20142	20696	6827
<b>West</b>	16591	19752	22104	24620	23324	25407	25755	9164

Source: Eurostat

As seen, the evolution of GDP relative to purchasing power reflects the large differences between developing regions of Romania. Significant differences are found for the Bucharest-Ilfov (28764 million PPS). This is followed by South Muntenia (11024 million PPS) and West (9164 million PPS). In the period 2008-2009 all regions recorded a slight decrease in purchasing power. Relative purchasing power/place gaps look like this:

**Table 7 - Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions**

Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions								
	2005	2006	2007	2008	2009	2010	2011	Diferences GDP/inh 2005-2011
<b>North-West</b>	7000	7300	8500	9900	10500	10100	10500	3,500.00
<b>Centre</b>	7300	7600	8900	10400	11100	10700	11200	3,900.00
<b>Nord East</b>	4900	5100	5700	6500	7200	6900	7200	2,300.00
<b>South East</b>	6600	6800	7700	8400	9300	8900	9600	3,000.00
<b>South Muntenia</b>	6200	6500	7500	8500	9600	9500	9700	3,500.00
<b>Bucharest-Ilfov</b>	15400	18300	20500	23900	29100	26100	27800	12,400.00
<b>South west Oltenia</b>	6100	6000	7000	8000	8700	8400	9000	2,900.00
<b>West</b>	8200	8600	10200	11500	12800	12100	13300	5,100.00

Source: Eurostat

Another essential indicator for regional cohesion aims the people at risk of poverty or social exclusion. According to the Eurostat data for 2007-2012, it is observed that the highest rate was

recorded in the U.S., 52.3%, which is still down from 2007, which was 55.1%. The region with the lowest risk is Bucharest-Ilfov (31.5% in 2012 from 35.1% in 2007), followed closely by the North West, where poverty fell significantly (31.9% vs. 38.3% in 2007). On the other hand, in the South East the poverty rate increased from 51.0% in 2007 to 51.7% in 2012.

**Table 8 - People at risk of poverty or social exclusion by NUTS 2 regions**

People at risk of poverty or social exclusion by NUTS 2 regions						
	2007	2008	2009	2010	2011	2012
North-West	38.3	33.7	35.2	30.8	34.3	31.9
Centru	37.6	37.2	33.2	30.3	28.5	31.6
Nord East	55.1	54.5	52.9	51.0	51.2	52.3
South East	51.0	48.6	42.4	51.8	50.0	51.7
South Muntenia	50.3	45.6	48.1	42.7	43.1	43.5
Bucharest-Ilfov	35.1	36.2	41.9	34.4	28.4	31.5
South West Oltenia	55.4	56.5	52.9	48.0	44.8	46.9
West	34.2	33.4	30.1	35.5	33.1	36.2

Source: Eurostat

Another key element that produces changes in agglomeration areas is the higher education level, being known that young people generally gather around large universities, with multiple opportunities for training and employment. In this regard, we took a 25-64 age group for greater representation. There can be seen continuous educational evolution supported by the opening of numerous universities in the region and the introduction of the Bologna education, which encourages people over 35 to continue their university studies or pursue a retraining program. However, there are significant differences between Bucharest-Ilfov region and other regions, further increasing the growing inter-regional disparities.

**Table 9 - Tertiary educational attainment, age group 25-64 by sex and NUTS 2 regions**

<b>Tertiary educational attainment, age group 25-64 by sex and NUTS 2 regions</b>									
	2005	2006	2007	2008	2009	2010	2011	2012	2013
North-West	9.1	9.6	11.0	12.1	12.1	13.1	13.5	13.8	14.3
Centre	9.7	10.8	11.1	11.4	11.8	11.7	13.0	14.0	14.7
Nord Est	9.4	9.8	10.3	11.1	11.2	11.6	12.5	13.1	12.5
South Est	8.5	9.2	8.8	9.4	10.0	10.5	11.6	12.2	12.4
South Muntenia	7.9	8.7	8.6	8.6	9.1	10.1	11.2	11.5	11.9
Bucharest-Ilfov	25.4	26.5	26.3	27.7	27.7	28.6	31.4	32.0	33.3
South West Oltenia	10.6	10.8	11.1	12.8	13.0	13.5	13.6	14.2	14.7
West	10.9	10.8	11.4	12.8	14.3	14.3	14.9	15.4	14.4

Source: Eurostat

## CONCLUSIONS

Although there is a clear process of convergence in EU region during the analyzed period (2005-2012), it could be affected by development and increased regional disparities within each individual Member State, in particular in the new Member States, which still have structural and regional problems. For Romania there is a widening gap between the eight regions, particularly in terms of economic performance. These disparities are emphasized when considering the Bucharest-Ilfov, on the one hand and the other region on the other hand.

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# WELL-BEING INEQUALITY AND THE ECONOMIC CRISIS: EVIDENCE FROM LIFE IN TRANSITION SURVEYS IN EASTERN EUROPE

Alina Botezat\*  
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**Abstract:** *This paper examines the relationship between well-being inequality and the economic crisis for countries from Central and Eastern Europe. Using data from Life in Transition Surveys waves 2006 and 2010, we assess the level of happiness gap by computing the instrument-effect-corrected standard deviation. Our results indicate that the dispersion in self-reported well-being levels increased after the economic crisis in all considered countries. We also show that the life satisfaction variation is not necessarily higher for those who report being poor compared to those from the upper part of the income hierarchy. Results also suggest that in general the gaps are higher in the case of those who report being not affected at all by the economic crisis compared to those who report being affected to a large extent by the crisis.*

**Keywords:** well-being inequality; economic crisis; income inequality; happiness.

**JEL Classification:** D63; I31.

## INTRODUCTION

In the last decade, there has been a big upsurge in new research by economists on well-being (for an overview, see MacKeron, 2011). Significant developments were made not only on the theoretical, but also on the empirical side of the topic. However, the most of the literature on well-being focuses on investigating the determinants of life satisfaction and how to increase its average level, allowing thus to understand how to improve the overall happiness of citizens. But only few studies and, predominantly in the last years, analyze the *distribution* of happiness across individuals and over time. This contrasts with the vast literature on the effects and causes of *income* inequality, which still dominates the economic and sociological literature.

Understanding the determinants of well-being is of huge importance, since it allows improving the overall life satisfaction of citizens by implementing adequate socio-economic policies and/or by changing certain institutional features. Researches in psychology, as well as in economics, have shown that a high level of well-being (life satisfaction) is a good predictor for health, work performance and general mental ability (Deaton, 2008; Argyle, 1989; Judge et al., 2010). Few studies have been conducted to analyze inequalities in wellbeing and how they might be reduced.

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The interest in the analysis of happiness variation is motivated by different arguments. From the perspective of economic and social policies, inequality in happiness is a relevant indicator for assessing the general welfare of citizens as well as the social inequalities (Veenhoven, 2005). Besides economic growth, inequalities in life satisfaction can provide valuable information about the quality of people's lives and the communities in which they live. Moreover, measures of the spread in happiness represent also a barometer for social tensions, and which, through policies targeted to influence happiness gaps, can help to improve social cohesion (Becchetti et al., 2014).

A special feature of the happiness gap, which differentiates it from the income gap, is the characteristic of reproduction. While income can be redistributed from rich to poor, for example, the satisfaction with the own life, as well as determinants of well-being, cannot be transferred from one individual to another (Van Praag, 2011).

The starting point of assessment of inequalities in happiness is the Easterlin paradox, according to which, in the long run, the level of reported life satisfaction has not evolved in a similar manner as the income (Easterlin, 2009). But little empirical evidence exists regarding the evolution of the happiness *variation* and its determinants, especially at the individual level. The existing studies and researches that use macroeconomic data for modern societies show that income inequality and happiness inequality evolve differently (Stevenson and Wolfers, 2008; Dutta and Foster, 2011; Becchetti et al., 2014). There is instead a higher correlation between income levels and the spread of happiness. An increase in the level of average income contributes to the reduction of the gap between those who report high levels of happiness and those who report being rather unhappy (Clark et al., 2012; Becchetti et al., 2014).

This paper aims at analyzing how the spread of happiness evolved after the financial and economic crisis compared to the period before. Using data from *Life in Transition Surveys*, our focus is on countries from Central and Eastern Europe, given the fact that evidence for these countries is rather limited.

The paper is organized as follows: the next section describes the methodology and presents the hypotheses that will be empirically tested, Section 3 describes the data and in section 4 we present and discuss the results. The last section presents the authors' conclusion.

## 1. METHODOLOGY

The dependency between the level of happiness and its degree of dispersion is also an issue in measuring inequality in life satisfaction. This *structural dependency* (Kalmijn and Veenhoven, 2005) is more problematic than in the case of income inequality, since the measurement of happiness is achieved using a scale that has an upper and a lower bound. From this perspective, using the standard deviation as a measure for happiness inequality might be questionable. To overcome the drawbacks of using the “raw” standard deviation, Delhey and Kohler (2012) developed a new measure, aimed at adjusting the structural dependency of the standard deviation to the mean. Their derived measure is the *instrument-effect-corrected standard deviation* and is obtained by multiplying the “raw” standard deviation by an instrument-effect that accounts for structural dependency.

In our paper we follow their argument and employ the *instrument-effect-corrected standard deviation* ( $SE_{IEFF}$ ). Formally, this may be computed as follows:

$$SE_{IEFF} = SD_{RAW} * IEFF \quad (1)$$

where  $SD_{RAW}$  is the standard deviation defined as:

$$SD_{RAW} = \sqrt{\frac{\sum_{i=1}^N (ls_i - \bar{ls})^2}{N-1}} \quad (2)$$

where  $ls_i$  refers to the self-reported life satisfaction of an individual  $i$ ,  $\bar{ls}$  represents the mean value of life satisfaction and  $N$  is the number of observations.

$IEFF$  from equation (1) is an instrument effect defined as a function of maximum standard deviation:

$$IEFF = \frac{1}{\max(\sigma)} \quad (3)$$

where  $\max(\sigma)$  depends on the upper and lower limits of life satisfaction and also on the mean value of well-being ( $\mu$ ).

$$\max(\sigma) = \sqrt{\frac{(u-\mu)*(\mu-l)*N}{N-1}} \quad (4)$$

Based on previous research and using the *instrument-effect-corrected standard deviation* as our tool to measure well-being inequality\*, we formulate the following hypotheses in order to test them in the next section.

1. There is an inverse relationship between an increase in GDP per capita and happiness variation.

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\* We use the Stata command `SDLIM`, developed by Ulrich Kohler (2010).



2. Measured after the economic crisis, the well-being inequality increased compared to its level before the crisis.
3. After the economic crisis, life satisfaction variation is higher for those who report being poor compared to those from the upper part of the income hierarchy.
4. Happiness inequality is smaller in the case of those who report being not affected at all by the economic crisis compared to those who report being affected to a large extent by the economic crisis.
5. Very low correlation (if any) between mean life satisfaction measured by the self-reported impact of the economic crisis and the inequality in well-being.

## 2. DATA

In the present paper we use data from two rounds of the *Life in Transition Survey* carried out in 2006 and 2010 by the European Bank for Reconstruction and Development (EBRD) in collaboration with the World Bank. The data contain information on individuals and households from 34 countries: 29 countries of Central and Eastern Europe and Central Asia and 5 countries from Western Europe, the latter taking part only in the second round. The sample for each country is national representative and consists of at least 1000 individuals. Besides socio-economic background information, the surveys contain rich data on public attitudes and values, on economic and life satisfaction as well as on the impacts of the economic crisis. Given that the two rounds of surveys were carried out before and after the outbreak of the economic crisis, the *Life in Transition Survey* is a unique data set that provides the opportunity to assess changes in transition countries during the economic crisis.

In our study we restrict our analysis to the following countries from Central and Eastern Europe: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Slovakia and Ukraine.

Our main variable of interest is *life satisfaction* and is measured with two different Likert scales in the *Life in Transition Survey*. In the survey from 2006, the *life satisfaction* is assessed using the following measure:

*All things considered, I am satisfied with my life now (strongly disagree, disagree, neither disagree nor disagree, agree, and strongly agree)*

In the second round from 2010, the *life satisfaction* variable is the response to the following question, which contains instead a 10-step scale:

*All things considered, how satisfied or dissatisfied are you with your life these days? Please answer on a scale from 1 to 10, where 1 means completely dissatisfied and 10 means completely satisfied.*

To assess the level of income of the respondents, we use the answers on a 10-step ladder from the following two questions.

*“Please imagine a ten-step ladder where on the bottom, the first step, stand the poorest 10% people, and on the highest step, the tenth, stand the richest 10% of people in our country. On which step of the ten is your household today?”*

*Now imagine the same ten-step ladder 4 year ago. On which step was your household at that time?*

### **3. RESULTS AND DISCUSSION**

Figures 1 and 2 describe the happiness inequality plotted on a self-reported income ranking before and after the crisis. Comparing the graphs computed for 2006 and 2010 we can observe that in general the variation in self-reported life satisfaction, regardless of the income level, is higher in 2010 than 4 years before. Given the fact that the GDP per capita decreased during the economic crisis in all considered countries (not shown here), we can assert that there is an inverse relationship between GDP per capita and happiness inequality. This implies that the hypothesis 1 is true. Also, the second hypothesis is confirmed.

**Figure 1 - Life satisfaction inequality by income (2006)**



Source: own computation. Data from Life in Transition Survey, 2010.

A reason of an increase in happiness gap could be that both the share of individuals who declare low and high life satisfaction scores has increased. Since the measurement scale of life satisfaction in both surveys (2006 vs. 2010) differs, looking at the proportion of individuals who report a life satisfaction score of one in both waves could not be relevant (the same argument for the proportion of those who report a maximum well-being score).

Figure 1 illustrates also that those individuals who report small levels of income do not necessarily report also different levels of well-being scores compared to those who have higher income. With some exceptions (Romania, Slovakia, Lithuania), the variation is quite stable. In contrast, using data for 2010 (Figure 2), the spread in life satisfaction is much higher. Reporting having medium levels of income is associated with similar dispersion in self-reported life satisfaction, but looking at the extremes values, the variation is much higher than in the middle of the income ladder.

**Figure 2 - Life satisfaction inequality by income (2010)**



Source: own computation. Data from Life in Transition Survey, 2010.

Thus, the third hypothesis formulated above, that asserts that after the economic crisis, life satisfaction variation is higher for those who report being poor compared to those from the upper part of the income hierarchy, is only partially true. It is not true for the following countries: Czech Republic, Latvia, Lithuania, and Poland. In their cases, the gap is higher for those who are at the upper part of the income hierarchy. We have also notice that compared to 2006, in 2010 there are countries (Hungary, Lithuania, Romania, Ukraine) where no one declared that his/her household is among the richest 10% or 20% of people in that country.

In both cases (Figures 1 and 2), the results also suggest that there is no positive relation between higher level of income and a smaller variation in happiness. This indicates that there are also other factors than income that determine a specific level of well-being.

Figure 3 illustrates the mean and variation in life satisfaction computed according to the self-perceived impact of the economic crisis. In this regard, the respondents were asked the following question:

*As you know, an economic crisis is affecting the whole world and our country. How much, if at all, has this crisis affected your household in the past two years?*

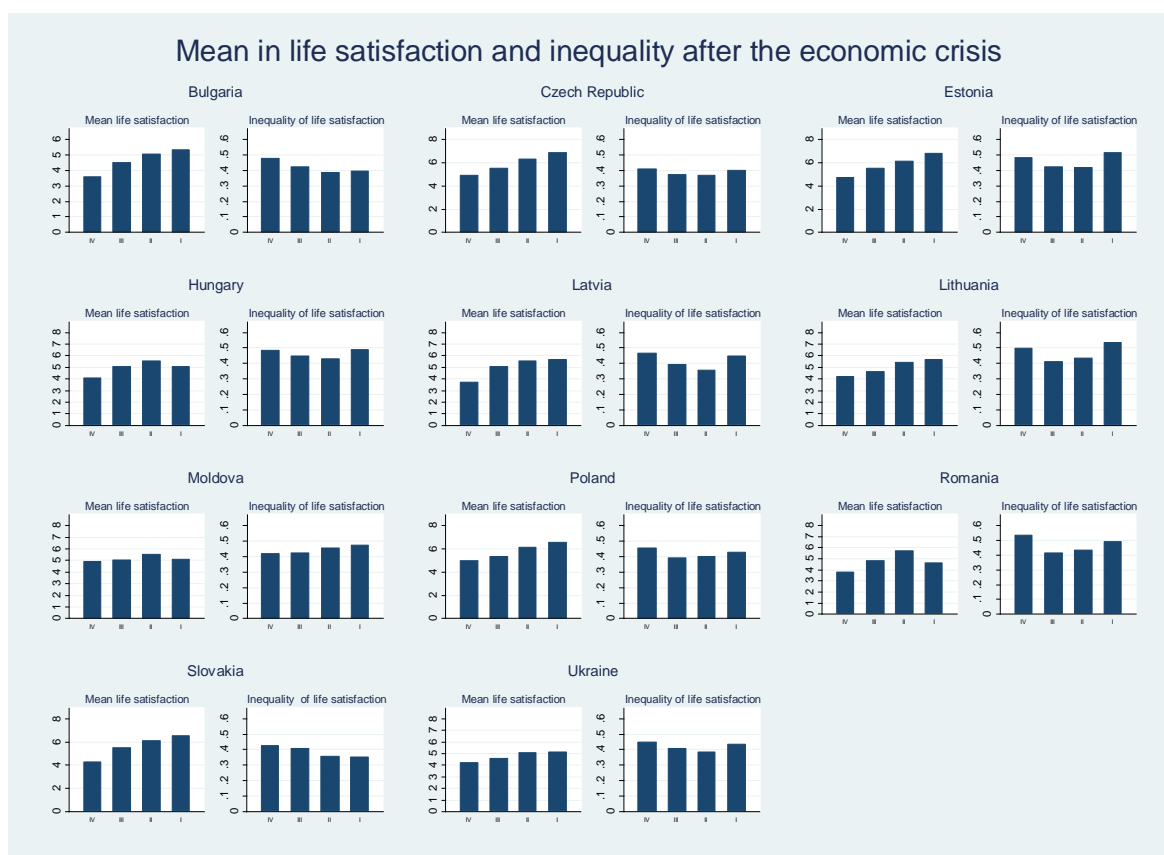
For this question, the respondents had to tick one answer out of four possibilities: *a great deal* (marked in the Figure with IV), *a fair amount* (III), *just a little* (II), *not at all* (I).

According to hypothesis 4, we expect that happiness inequality is smaller in the case of those who report being not affected at all by the economic crisis (I) compared to those who report being affected to a large extent by the economic crisis (IV). As reflected in the Figure 3, this is true only for Bulgaria and Slovakia. In other cases, such as Moldova, the situation is completely reverse: the higher the self-perceived impact of the economic crisis, the smaller the gap in self-reported life satisfaction.

We also notice, that in general, those who report not being affected at all by the economic crisis also report high levels of life satisfaction compared to those who report being affected in a great deal by the economic crisis.

The last hypothesis formulated above (H5) asserts that there is a very low correlation (if any) between mean life satisfaction measured by the self-reported impact of the economic crisis and the inequality in well-being. We find that only in the cases of Bulgaria and Slovakia the correlations are high and statistically significant (-0.96 and -0.95, respectively). In the other cases, the correlations are small and not statistically significant (not shown here, but the values are available upon request).

**Figure 3: Mean and spread of well-being and the self-perceived impact of the economic crisis**



Source: own computation. Data from Life in Transition Survey, 2010.

## CONCLUSIONS

This paper examines the relationship between well-being inequality and the economic crisis for countries from Central and Eastern Europe. Using data from *Life in Transition Survey* and the *instrument-effect-corrected standard deviation* to compute the inequality in life satisfaction we show that the economic crisis did not affect in a similar way the individuals from different countries regarding their self-reported level of happiness. We find evidence that the happiness gaps increased after the economic crisis in all considered countries. Taking into account also the self-reported income of the respondents, those who report being poor do not necessarily report very different levels of life satisfaction, so that the variation in their well-being scores is not necessarily higher compared to those from the upper part of the income hierarchy.

In general, as expected, those unaffected by the economic crisis report higher levels of life satisfaction, but the happiness inequality does not evolve in a similar manner. Almost in all cases (except Bulgaria and Slovakia), the gaps are higher in the case of those who report being not affected at all by the economic crisis compared to those who report being affected to a large extent by the crisis.

Our analysis, rather descriptive, shows that looking also at the dispersion of self-reported life satisfaction and not only at its mean value provides a deeper insight into inequalities between individuals and help us to understand in a better way how they differ in their self-perceived and reported happiness.

## ACKNOWLEDGEMENTS

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# TOURISM AND SUSTAINABLE DEVELOPMENT

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**Abstract:** *Tourism and sustainable development are the subject of many initiatives and public or private debates in Romania. The main problem to which these initiatives try to find an answer is mostly related to the income generation for the local communities by using rationally and efficiently the local potential, in agreement with the economic, social, natural, and cultural factors. Consequently, some measures should be taken, and the tourist sector as a whole needs all the methods of sustainable development: new technologies, change of social behaviour, change of environmental legislation, methods of environmental management, better planning and development of control procedures. In this article, we presented a model of tourism development which should be applied in all the regions of great tourist attraction, and we realised a synthesis of the socio-economic advantages of sustainable tourism.*

**Keywords:** tourism; sustainable development; lasting development.

**JEL classification:** L83; Q01.

## INTRODUCTION

*In the last century, a change with enormous implications appeared on the list of human priorities: instead of happiness, the first place was taken by the problem of survival (Giurgiu, n.d.).*

We all know that any human activity can have positive or negative effects on the environment. The geo-system includes several subsystems interacting with each other, with a continuous exchange of energy and matter among them. The anthroposphere presents different interactions with the biosphere, and it can modify it by its actions (Avramescu, 2005). The irrational environmental exploitation for economic or social welfare reasons, which represent the main purpose of intensive economic development, characteristic of our century, cannot be maintained on long term unless the environment becomes completely degraded, involving risks even for the survival of human species in the near future. The resources of the planet are limited, and although some of them are recyclable, this requires a rather long time, and we are using them at an alarming rate.

According to the report provided by the World Wide Fund for Nature, *if the consumption and production practices continue at the same rate, after the following 50 years we would need another planet Earth in order to survive.* (Grand et al., 2007)

In 1987, the Prime Minister of Norway, who at that time was also President of the World Commission on Environment and Development, published a report bearing the title *Our Mutual*

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*Future*, in which he analysed the entire evolution between human beings and the environment, and he also tried to explain the difference between growth and development, rejecting the concept that the ecologists were against economic development and human society.

Daly and Cobb (1989), considered *the founders of the theory of sustainable development*, elaborated between 1971 and 1981 the concept of *steady state economics*, which is the basis on which the notion of sustainable economy was later consolidated. Starting with this concept of *steady state economics*, the concept of sustainable development was initiated ten years later.

In 1990, the World Bank was organising in Washington an International Interdisciplinary Conference with the subject *Ecological Economics of Sustainability*, when *The International Society for Ecological Economics* was founded. This became a reunion of several specialists from the entire world.

In 1992, in Rio de Janeiro, from June 3<sup>rd</sup> to June 14<sup>th</sup>, the United Nations Conference on Environment and Development took place, attended by 178 states, which was later followed by a two-day summit, called EARTH SUMMIT (World Conference *Environment and development* in Rio de Janeiro, 1992). This conference constituted the beginning of the endeavours concerning environmental issues and sustainable development (Casey J. Dawkins, 2003). The participants in the Summit, leaders of the states of the world, adopted there the following main documents: the Rio Declaration; the Convention on Climate Change; the Convention on Biodiversity; the Declaration on Desertification; Agenda 21. (Giurgiu, n.d.)

Since Romania is member of the European Union, the concept of *sustainable development* should also have an impact on the territory of our country. Nowadays, not only that the concept of sustainable development is of great interest, but it also has a long perspective. Sustainable development, among several other roles, also contributes to change the life style, and it makes us, in a certain way, become better and more tolerant.

## **1. SUSTAINABLE DEVELOPMENT – CONCEPTUAL APPROACH**

Taking into account the concept of *sustainable development*, we can state that this mainly refers to the problem of resources. All the evidence shows a real concern for our planet and the natural resources, which are limited quantitatively. Also, our environment is more and more polluted, and the population of the planet is continuously growing, which does not limit the main problem of sustainability only to strictly economic aspects. On the contrary, efforts are made to optimally combine the economic aspects (concerning the resources) with the social ones

(concerning the social classes), and with the ecological ones (concerning the environmental protection and pollution reduction).

A *sustainable development* should allow human life to continue, and it should also assure environmental protection from the activities of the society. Some natural disasters appeared not only as a result of high risk activities, but also due to the way we behaved with the place where we developed our daily activities (Țugulea, et al., 2013). *The greenhouse effect, acid rain, desertification, ozone holes, pollution, destruction of forests and of biodiversity, erosion* are indicated as evidence that an economic development with no limits is a way with no return, which can lead no more to economic welfare; the natural capital and the patrimony left by our ancestors should persuade us to reinitiate a truly sustainable economy.

According to Tiezzi and Marchettini (1998), *the new theories of sustainable development and ecological economy confront us with a paradigm: today there is no economy based on two parameters (capital and work), but an ecological economy which admits the existence of three parameters: work, natural capital, and capital produced by man*. Consequently, we consider that sustainable development also represents a problem of relationships and interdependence. *Carrying capacity* is the capacity of the planet to support the population and other life forms, flora and fauna, which man and nature need in order to survive. This is the *basis of sustainability*.

Over the time, it is obvious that from a rich world concerning the natural capital and a poor world concerning the capital produced by man, we passed to a very poor world from a natural point of view, and rich in what concerns the capital produced by man. (Țugulea et al., 2014) Consequently, Rudolf (1985), the founder of thermodynamics, stated: *In a nation's economy, there is a generally available law: the consumption should never be higher than what can be produced in the same period of time. This is why we should consume no more fuel than it can be possibly reproduced by tree growth*.

A very clear definition was given within the World Commission on Environment and Development attached to United Nations Organization, also known as Brundtland Commission or Brundtland Report (from Gro Harlem Brundtland's name, who was then the Prime Minister of Norway): *sustainable development represents a development satisfying the present needs without compromising the capacity of future generations to satisfy their own* (Ardelean and Maior, 2000).

Other definitions attributed to sustainable development are as follows: *sustainable development is the economic development of mankind which completely takes into account the ecological consequences of the economic activity, and it is based on the resources that can be replaced or regenerated and therefore cannot be exhausted* (Berca, 1998-2001); *sustainable development is nothing but a vector of the desired social objectives, obviously the ones related to*

*the level and repartition of income, access to health, education and other services (OCDE, 1995, p.28); sustainability can be expressed with the help of a system of indicators. It is fundamental that a sustainable development is based on the following three value judgements: equal rights with future generations, leaving the inheritance of an intact nature, and an international justice (Pitea, 1999).*

In the concept of sustainable development there are three main axes, as follows: *sustainable environment, social equity and economic prosperity*. Most of the times, people think only about themselves, they are too selfish to think of the future, of the future generations, and they have norms like: *having a decent and comfortable living; economic prosperity; to relax in a nice landscape, at least in leisure time; to have access to health and education systems; to have a series of basic rights respected; to have the perspective of a decent pension.*

From these norms, we can clearly see that very few are those who are concerned about nature, about what surrounds them, and about the fact that one should be responsible for the society and for the environment, eliminating the indifference and demonstrating that by involving personally one can obtain positive effects on the environment and society.

In conclusion, as a general imagine of the future society, sustainable consumption will become a complex field, situated at the crossroads of several subjects. We should all participate in the action of supporting a sustainable environment, because society is an immense consumer with mechanisms directed only towards economic development, using the sustainability of natural environment in order to develop.

## **2. LASTING DEVELOPMENT vs SUSTAINABLE DEVELOPMENT**

*Sustainable development can be generally defined as the improvement of each person's life now and for the generations to come.*

The concept of sustainable development promoted by United Nations forums mainly refers to:

- Equitable and balanced economic development;
- Higher level of employment, social cohesion and inclusion;
- Assuming responsibility for the use of natural resources and of environmental protection;
- Coherent, open and transparent policies;
- International cooperation for global promotion of sustainable development.

Georgescu (1995) considers that *the economic and social development, the state of the environment and human health are strongly connected, conditioning one another, environment and health constituting conditions necessary for any process of development, which can influence at its*

turn, positively or negatively, the state of environment and human health (Dinga, 2006). Although it is generally accepted that the terms *lasting* and *sustainable* can conceptually substitute one another, we consider that we should accept a few distinctions which could prove important, including the methodological point of view. In this context, the expressions “lasting development” or *lasting growth* are quasi-correct, because both development and growth are processes necessarily associated to social institutions (in their most general meaning), so they bear the impact generated by the non-natural action agent.

*Development or growth can only be sustainable, not lasting.* Taking into account the specialists’ opinion, (Țugulea, Bobâlcă and Soponaru, 2013) we can speak of *lasting development* or of *lasting growth* only metaphorically, or by abuse of language. From a rigorous point of view, the terms should be referred as *sustainable development* or *sustainable growth*.

The acceptance of the concept of lasting development by the Romanian authors (Cămășoiu, 1994, p.24) led to a series of semantic or pragmatic difficulties.

The concept of *lasting / sustainable* is considered by Bănaciu (2004) a debatable topic, due to an erroneous understanding of the semantics of the words mentioned. Consequently, he gives further explanations with the intention to justify his preference for the use of the expression *sustainable development*:

- the expression *sustainable development* is taken from Anglo-Saxon literature. The term *sustainable* originates from Latin, the verb *sustenare* meaning *to sustain*, *to support* and also *to self-support*.

- the term *sustainability* has the same meaning in other Latin languages, like Spanish (*sostenibilidad*), Italian (*sostenibilita*) or Portuguese (*sustentavel*). It means a state of continuous balance due not only to the capacity of a system to be consumer of (primary) resources, but also to its capacity to create its own resources, to follow a regenerative cycle.

- according to Merriam Webster Dictionary, a *lasting system* is a system *existing or continuing for a long time*. This does not necessarily mean that it would be in harmony with nature (which is required by the principles of sustainability), neither that it would have the possibility to create its own resources (to self-support). For example, a rock is lasting in time, and a tree or any living organism is sustainable, because it has the capacity to sustain, to support itself – to integrate in a natural cycle.

- the term *sustainability* cannot be considered a neologism in Romanian (perhaps only partially), due to its Latin origin (the verb *sustenare*) with corresponding Romanian words (*a sustine* – to sustain/support, *a se sustine*, *a se intretine* - to support itself).

Dinga (2006) considers he can make a distinction between the terms *lasting* and *sustainable* by the presence or absence of dissipative systems in the process or system analysed. From this point of view, it is considered that the reference to durability (lasting systems) as a dynamic characteristic of processes or systems, excludes the natural environment where there are no dissipative systems; in any natural environment where there are dissipative (human or non-human) systems, we cannot speak of durability anymore, only of sustainability.

The concept of *lasting* has the significance of persistence in time of a structure or entity, while the concept of *sustainable* has rather the meaning of the possibility to maintain in time that entity or structure, in an attractive way (Jugănaru, 2007, p.247).

In such an approach, we may consider a rock as being lasting if it has no intervention upon it, but a public institution can prove to be sustainable. From this perspective, we can make a semantic distinction between the two concepts, considering the aspect of their connection with the action agent.

On the other hand, while *durability* denotes only the aspect of being stationary, *sustainability* may also refer to a dose of growth or ungrowth. In other words, there might be a *sustainable development* or an *unsustainable development*, or a *sustainable growth* or an *unsustainable growth*, as well as a *sustainable ungrowth* or an *unsustainable ungrowth* (Theobald, 1998).

In such an approach, we consider it is correct to use the terms *sustainable development* or *sustainable growth*.

#### **4. MODEL OF SUSTAINABLE TOURISM DEVELOPMENT**

According to Vellas, sustainable tourism development belongs to the process of planning the activities whose purpose is to avoid any actions affecting the very bases of development, as follows: ecosystems degradation, endangering the cultural patrimony, brutal modification of traditions and people's life style, as well as competition for the access to equipment and infrastructure. (Vellas, 2002, p.190)

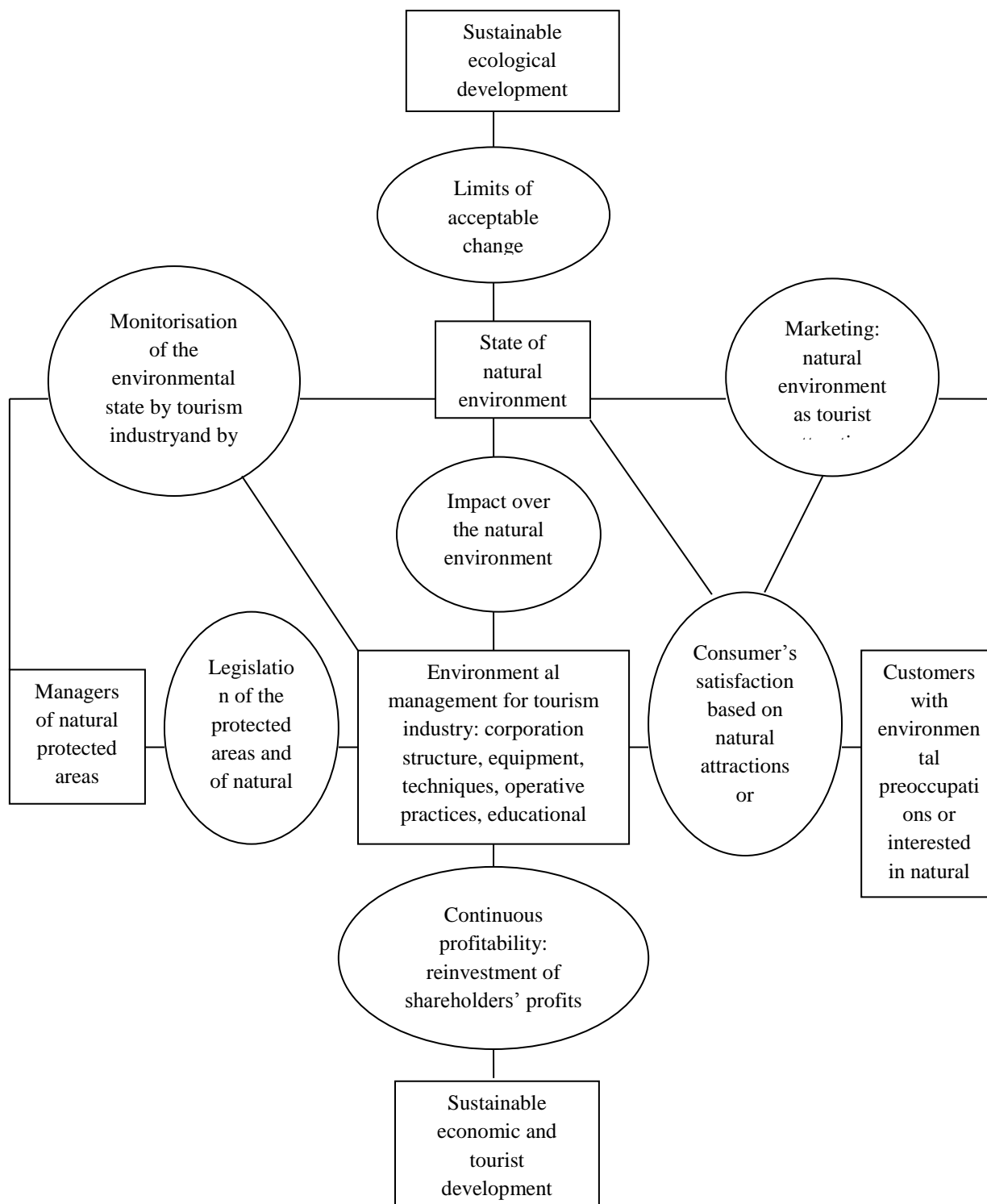
Consequently, sustainable tourism development is related to anadequate environmental management. There are several ways by which it may be assured. A model of sustainable tourism development is presented in *Figure 1* (Buckley, 1996).

This model of tourism development should be applied in all the regions of great tourist attraction.

Starting with this model, we consider that sustainable tourism development should be approached from the very stages of design and construction of tourist equipment in order to avoid

the conflicts with the environment, local community, and other economic sectors. Then it should be continued to the stage of tourism activity development, when the effects over the environment could be controlled through the authorised organisms, and when strategies could be established to resolve the deficiencies, to adequately equip ecologically the tourist endowment.

**Figure 1 - Model of sustainable tourism development**



Source: (Buckley, 1996)



At the same time, it would be beneficial for tourism sustainable development to have a good cooperation among authorities (who possess the legislative, economic, social instruments, other regulatory documents of public interest), economic agents (who initiate projects of improvement and tourist services), defenders of the environmental protection and cultural patrimony, local providers of tourist services, tour-operators and tourism agents, and last but not least, tourists - as beneficiaries.

In practice, we have come to the conclusion that there were two separate coordinates applicable in tourism in what concerned sustainability (Ștefănică, 2010). The first and the most important coordinate on long term consists of *improving sustainable practices at the destinations chosen by tourists*, where they can have a negative impact over the natural environment (for example, the erosion of coral reefs by recreation activities, or of mountains by skiing and hiking, excessive use of fresh water for bathing, swimming, watering the gardens, the golf courses, water pollution by dumping untreated waste in rivers, and carbon dioxide emissions by the use of automobiles), as well as over the socio-cultural environment (for example, the transformation of art and traditional customs in a form of animation and profit for the hotels, imposing behavioural and cultural norms of abundance, characteristic especially to Western societies, to the cultures who are not familiar with such methods, by a process often called *neo-colonialism*).

However, in contrast with other industries, comparable as dimension and relevance, tourism industry has the potential to contribute positively and in a great measure to the welfare of the destinations visited. The opportunity to exploit these positive, sustainable contributions is making tourism such a vital preoccupation for the 21<sup>st</sup> century.

The second coordinate refers to the *modality in which the companies from tourism industry make their operation and development decisions*. Some activities take place at the destination, for example at the hotels, B&Bs, inns, resort villages, different forms of attractions, others take place away from destinations, for example airlines, tourism agencies or tour-operators' activity. Tourism companies have as many reasons to control the pollution and to administer waste as any other company from other industry. They even bear a greater responsibility, taking into account that they often operate in highly attractive areas, but also very sensitive from an environmental point of view. This becomes a problem for the design of a hotel building, or for the development of the surrounding area. A good design of buildings and green areas can reduce very much the level of pollution produced by a given number of tourists per day. Furthermore, it is necessary to implement programmes for saving the energy, for the control of sound pollution and emissions, for reduction of fresh water consumption, for lower use of toxic chemical substances, for recycling and reuse of materials.

## 5. SOCIO-ECONOMIC BENEFITS OF SUSTAINABLE TOURISM

Sustainable tourism has the potential to promote social development by the creation of new workplaces, redistribution of income and decrease of poverty. (Ștefănică, 2010) From an economic point of view, the main advantages of sustainable tourism are related to foreign currency gains, contributions to Governmental income, generation of opportunities concerning occupation of labour and of business. *Table 1* presents synthetic advantages generated by the practice of sustainable tourism.

**Table 1 - Synthesis of socio-economic advantages of sustainable tourism**

	Advantages	
	Social	Economic
<b>Sustainable tourism</b>	<ul style="list-style-type: none"> <li>▪ It represents a force in maintaining peace</li> <li>▪ It strengthens the communities</li> <li>▪ It brings benefits to local residents by development of facilities</li> <li>▪ It revitalises culture and traditions</li> <li>▪ It encourages civic involvement and the sense of pride</li> <li>▪ It brings benefits to the tourists</li> </ul>	<ul style="list-style-type: none"> <li>▪ Income realised from the exchange of foreign currency</li> <li>▪ Contributions to the governmental income</li> <li>▪ Generation of workplaces</li> <li>▪ Stimulation of investments in infrastructure</li> <li>▪ Contribution to the development of local economy</li> <li>▪ Direct financial contributions concerning nature protection</li> <li>▪ Advantage offered by the competition</li> </ul>

Under *asocial aspect*, the advantages determined by the practice of sustainable tourism are presented as follows:

- *Tourism represents a force for maintaining the peace.* By travelling, people have contact with one another. Due to the fact that sustainable tourism has an educational component, it can cultivate the understanding among people and cultures and it offers the possibility of cultural exchanges between hosts and visitors. This leads to the increase of people's chances to develop sympathies and reciprocal understanding, and to reduce prejudices.
- *Strengthening the communities.* Sustainable tourism can bring vitality to the communities in many ways. An example would be the events and festivals where the locals are the main participants, but also spectators. These events are often refreshed and organised as a result of the interest manifested by tourists. At the same time, the workplaces created in tourism can act as an important motivating factor in reducing the migration from rural areas. The locals can also have



a higher influence over tourism development and over the improvement of working conditions and of the perspectives in what concerns the income obtained from their professional training in the field of tourism, business development and their organisational abilities.

- *Development of facilities as a benefit for the local community.* In the places where tourism industry supports the creation of facilities and services useful to the community, which otherwise could not be developed, it can lead to reach high standards of prosperity in some regions. These benefits can include a better infrastructure, the improvement of health system and of transportation network, new recreational and sports facilities, restaurants and public areas, as well as an influx of high quality food and consumption goods.
- *Revitalisation of culture and traditions.* Sustainable tourism has the potential to improve the conservation and transmission of cultural and historical traditions. Contributing to the sustainable conservation and management of natural resources, it can generally lead to the possibility of protecting the local cultural patrimony or to the revitalisation of local cultures by regenerating cultural arts and crafts.
- *Tourism encouraging civic implication and the sense of pride.* In some cases, sustainable tourism contributes to the raise of the level of local conscientiousness concerning the financial value of natural and cultural places. This could stimulate the sense of pride in what concerns the local and national patrimony and develop the interest for its conservation. Consequently, the implication of local communities in sustainable tourism development and operation seems to be an important condition in what concerns the sustainable use and conservation of biodiversity.
- *Benefits of sustainable tourism for tourists.* There are many benefits for tourists: they can enjoy the undegraded beauty of the natural environment and of the landscapes, the quality of the environment (clean air and waters), a healthy community with low rates of criminality, the authenticity of flourishing local traditions and culture (Ștefănică and Butnaru, 2013).

We present as follows the main *economic advantages and benefits* which sustainable tourism can enhance:

- *Income realised from the exchange of foreign currency.* The money spent by tourists, the import and export of goods and services generates an income for the host economy. Tourism represents an important source in what concerns the income of foreign currency for at least 38% of the countries. (UNWTO, n.d.)
- *Contributions to the governmental income.* The income realised by the government due to this sector of tourism can be classified as direct and indirect income. The direct income is generated by the taxes on the tourism employees' income, by commercial activities related to tourism, and by the fees applied directly to tourists, like the ecological fees, or the output taxes. The indirect

contributions derive from the taxes and fees applied to the goods and services offered to the tourists, for example the taxes on the souvenirs, alcohol, restaurants.

- *Generation of work places.* The quick expansion of tourism led to the creation of a considerable number of work places. Tourism can generate work places directly by hotels, restaurants, taxis, souvenir sale, and indirectly by providing goods and services which are necessary commercial activities within this sector (Dumitrică, 2012). According to World Tourism Organisation, tourism represents approximately 7% of the total number of employees at a global level.
- *Stimulation of investments in infrastructure.* Tourism can determine the local authorities to improve the infrastructure by creating better systems of water supply and sewage, roads, electrical energy supply systems, telephony and public transportation networks. All these contribute to the improvement of local residents' quality of life, and to the facilitation of tourism.
- *Contribution to the development of local economy.* Tourism can constitute an important or even essential part of local economy (Butnaru and Timu, 2011). Due to the fact that the environment represents one of the basic components of the values of tourism industry, the income realised by this sector is often used as a measure of the economic value of the protected areas. There is also another local income which cannot be easily quantified, because not all the tourists' expenses are registered officially in macroeconomic statistics. Part of the income from tourism is realised freely, like that of street vendors or unofficial guides. The positive side of these activities which develop freely or are not registered in statistics is that the money obtained is returned to the local economy and has a substantial multiplicative effect, because it is introduced cyclically into the circuit. World Tourism Organisation and Tourism Council estimate that tourism generates an indirect contribution equal to the direct encashment from this sector.
- *Direct financial contributions concerning nature protection.* Tourism can contribute directly to the conservation of the sensitive areas and habitats. The income realised by park entrance fees or other similar sources can be allocated especially for financing the protection and management of the environmentally sensitive areas. Some governmental authorities collect these sums of money by different exhaustive and indirect ways which are not particularly related to parks or protected areas (Ștefănică and Butnaru, 2013). Consequently, the taxes of use, income taxes, taxes on sale or rental of recreation equipment, and licensing fees for activities like fishing or hunting can provide governments with the funds necessary for the administration of natural resources.
- *The advantage offered by competition.* More and more tour-operators admit an active approach concerning sustainability, not only because tourists expect them to act accordingly, but also

because the persons employed in tourism are aware that the intact destinations are essential for survival of this industry on long term. More and more tour-operators prefer to work with the providers acting in a sustainable manner, for example saving water and energy, observing local culture and helping the host community.

## CONCLUSIONS

Due to the attention and support that sustainable development received in general, and particularly in tourism, is still a subject of intense debate, with no consensus in what concerns its definition and practical applicability. No matter the opinions of several researchers and analysts, sustainable development of tourism represents the dominant approach regarding the administration of the relationship between tourism and environment, based on a group of principles and objectives which had been adopted almost unanimously, with the purpose to minimise the negative impact of tourism over the environment.

In conclusion, we consider that, both theoretically and practically, sustainable tourism should aim, on the one hand, to integrally capitalise exceptional natural and cultural resources, to improve the quality of life in local communities, and on the other hand, to satisfy tourists' motivations and requirements in close connection with environmental conservation and protection for the future generations.

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# THE SUSTAINABILITY OF ROMANIA'S EXTERNAL DEBT DURING THE RECENT FINANCIAL CRISIS

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**Abstract:** *Between the sustainability of the current account deficit and the sustainability of the external debt there is a direct connection: the accumulation of external deficits generates in a certain degree the increase of the external debt stock and, at the same time, problems with its sustainability. The analysis of the external debt sustainability constitute a subject of interests for the researchers, both from a theoretical but also empirical point of view, offering various perspectives according to the economical background and future expectations of the international debtors and creditors. The main purpose of this article is to investigate the sustainability of Romania's external debt during the recent financial crisis that determined without any doubt a reconfiguration of the worldwide economic architecture with reference to the main indicators that are considered by the literature in the field to be relevant in shaping the general framework of debt sustainability. This analysis may be perceived as a starting point for the responsible authorities to develop new strategies that would enable a proper management of the external debt in order to achieve high economic growth rates without any financial compromises.*

**Keywords:** external debt; external debt sustainability; indicators of the external debt sustainability.  
**JEL Classification:** H630.

## INTRODUCTION

Between the sustainability of the current account deficit and the external debt sustainability there is a direct connection, the accumulation of external deficit triggering into a certain measure the increase of the external debt stock and also generating imbalances in what concerns its sustainability.

The analysis of the external debt sustainability was a much debated subject that triggered the interest of researchers from a theoretical perspective but also from an empirical point of view. There are a series of perspectives for analyzing this subject, each being influenced by various factors such as the economic framework or the future expectations of the international debtors and creditors.

The concept of sustainability (IMF, 2005, P.152) was defined as the ability to pay the future obligations arising from the external debt contracted without major alteration of the main macroeconomic indicators. Identifying the sustainable level of the external debt and the external

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debt service constitute an important argument in favour of determining the international financial support or the necessary of national resources.

The term sustainability is used nowadays in correlation with a series of concepts such as solvability, liquidity or vulnerability. Solvability is defined by the requirement that the current value of future primary surpluses to be higher or equal to the current value of the debt. The International Monetary Fund (IMF, 2000) specifies as a condition for the solvability that the net current value of the interest should not exceed the current value of the net imports. Vulnerability (IMF, 2005) is the expression of the insolvability and liquidity risk.

Liquidity, the second concept often associated to the term of sustainability, is considered to be the ability to pay within the established deadlines. International liquidity implies the existence of the necessary financial resources for paying the external bounds that an economy has. According to the literature in the field (Fleming, 1978, p.124) international liquidity embodies the ability to finance the deficits payments, attributed by the official foreign resources as well as by the official access to the international credit facilities. Reserves are important due to the fact that they allow countries with deficits to counteract, at least for a short period of time, the effects of the payment imbalances and to develop new strategies that could provide results for a longer period of time. Countries also may use their reserves to postpone a possible depreciation of the national currency.

Taking into consideration the fact that is a continuous debate between the authorities and the economists regarding the main rules that should govern the management of the international reserves, the dominant power was, in the majority of the cases, the one that established the rules, at list for the short period of time, concerning the maintenance of the liquidity level to the international level – that should take into account the economic and political interests of each country. Furthermore, an important role should be attributed to the economic benefits that each country that offers the main national currency have, as an effect of creating international liquidity (Gilpin, 2004, p.97). Sustainability combines these two concepts, both in terms of solvability as well as liquidity.

## **1. General approaches of the external debt sustainability**

Within the literature there is a clear dichotomy concerning the analysis of the multiple perspectives as regards to the external debts sustainability (Armone et al., 2005, p.7):

- Optimum models: the marginal revenue of the loan equalizes the marginal cost of it. This was the first model developed by the economic theory (Jonathan, 1993) in respect to this issue.



- Non optimal models: growth cum debt models and debt dynamics. In the first case, the external loans are used to cover the differences between internal economies and investments. (Chenery and Strout, 1966). The solvability criterion implies that the growth rate to be superior to the interest rate of the external credits (credit cost). Within this approach a special attention should be given to the currencies of the loans. Within the second model, it is considered that an economy is solvable in terms of external debt if the growth rate of the exports is superior to the interest rate of the external loans. These two models have also some shortcomings, due to the fact that the economic growth is considered to be constant and does not take into consideration the loans.
- Fiscal models: assume the reduction of the expenditures due to the necessity of sustaining the external debt service. Therefore, the reduction of the infrastructure expenditures and the governmental ones, have an adverse effect upon private investments that leads to a downturn in what concerns the growth rate. Another channel through which the financial flows negatively influence the economy is by reducing imports, these contributing to reducing governmental expenditures with strong consequences upon economic growth.
- Side effects: an increase of the external debt diminishes the economic performance by the indebtedness effects that are strongly correlated to the disincentive tax and macroeconomic stability. In the first case, indebtedness discourages investments because is associated with an increase of the future revenues taxes with the purpose of assuring the necessary resources for the loans payment. In the second case there is a strong argument in favour of the possibility of generating macroeconomic instability due to a series of factors such as: exchange rate depreciation, the increase of the fiscal deficit, inflation and uncertainties related to funding conditions.

The majority of the theoretical and empirical work concentrated upon the ability of the countries to pay the external debt service, ignoring the effects that the external debt and budget deficit have upon other macroeconomic variables and upon economic development. We perceive as necessary the extension of the general framework of the external debt sustainability without limiting to this single aspect, considering the development of the national economies under the conditions of high external debts with adverse effects upon the economies.

During 1980 and 1990 many emerging economies, with low incomes and open access to financial resources with low costs, massively borrowed, reaching high levels of the external debt that triggered negative effects upon the economies. The high levels associated with the external debt



constituted a starting point for the main international decision makers to orientate towards a better understanding of the external debt sustainability.

The studies developed by the International Monetary Fund, World Bank as well as by the most indebted countries highlight the fact that there is a strong need for establishing some new standards for the indebted countries, taking into consideration the fiscal consequences that the external debt has. Therefore, in a first stage, the debtor countries need to establish along with the financial organizations a multiannual scenario, based upon some main principles (Sachs, 1990, p.50):

- Macroeconomic stability; governmental expenditures; including the external debt service that should not generate an inflationist policy;

- Domestic tax rate should contribute to a sustainable economic growth; the stability of the internal taxation that would boost exports; reducing the risk aversion of the investors; support labour force and assuring stability of the taxation system;

- Reducing external debt for achieving the established objectives, taking into consideration that the time period needed for adjusting the budgetary policies by the indebted countries.

In the majority of the cases when analysing the external debt sustainability both the International Monetary Fund as well as the World Bank have not taken into account the fiscal implications that the payment of the external debts have. They focus almost entirely upon external indicators, such as the financing of the structural deficit of the balance of payments, the rate of the external debt service or exports that are less significant from an economically perspective. IMF analysis whether the payment of the debt service rates is higher than the exports incomes and rarely, in comparison to the fiscal policy requirements from the debtor country. Taking into consideration that the large share of the external debts are attributed to the governmental authorities, it is considered that is much relevant to compare the payments from the external debt account with the governmental revenues, rather than comparing it to the exports, that have a lower connection with the payment ability of the governmental debt service.

## **2. External debt sustainability indicators – a theoretical and empirical approach for the case of Romania**

The analysis of the external debt sustainability takes into consideration both solvability indicators as well as liquidity ones. In the table below there are presented some main indicators of the external indebtedness that are taken into account when investigating external debt sustainability.

**Table 1 - External debt sustainability indicators**

<b>Indebtedness indicators</b>	<b>Definition</b>
	<b>Solvability</b>
<b>Interest service rate</b>	- The ratio between the paid interest service rate for the loans and the revenues from exports of goods and services. Indicates the level of current revenues from exports needed for the payment of the external debt service.
<b>External debt rate</b>	- The ratio of the external debt service to the exports of goods and services indicated by the share of the obtained revenues from exports that are orientated towards supporting the external debt service.
<b>External debt/ Exports</b>	- The ratio between external debt and net exports is an important indicator of solvability. An increase of this indicator indicates that a country could have problems concerning the future payments related to the debt service.
<b>External debt/GDP</b>	- The ratio between the external debt and the GDP offers important evidence regarding the ability of covering the external debt service by transferring the resources from the internal sectors to the external sectors.
<b>VNA/Export</b>	- Compares external debt to the repayment capacity of the loans.
<b>VNA/Fiscal revenues</b>	- Because not all exports are available for the public authorities this indicator compares the payment duties with the governmental revenues.
	<b>Liquidity</b>
<b>Reserves/Imports</b>	- An important indicator for the reserve structure.
<b>Reserves/ Short time debt</b>	- This ratio may indicate a vulnerability to a liquidity crisis in the situation when there are massive outflows of capitals within the external debt account.
<b>Paid interests/Reserves</b>	- Quantifies the paid interest for the loans that should be borne from reserves.
<b>Short time external debt/ Total external debt</b>	- Expresses the relative importance of the short-term debt (with a maturity less than one year) in total loans; the degree of vulnerability to a liquidity crisis.

Source: External debt and sustainable debt management, [www.unescap.org/pdd/publication](http://www.unescap.org/pdd/publication).

Measuring the external debt sustainability in favour of the strong indebtedness countries is based upon the calculation of a standard set of indicators that are quantified from a historical

perspective, being influenced by the structural adjustment policy. This initiative was addressed to less developed countries in order to give a pertinent solution to the external debt problem.

The investigation conducted in 2005 by Manasse and Roubini using a data sample of 47 emerging economies for a time period between 1970 and 2002, identified 50 variables of which 10 are considered to be sufficient in analyzing the external debt sustainability such as: External debt/GDP, short time debt/reserves, real GDP growth, external public debt/ budgetary revenues, inflation rate, external funding requirements (calculated as a sum of the current account deficit and short time debt relative to foreign reserves), exchange rate over-appreciation, exchange rate volatility, the number of years until the next presidential elections, the interest rate of the U.S government bonds.

**Table 2- Indicators of external debt for the case of Romania (columns 5 and 6) in comparison to the values obtained by Manasse and Roubini (columns 1-4)**

Current Year	Without crisis	Without crisis	Crisis	Crisis	Romania	Romania
Next year	Without crisis	Crisis	Crisis	Without crisis	2005	2010
	1	2	3	4	5	6
Total external debt (% GDP)	37	54,7	71,4	63,7	38,6	74,39
Total external debt (% export)	239,3	359,3	455,9	350,2	116,9	243,38
Short time debt (% GDP)	9,4	15	15,1	15,7	13,3	15,36
Short time debt (% reserves)	120	290	209	220	56,5	57,15
Interest to the short time debt (%GDP)	0,5	0,8	0,6	0,7	0,3	0,4
Interest to the short time debt (% reserves)	10	20	10	10	1,2	1,8
Short time external debt service ( % GDP)	4,8	6,9	6,4	7,1	9,2	19,51
Short time external debt service (% reserves)	70	150	120	90	40,6	72,59
Public external debt (% GDP)	25,5	36,4	53	46,5	14,3	21,79
Public external debt (% budgetary revenues)	130	190	300	230	63,5	160.50

Source: Manasse and Roubini, 2005 and authors own calculations.

According to this study, a safe level of debt is the one that reaches a value of 49.7% of GDP, the short time debt reaches a value of 130% of reserves, the public debt a level of 214% from the

budgetary revenues and the exchange rate is not appreciated higher than 48%. Mansse and Roubini highlight the fact that a safe level of the short time debt in comparison to the reserves is of 120%, on the other hand a value close to 290% may be perceived as a warning sign of a future crisis.

For the particular case of Romania the model did not show any problems in what concerns the external debt sustainability. However there are clear evidence of a worsening of the level of these indicators between 2005 and 2010, due to the increase of the external debts (both the long and medium public external debt as well as the short time one), and on the other hand to the downturn path of the GDP and exports. The short time external debt service relative to GDP registers a value of 19.51 which may be considered a warning sign of a financial crisis being situated high above the safety level of the model. The significant value of the short time external debt service relative to reserves was due to the large share of loans made in 2009 and 2010 that the NBR used to maintain the exchange rate to a secure level.

The literature in the field searched since the first post-war years to develop a macroeconomic model that would highlight the limits of sustainable debt. The first studies that concentrated upon this topic were the ones elaborated by E. Domar (1950) and A. Abramovitz (1968) that demonstrated that a country that intends to finance its current deficit constantly will never achieve this performance only if it follows two main rules, namely: if the growth of the debt is not higher than the domestic economic growth and if the real interest rate is not higher than the GDP growth rate (Gaftoniuc, 2004).

The model used by the World Bank (1985) represents a confirmation of these simple rules. According to this model, the debt equation has the following form:

$$\frac{dD}{dt} = iD - B$$

where  $D$  is the actual debt,  $B$  is the balance of payments, namely the value of the current balance (without the debt interest), plus the net capital outflows. The financial efforts associated to the debt as well as those associated to the periodical capital form the total debt at each maturity  $i$  of the debt (exogenous variable).

As we mentioned before, the external debt of a country does not consists only a potential source of advantages. There are also some disadvantages when the loans are not properly managed and the risks are not taken into account, especially the vulnerabilities associated the medium and long term debts.

According to Zaman and Georgescu (2009), the medium and long term indicators of the external debt registered a downturn path in the recent years in comparison to the limits established

by the literature in the field and by the international financial standards. The data for the case of Romania for the period between 2006 and 2012 are listed in the table below.

**Table 3 - Sustainability indicators of medium and long term external debt in Romania for the time period between 2006 and 2012 (%)**

Indicators	2000	2006	2007	2008	2009	2010	2011	2012	Maximum value
<b>External debt/GDP</b>	23,9	29,2	31,0	36,8	55,5	58,6	57,8	59,8	50,0
<b>External debt/Exports</b>	72,7	109,9	131,0	152,5	225,6	195,1	168,5	174,6	150,0
<b>Currency reserves/External debt</b>	54,2	79,7	69,1	55,0	43,9	47,2	43,7	39,6	50,0*
<b>External debt service/exports</b>	16,7	19,4	20,5	38,7	42,2	39,3	33,6	39,2	30,0
<b>External debt service/ Currency reserves</b>	42,3	26,6	27,6	46,1	42,6	42,7	45,6	56,6	40,0
<b>Currency reserves/GDP</b>	12,90	23,13	21,45	20,25	24,37	27,69	25,28	23,69	25,0*

\*Minimum threshold

Source: Authors calculation based on NBR and National Forecast Commission

As the data from the table above show, to a series of external debt sustainability indicators, Romania exceeded the maximum levels starting with 2009, a fact that has direct consequences upon the country rating and also makes difficult its access to the capital markets. Although, the International Monetary Fund, through the strategies it promotes for the countries that use foreign loans, highlights the importance of the fiscal and monetary policies, some economists (Calvo, 2002, p. 379) consider that these policies have not proven their efficiency, being necessary complementary actions of the structural policies that would reduce the extreme financial vulnerabilities, especially for the countries with high incidence of banking loans in freely convertible currencies.

The International Monetary Fund considers that the emerging European countries have registered during the recent economic crisis important imbalances that differ from one economy to another. Despite all that, a series of similarities may be mentioned such as (Zaman, 2011): strong capital flows in the sector of non-tradable goods where there was a high increase of prices and revenues that affected the competitiveness, because the capital flows influenced in a higher proportion the supply side and the imports instead of the exports. All these lead to significant changes and finally to unsustainability in what concern the external net assets.

During the recent economic crisis, the economic world faced once again the challenge of developing forecasting and early warning models in what concerns the triggering of a new crisis and furthermore strategies to counteract the effects of these crisis.

The literature in the field offers a wide range of early warning models of a crisis. A short summary of these models is presented in the table below:

**Table 4 - Summary of the literature in the field concerning early warning indicators**

<b>Authors</b>	<b>Indicators significance</b>
Milesi - Ferrett and Razin (1998)	Weak reserves and the unfavourable exchange system may trigger changes in the current account and currency crisis.
Kaminsky, Lizondo and Reinhart (1998)	Early warning indicators of a currency crisis: current account deficit, over-evaluation, reserves over "broad money", slow increase in what concerns the exports.
Berg, Pattillo, Milesi-Ferretti, Borensztein (2000)	Reserves/short term debt represents also a warning indicator of a currency crisis. To this indicator we add the current account deficit, the reserves loss, slow exports.
Frenkel and Calvo (2004)	The probability of a sudden stop of the foreign capital amplifies the size of the initial current account deficit as a percentage from GDP and decrease along with the degree of openness of the economy.
Edwards (2005)	The current account deficit is the main indicator for the crisis.
Mendoza and Terrones (2012)	The crises from the emerging economies were associated with the credit boom, although not all credit booms automatically triggers financial crisis.

Source: Authors interpretation based upon the literature in the field.

## CONCLUSIONS

Taking all these points into consideration we may conclude that the vulnerabilities generated by underperforming management of the external debt, across the EU countries that were the most affected by the current financial crisis namely Greece, Ireland, Spain, Portugal or Romania may be analyzed from the point of view of the fiscal, financial and structural measures that, in different proportions, presents a set of similarities, as a results of a unique source of consultancy namely the International Monetary Fund.

The set of recommendations (conditions accepted by the national governments) regarding the monetary and fiscal policies concerning different stand-by agreements of the IMF or other international financial institutions, have also a component that targets the necessity of promoting a restructuring policy of the real economy as a support for a sustainable development of the borrowing country.

It is very important for a country to determine and agree on the optimal level of indebtedness which the economy can handle. This is precisely the reason why the external debt has to be contracted in close agreement with the specific needs of the economy and the loans to be proportional with the economy's ability to refund them. In this way, the risk of a liquidity or solvency crisis can be avoided.

As for the indicators of our country's external indebtedness, they fluctuated within normal limits until 2005, with slight fluctuations during which the image of the Romanian economy on the international credit markets was strongly affected, leading to tighter conditions for contracting external loans. On the other hand, as we pointed out in this paper, beginning with 2009, Romania started to send alarming signals regarding some indicators of the external debt solvency, which influenced the country's rating and limited its access on the international capital markets.

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# REGIONAL DISPARITIES OF THE EUROPEAN UNION LABOR MARKETS

Laura Diaconu (Maxim)\*

**Abstract:** *The regional unemployment disparities are a common feature of the labor market in many EU countries. Nowadays, not only the existence but also the dynamics of these regional disparities are a very important issue. This is the reason why, in the present paper, we intend to identify and analyze the evolution of these differences, at the beginning of the XXI<sup>st</sup> century, as well as the possible causes that might generate them. In order to reach these objectives, we have collected, analyzed and interpreted the data obtained from various researches, statistical reports and databases. Our results show that, even if the regional disparities in employment and unemployment in EU states have diminished at the beginning of the XXI<sup>st</sup> century, they significantly started to increase after 2009, in the context of the economic and financial crisis. Some of the causes that determined the regional unemployment disparities in EU might be the level and the power of unions, the labor productivity and mobility, the labor market institutions and regulations.*

**Keywords:** labor market; regional disparities; unemployment; employment rate.

**JEL Classification:** J21; O47.

## INTRODUCTION

The regional labor market can be regarded as a process of coordination between the labor supply and demand, in a well-defined territory that can be economically described, analyzed, managed and planned, called region. The essential attribute of a region is the common interest regarding the welfare and development in order to stimulate the socio-economic progress.

At the European Union level it was created a unitary territorial system called NUTS (Nomenclature of Territorial Units for Statistics), organized in 5 levels, of which the most important are the first three ones. The EU regional development policy, whose main objectives are the convergence, the regional competitiveness and the labor employment and the European territorial cooperation, is implemented at NUTS II level.

The members of European Union represent a large set of diverse regions. Considering the labor market outcomes, they differ from the point of view of unemployment rates, wages and industry structure (Midelfart-Knarvik et al., 2000). Some studies have pointed out that the regional labor market disparities, especially those in unemployment rates, are more visible in EU countries than in many other developed states. For example, an OECD (2005) study shows that 8 of the 10 countries with the largest regional unemployment rates disparities are EU countries.

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Midelfart-Knarvik et al. (2000) show that the industry structure is also very diverse across the European Union and there are strong chances to become even more diverse. From the point of view of revenues, Barro and Sala-i-Martin (1991) show that per capita incomes tend to converge but there are still significant inequalities between the European regions.

According to an OECD (2005) report and to a study of Janiak and Wasmer (2008), labor market regional disparities represent one of the major factors that may impede the European cohesion and may even threaten the viability of European Monetary Union. Moreover, Bayoumi and Eichengreen (1993) underlined that these differences make Europe more vulnerable to the asymmetric shocks.

Analyzing the causes of these regional disparities, the economists have pointed out multiple factors. For example, some researchers have suggested that the large regional unemployment rate disparities in the EU are caused by institutional factors such as tight labor and product market regulation and inflexible housing markets. Herwatz and Niebuhr (2011) have focused on the labor demand and discovered that regulations affecting wages can explain a large part of regional labor market disparities in European Union.

From the point of view of the factors that could diminish these EU regional disparities of the labor markets, Nahuis and Parikh (2004) consider that labor mobility can play a significant role in reducing them. Analyzing the income disparities, Che and Spilimbergo (2011) have noticed that regional convergence in GDP in an economy is facilitated by domestic financial development, trade and current account openness, better institutional infrastructure and labor market reforms.

Considering that the regional unemployment disparities represent one of the most important problems of the EU labor markets, in the present paper we intend to identify and analyze the evolution of these differences, at the beginning of the XXIst century, as well as the possible causes that might generate them. In order to reach these objectives, we have collected, analyzed and interpreted the data obtained from various researches, statistical reports and databases.

## **1. CAUSES OF THE EU REGIONAL UNEMPLOYMENT DISPARITIES**

Many analysts have tried to explain the regional unemployment disparities from the European Union, among the most cited causes being the level and the power of unions, the labor productivity and mobility, the labor market institutions and regulations.

Regarding the impact of wage bargaining institutions on regional unemployment rate disparities, Longhi et al. (2005) underline that regional unemployment rate disparities are the lowest in those states where income bargaining is either very highly or very lowly centralized, decreasing

with collective bargaining coverage. Moreover, they conclude that regional unemployment rates augment with specialization in those economies with an intermediate level of bargaining coordination and diminish with specialization in countries with either low or high levels of bargaining coordination.

Huber (2013) considers that, in a country, the regional unemployment disparities are influenced by two types of factors: on one hand there are the differences in regional productivity and amenities and, on the other hand, there are the labor mobility, the real estate market and the wage flexibility. To all these aspects, Huber (2013) adds a demographic factor, showing that a higher population density diminishes the unemployment rates in low unemployment regions but has no effect in high unemployment rate areas.

Some analysts, such as Felbermayr and Prat (2011), considered that the unemployment may be significantly influenced by the regulations from the goods and services' market, because these regulations may reduce the economy's capability to create new jobs. They concluded that regional unemployment rate disparities may increase when there is high real estate market rigidity and may diminish with a lower degree of regulation on the goods and services' market.

Unlike Felbermayr and Prat (2011) opinions, Solow (2000) considers that responsible for the unemployment disparities in the European Union economies is the low level of demand for goods and services. This reduced demand generates a low output growth and, consequently, a decrease in the labor demand. However, the empirical evidences offered by Eichhorst et al. (2010) show that the effects of GDP reductions on the labor demand and unemployment during the nowadays economic crisis are very different among EU countries.

The unemployment differences between European countries may also be attributed to more rigid labor market institutions from Europe (Nickell, 1997). The same idea can be found at Blanchard and Wolfers (2000) or Bertola et al. (2002), which have underlined the fact that the institutions may represent potential determinants of these disparities. Other studies have mentioned that there is a strong positive correlation between centralization, net replacement rates and regional autonomy, on one side, and size of regional unemployment rate disparities, on the other side (Blanchard and Giavazzi, 2003).

Considering all these aspects related to the emergence of the regional unemployment disparities, in the next part of the present paper we analyze the way in which these differences have evolved after 2000.

## 2. THE EVOLUTION OF THE REGIONAL UNEMPLOYMENT DISPARITIES IN EUROPEAN UNION

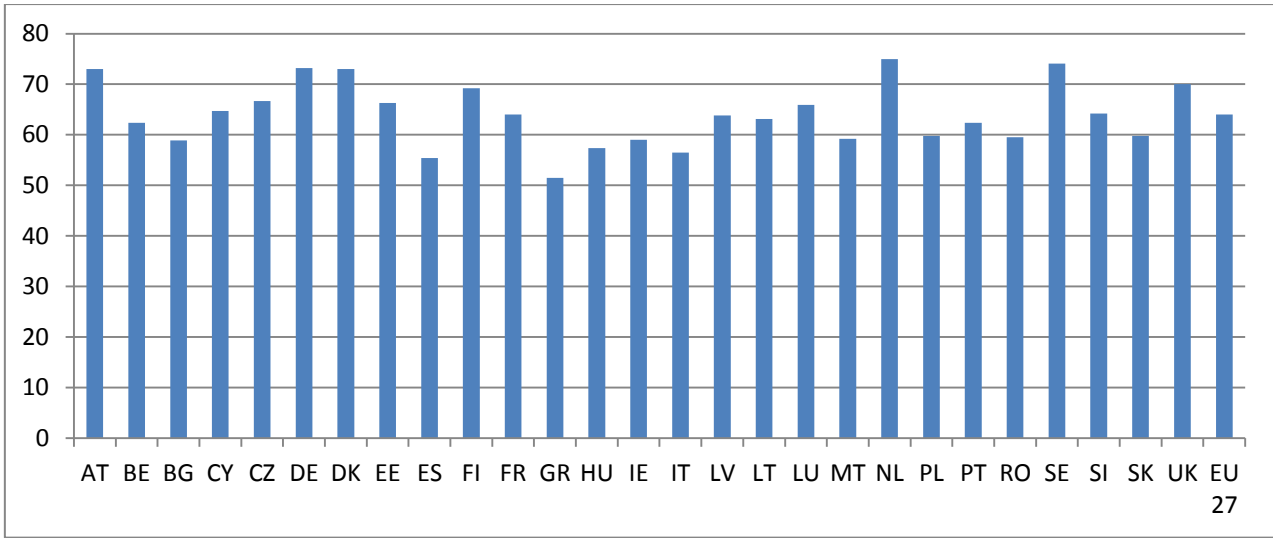
According to European Commission reports (2013a), a region is considered to be “underperforming” if its employment rate is relatively low compared to the national employment rate (below 90% of the national figure) or if its unemployment rate is relatively high compared to the national rate (above 150% of the national figure). The same denomination is also used for the comparisons among the EU regions.

At the beginning of the XXIst century, the unemployment in EU was on a downward trend. If in 2000 there were about 20 million people unemployed in EU-27, representing 9% of the total labor force, in the first quarter of 2001 this number had dropped to 19 million and the unemployment rate to 8.5% (European Commission, 2013b). After 2001, it followed few years of increasing unemployment, until 2005, when it started a period of steadily declining in unemployment, which lasted until the first quarter of 2008. Between the second quarter of 2008 and the middle of 2010, the unemployment level in EU increased by more than 7 million, the 9.7% rate being the highest value recorded since 2000.

According to the European Commission report from 2013, between 2011 and 2012, it was noticed an increase in the unemployment rate in 16 EU countries, the highest ones being reported in Greece (+6.6 percentage points), Cyprus (+4.0 percentage points), Spain (+3.3 percentage points), Portugal (+3.0 percentage points), Italy (+2.3 percentage points) and Bulgaria (+1.0 percentage points). Among all these states, Spain remained the country with the highest overall unemployment rate for the fifth year in a row, in 2012 this rate reaching 25.0%. Meanwhile, during the same period of time, the unemployment rate has diminished in 9 member states and remained constant in two, Hungary and Ireland (European Commission, 2013a). Between 2011 and 2012, the highest decreases in the annual average unemployment rates were noticed in the Baltic countries: Estonia (-2.3 percentage points), Lithuania (-2.0 percentage points) and Latvia (-1.3 percentage points).

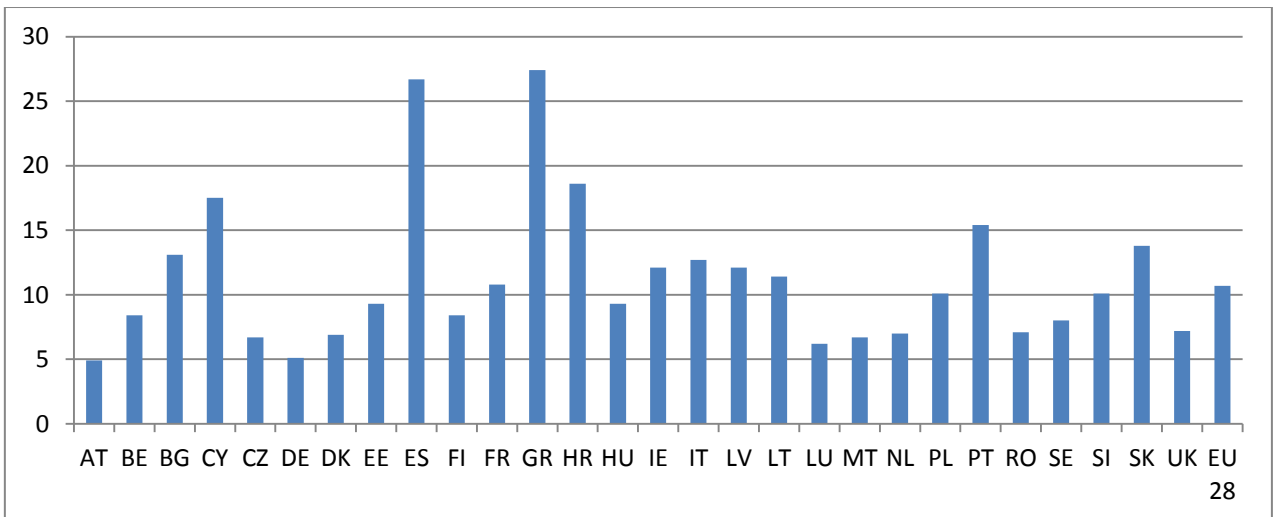
According to the statistical information offered by a survey conducted by Teichgraber (2013), the EU labour markets also had a different evolution of employment rates in 2012 (see Figure 1), fact that led to a greater increase in the differences between the member states. Therefore, compared to the EU average (64.2%), the employment rate for the population aged between 15 and 64 was higher in eleven countries, the highest rates being noticed in Netherlands (75.1%), Sweden (73.8%), Germany (72.8%), Denmark (72.6%), and Austria (72.5%). On the opposite situation there were ten member states, which had an employment rate below 60 %. The lowest employment rates were recorded in Greece (51.3%), Spain (55.4%), Italy (56.8%) and Hungary (57.2%).

**Figure 1 - Employment rates in EU countries in 2012**



Source: Adapted from Teichgraber, M., 2013, Labour market and labour force statistics - European Union Labour force survey - annual results 2012, Eurostat, [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Labour\\_market\\_and\\_labour\\_force\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Labour_market_and_labour_force_statistics)

**Figure 2 - Unemployment rates in EU countries in 2013\***



Source: Adapted from European Commission, 2013a, Regional labour market disparities, [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Regional\\_labour\\_market\\_disparities](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Regional_labour_market_disparities)

\*For UK and Greece, the data is for October 2013; for Estonia (EE) and Hungary – data is for November 2013; for Latvia – data is for the third trimester of 2013.

Looking at the statistics, it can be seen that, during the nowadays economic crisis, the unemployment did not affect the EU member states in the same way or to the same extent, the labor market differences across the EU-27 being on an ascending trend. These unemployment differences still persisted in 2013 (see figure 2), when the unemployment rate increased in fourteen member states, fell in thirteen and remained at the same level as in 2012 only in Sweden (European Commission, 2013a).

From the point of view of regional disparities in employment and unemployment, it was noticed that these gaps have diminished during the period 2002 - 2006. Despite these general labor market improvements, almost 20% of the EU active population still lived in the underperforming regions from the point of view of unemployment.

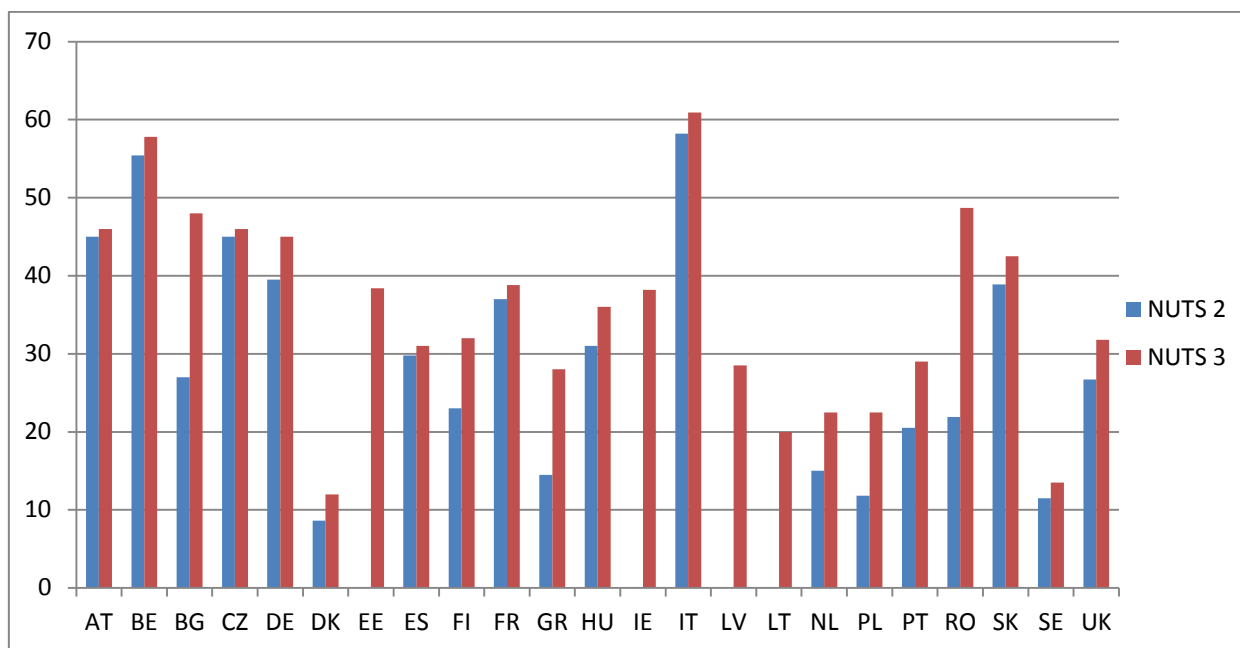
The statistical data show that the number of underperforming regions has not changed too much during the period 2002 - 2006 (European Commission, 2013a). Therefore, while in 2006, at NUTS 2 level, there were 51 underperforming regions out of 255 from the point of view of employment, in 2002 the number of these regions was 52. In the areas where the employment rates were relatively low compared to the European Union average, there were 20.6% of the working population aged between 15 and 64, in 2006. From the point of view of unemployment, at NUTS 2 level, there were 43 underperforming regions out of 261, in 2006, compared to 46 regions in 2002.

Therefore, depending on the region, the population can be affected to a greater or lesser extent. According to these statistics, in 2006, at NUTS 2 level, the less affected active population could be found in Spain, Greece and France, where the percentage did not exceed 2.5%, while in Austria, Belgium, Czech Republic and Italy, the percentage was over 20%. From all the EU countries, the highest percentage was registered in Italy (27.5%), due to the division that exists between the northern and southern regions. While in the northern part the unemployment rates were relatively low (between 3.0% and 7.5%), in the southern regions these rates ranged from 10.0% up to 13.5%. (European Commission, 2013a). This highest value, which was more than five times higher than Italy's lowest regional unemployment rate, was recorded in Sicilia. The second country after Italy with the highest dispersion of unemployment rates was Belgium. In this country, the lowest unemployment rate was 4.2%, registered in 2 regions, while the highest one was 17.6%, more than four times superior to the lowest rate, in the region surrounding the capital Brussels.

These differences could also be noticed when determining the dispersion of the regional unemployment rates (see figure 3). As it can be seen in figure 3, from all EU states, in 2006 the highest dispersion values were observed in Italy and Belgium, both for NUTS 2 and NUTS 3 level. In Bulgaria and Romania it can be noticed a particular situation compared to the rest of the EU countries: while at NUTS 2 level the dispersion was well below other member states, at NUTS 3 level it can be found a significant higher dispersion. This difference could be explained through the large variability between NUTS 3 level regions belonging to one NUTS 2 level region. A good example for this could be the NUTS 2 level Bulgarian region Yugoiztochen, where the unemployment rate was of 8.1%. The region comprises other NUTS 3 level regions which have unemployment rates ranging from 4.5% to 17.1%.



**Figure 3 - Dispersion of unemployment rates in the EU states, at NUTS 2 and NUTS 3 level, in 2006**



Source: Adapted from European Commission, 2013a, Regional labour market disparities, [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Regional\\_labour\\_market\\_disparities](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Regional_labour_market_disparities)

In the case of Latvia, Lithuania, Estonia and Ireland the dispersion of unemployment rates could only be measured at NUTS level 3. However, as it can be seen from the figure 3, the dispersion for these states was relatively reduced compared to other EU countries.

In the case of Cyprus, Luxembourg, Malta and Slovenia it could not be determined the dispersion of unemployment rates neither for NUTS 2 nor for NUTS 3 level, because the first three states have only one NUTS 2 and one NUTS 3 region and Slovenia has 2 NUTS 2 regions.

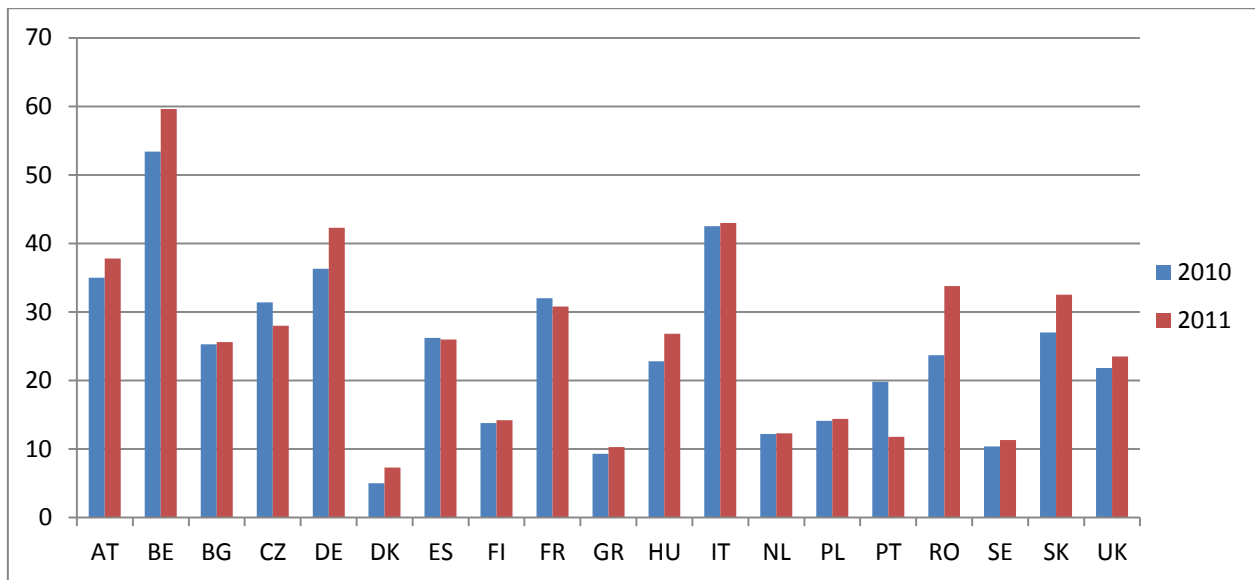
If during 2002-2006 it can be noticed a general reduction in the regional dispersion of unemployment rates, the economic and financial crisis has brought an increase in this dispersion, which was visible especially after 2009. In 2010, almost 70 % of the NUTS 2 regions in the EU states recorded higher unemployment rates, compared to previous year, while only 10 % of the regions achieved significant reductions (Prado and Zdrentu, 2011). As a consequence of these differences in regional performances, the cohesion in the labor markets continued to deteriorate.

In 2011, the dispersion of regional unemployment rates increased in most of the member states, compared with the previous year, the only exceptions being Czech Republic, Spain, France and Portugal, where the regional disparities declined (see figure 4).

In 2011, the highest dispersions of unemployment rates were noticed in Belgium (59.6 %), followed by Italy (43.0 %) and Germany (42.3 %). In the opposite situation there were Denmark, Greece and Sweden, which had the lowest disparities in regional unemployment rates in 2011, of 7,3%, 10,3% and, respectively, 11,3%. However, the low dispersion from these three states does not

always reflect a positive evolution of the labor markets. For example, Greece had small regional disparities in unemployment rates, during the analyzed period, but all its NUTS 2 regions recorded high unemployment rates (over 14 %), in 2011. This demonstrates that the dispersion only indicates the disparities between regions and not the overall level of unemployment.

**Figure 4 - Dispersion of unemployment rates in EU, at NUTS 2 level, in 2010 and 2011**



Source: Adapted from Prado, L., Zdrentu, B, 2011, *Regional labour market: higher unemployment rates and increasing disparities in 2010*, Eurostat, [http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-SF-11-060/EN/KS-SF-11-060-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-11-060/EN/KS-SF-11-060-EN.PDF) and from European Commission, 2013a, *Regional labour market disparities*, [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Regional\\_labour\\_market\\_disparities](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Regional_labour_market_disparities)

In the case of Cyprus, Estonia, Ireland, Latvia, Lithuania, Luxembourg, Malta and Slovenia, it could not be determined the dispersion of unemployment rates because they have only one or 2 NUTS 2 regions.

In 2012, the differences in unemployment rates between EU regions continued to increase, the lowest rates, from the 270 NUTS 2 regions, being registered in Salzburg and Tirol (both 2.5 %), in Austria, and Tübingen, Oberbayern and Trier (all 2.7 %), in Germany (European Commission, 2013c). Meanwhile, the highest rates were observed in the regions of Ceuta (38.5 %), Andalucía (34.6 %), Extremadura and Canarias (both 33.0 %), from Spain, and Dytiki Makedonia (29.9 %), in Greece.

According to a report of European Commission released in May 2013, among the 270 NUTS-2 regions of the member states, in 2012, 53 had an unemployment rate of less than 5.2 %, which represented half of the EU average. At the opposite site, there were 25 regions with a rate higher than 20.8 %, which represented the double of the EU average.

## CONCLUSIONS

At the beginning of the XXI<sup>st</sup> century, the unemployment in EU countries had a sinuous trend. The financial and economic crisis that started in the end of 2007 significantly influenced the labor markets, the unemployment rate registering a sustained increase, after the second quarter of 2008, in most of the member states. Looking at the statistics, it can be noticed that the unemployment did not affect all the countries in the same way or to the same extent, the labor market differences across the EU-27 being on an ascending trend.

From the point of view of regional disparities in employment and unemployment, it was noticed that these differences have decreased during the period 2002 - 2006. Regarding the unemployment, at NUTS 2 level, there were 43 underperforming regions out of 261 in 2006, compared to 46 regions in 2002. Despite these improvements of the labor markets, in 2006 almost 20% of the EU active population still lived in the underperforming regions. From all the EU states, the highest dispersion of unemployment rates was observed in Italy and Belgium, both for NUTS 2 and NUTS 3 level.

If between 2002 and 2006 it can be noticed a general reduction in the regional dispersion of unemployment rates, the economic and financial crisis has brought an increase of this dispersion, more visible especially after 2009. Therefore, starting with 2010, in most of the member states, the dispersion of the regional unemployment rates has increased each year. Consequently, the cohesion in the labor markets continued to deteriorate, fact that has considerable implications within the context of economic and social union in Europe.

This is the reason why the national governments, together with the EU leaders, try to find solutions to reduce these gaps, in order to consolidate and harmonize the socio-economic environment of the member states.

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# THE ECONOMIC PARTNERSHIP BETWEEN THE NETHERLANDS AND USA

Razvan Hagima\*

**Abstract:** *The economic relations between The Netherlands and USA represent an important pylon for the economic environment from both countries. USA is the main investor in the Netherlands because of its fiscal policies but the European country, despite of its small area, it is ranked in top 5 investors in US. Only in Texas about 70000 jobs were created by the Dutch investors so it's clear to see that this partnership brings mutual benefits for both countries.*

**Keywords:** foreign direct investment; trade; job.

**JEL Classification:** G01; E00.

## INTRODUCTION

The partnership between USA and The Netherlands is one of the oldest on the globe and dates back to the American Revolution. It is based on historical and cultural ties as well as some similar attitudes on freedom and human rights. The Netherlands share the same economic and commercial view as USA. For example, in 2011 the Netherlands represented the main destination of US foreign direct investment with a share of about 14.3% (595.1 billion dollars) of total (The Netherlands top recipient of US foreign direct investment in 2011, I am Amsterdam). Furthermore, the European country was the third most important investor in the US in 2010, with a share of about 9.3% (217.1 billion dollars), after the UK (18.5% - 432.5 billion dollars) and Japan (11% 257.3 billion dollars) (Invest Utrecht, Netherlands ranks first US FDI).

### 1. Trade relation between USA and the Netherlands

Both US and the Netherlands held, often, similar positions on some problems of different nature but they have worked together to resolve them, in bilateral or multilateral frame such as the United Nations, NATO, World Trade Organization, OECD and European Union, with the declarative aim of instilling the existence of an open global economy.

For highlighting this historical partnership it is important to mention that these two countries joined NATO in 1949. Moreover, the European country aided the US in the Korean War, as well as

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in the first part of the Golf War. Furthermore, the mentioned countries channelled forces to sustain peace in former Yugoslavia, Afghanistan and Iraq.

To consolidate this relation, former US president George W. Bush stated that The Netherlands and US are like brothers. Moreover, Obama continued to confirm that without the support of Netherlands, US would not exist today as everybody knows it (Meeus, 2009).

**Figure 1 - USA - Total trade 2013**

Rank	Country	Exports	Imports	Total trade	Percentage of total trade
---	Total, all countries	<b>1,578.9</b>	<b>2,267.6</b>	<b>3,846.4</b>	<b>100.0%</b>
---	Total, top 15 countries	<b>1,078.7</b>	<b>1,711.6</b>	<b>2,790.3</b>	<b>72.5%</b>
1	Canada	300.3	332.1	632.4	16.4%
2	China	122.0	440.4	562.4	14.6%
3	Mexico	226.2	280.5	506.6	13.2%
4	Japan	65.1	138.5	203.7	5.3%
5	Germany	47.4	114.6	162.1	4.2%
6	South Korea	41.6	62.2	103.8	2.7%
7	United Kingdom	47.4	52.6	100.0	2.6%
8	France	32.0	45.3	77.3	2.0%
9	Brazil	44.1	27.6	71.7	1.9%
10	Saudi Arabia	19.0	51.8	70.8	1.8%
11	India	21.9	41.8	63.7	1.7%
12	Taiwan	25.6	37.9	63.6	1.7%
13	Netherlands	42.7	19.2	61.9	1.6%
14	Switzerland	27.0	28.3	55.2	1.4%
15	Italy	16.5	38.7	55.2	1.4%

Source: United States Census Bureau, Top Trading Partners - December 2013 <http://www.census.gov/foreign-trade/statistics/highlights/top/top1312yr.html>

Regarding the bilateral trade relations, they are important for both countries. The Netherlands represented, in 2013, the 13<sup>th</sup> trade partner of US (the first one was Canada with a share of about 16.4% of total trade flows, 632.4 billion dollars) with about 1.6% of total trade flows (61.9 billion dollars).

As can be seen from the above figure, top 15 partners of US have about 72.5% of total trade flows (2790.3 billion dollars). Moreover, from those 15 states, six of them are from Europe. This could represent the fact that the European countries have adopted quite quickly US products but also the fact that they have enough know-how to resist and perform in the US intern market.



**Figure 2 - Foreign trade of the Netherlands with US (2009-2013)**

<b>Year</b>	<b>Imports</b>	<b>Exports</b>	<b>Balance</b>
<b>2009</b>	32.241.5	16.098.5	-16.143.1
<b>2010</b>	34.740.3	19.055.5	-15.684.8
<b>2011</b>	42.159.4	23.455.0	-18.704.5
<b>2012</b>	40.627.2	22.257.5	-18.369.8
<b>2013</b>	42.654.3	19.220.5	-23.433.8

Source: United States Census Bureau, Trade in Goods with Netherlands (<http://www.census.gov/foreign-trade/balance/c4210.html#2013>)

As it can be seen from figure 2, the trend of Netherlands' exports to US suffered a decline in the last analysed year, 2013, from 22.257.5 million dollars to 19.220.5 million dollars (a decreased of about 13.6%). The situation is quite strange because the trend of exports was positive from 2009 to 2011, fact that highlights some interesting points: the Dutch companies recovered well from the economic crisis but they have lost their competitiveness. This ultimate statement is underlined by the share of the Dutch trade flows with US, from 1.8 % in 2011 (approx. 66 billion dollars) to 1.6% in 2013 (approx. 61.9 billion dollars). However, the value of exports grew with about 3122 million dollars from 2009 to 2013 so from this perspective the Dutch products are still strong "rooted" in the US market.

Regarding the imports from US, it is obviously that the trend is positive and the value of this indicator is growing almost every year. If in 2009 the value of imports was 32241.5, almost two times bigger than the exports to US, the value grew in 2013 to about 42654.3 million dollars, with about 32.3% bigger than the first year analysed. This happens due to the continuously growing demand of the Dutch population for US products.

The structure of the products imported/exported by/from USA from the same European country, Netherlands, reveals certain symmetry, meaning that some of the top 10 goods traded by the Dutch country with US are the same in both trade flows.

The composition of US exports to the Netherlands, in 2013, was the following (World's Richest Countries, 2014):

- Oil: \$11.8 billion;
- Medical, technical equipment: \$5.8 billion;
- Machines, engines, pumps: \$4.1 billion;
- Electronic equipment: \$3.6 billion;
- Pharmaceuticals: \$3.4 billion;

- Organic chemicals: \$2.2 billion;
- Aircraft, spacecraft: \$1.5 billion;
- Plastics: \$1.1 billion;
- Other chemical goods: \$750.4 million
- Vehicles: \$652.3 million

The goods exported from US by the Netherlands have a very high value, so it can be explained the level of this indicator. An interesting fact is that US exports to the Dutch state have a high added value, which incorporates an important level of know-how and innovation, as the products from the nuclear industry or the medical equipment, so their higher price it can be explained.

The composition of US imports from the Netherlands, in 2013, was the following (World's Richest Countries, 2014):

- Oil: \$3.7 billion;
- Machines, engines, pumps: \$2.8 billion;
- Pharmaceuticals: \$1.6 billion;
- Organic chemicals: \$1.2 billion;
- Alcoholic beverages: \$1.2 billion;
- Medical, technical equipment: \$870.4 million;
- Inorganic chemicals: \$675.3 million;
- Iron and steel: \$579.5 million;
- Electronic equipment: \$535.3 million;
- Plastics: \$475.7 million.

As it was in the case of exports, the imports composition reveals the fact that US prefers products with a high added value, as medical and electronic equipment or engines.

## **2. The direct investment flows between the two analysed countries**

As a result of the bilateral trade relations, the investment flows between the two analysed countries grew almost every year. In 2011, it was estimated that almost 7000 jobs were created in the US by investment flows from the Netherlands. A recent report highlighted the idea that the Netherlands created only in Texas about 100000 jobs and the total value of the direct investment in that specific area was about 9.4 billion dollars. Moreover, the total foreign direct investment of

Netherlands in US territory has surpassed in value the ones from China, India and Russia gathered together (U.S.–Dutch Trade Supports 700,000 American Jobs, 2011).

In the same mentioned year, 2011, the Netherlands was the third most important investor in the USA holding an aggregated value of about 217.1 billion dollars. Also, the European country represented the most important destination for the US investors, the stocks of FDI worth in that year 521.4 billion dollars. More than 850 Dutch companies can be found in USA and only in Texas they created more than 75000 jobs.

As mentioned before, Texas represented the main beneficiary of the economic relations between US and the Netherlands. Furthermore, more than 75 Dutch companies are operating in this region, including Fugro, KLM Royal Dutch Airlines, Shell Oil, Heerema Offshore. The Dutch investment, like the exports of the above companies to Netherlands, created 75653 jobs. The Dutch foreign direct investment in Texas valued about 11.4 billion dollars, the European country represented the forth main investor in the region. The exports of Texas to the Netherlands reached the value of 6 billion dollars in 2010 and the main exported products were the one made from oil and coal.

In California, there were about 80 Dutch companies, like NXP Semiconductors, Rabobank and Nielsen Company. The Dutch investment and the exports activities of California created 57968 jobs. In 2010, the Netherlands was the fifth investor in this region and the level of FDI reached 6.7 billion dollars. The exports of California to the Netherlands, was in 2011, about 4.1 billion dollars (Area Development Online News Desk, 2011).

The US investment in the Netherlands represented, in 2009, about 23.9% (471.57 billion dollars) form the total US foreign direct investment made in Europe. The most important investments were the one made in the Dutch holding companies with a shore of about 70.3% (331,62 billion dollars) from total, being followed by the companies from the financial and assurance sector with a share of 10,7% (50,35 billion dollars) and those who are operating in the manufacturing sector, 6,5% (30,67 billion dollars).

## CONCLUSIONS

All the information presented in this article suggests the fact that the economic relations between the Netherlands and the US are extremely profitable for both countries, the bilateral trade flows as well as the foreign direct investment flows have a high value. However, because of those extremely high values and important share in the total grand of each other's trade indicator, an

important mutual dependence can grow, one that can be strongly rooted and which can last a long time

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# DERIVATIVE USE BY ROMANIAN BANKS AFTER THE EU ADHESION: A FINANCIAL REPORTING PERSPECTIVE

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Ciprian Apostol\*\*

**Abstract:** *Romanian banks use derivatives to hedge against or speculate on the movement of economic variables such as foreign exchange rate or interest rate. To report these contracts, they apply the IFRS in both consolidated accounts (from 2007 onwards) and individual accounts (starting with 2012). This paper analyzes disclosures on derivatives for a 6-year period (2007- the year of the EU adhesion -2012) based on 132 financial statements available. The findings show that more than 72% of Romanian banks use derivatives, mostly for economic hedges and without much application of hedge accounting. Swaps are the most important contracts and foreign exchange risks the most protected against. On average, disclosures on derivatives follow the IFRS rules but provide little additional information beyond the minimum requirements which enables ambiguities and misinterpretations from users of the financial statements.*

**Keywords:** derivatives; financial statements; IFRS; hedge accounting.

**JEL Classification:** M41; G21.

## INTRODUCTION

It is no longer headline news that the growth in the use of derivatives has been spectacular in the last decades. The upward trend recorded by both organised exchanges and OTC derivative markets seems to not have been affected even by the most recent financial crisis. Nowadays, the vast majority (94%) of the world's largest companies (ISDA, 2009) use derivatives to hedge against, or speculate on, the movement of various economic variables. The most important contract types preferred by these entities are foreign exchange derivatives and interest rate contracts. Unsurprisingly, financial institutions are the major users of such instruments, participating in the derivative markets as dealers, end users or both. This is also applicable to Romania, where derivatives are primarily used by commercial banks.

The aim of this study is to measure the extent of derivative use, the purposes of this use, the structure of derivatives by types and financial risks and the level of hedge accounting application, using exclusively data reported in the financial statements published by Romanian banks for the period 2007-2012. The research makes a contribution to the literature because it provides an insight on the financial reporting of derivatives used by Romanian banks, a subject for which there is a relative shortage of empirical evidence.

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The rest of paper is organized as follow: Section 1 reviews the financial reporting rules applicable by Romanian banks for the derivatives used alongside a brief description of the existing literature; Section 2 discusses the data set, sample and methodology used. Section 3 presents the empirical results and Section 4 presents the authors' conclusions.

### **3. FINANCIAL REPORTING STANDARDS FOR DERIVATIVES APPLICABLE BY ROMANIAN BANKS**

The EU adhesion in 2007 came in with new reporting rules for the financial groups located in Romania: the application of the IFRS in their *consolidated* accounts. For two years, the international accounting standards were used only in the preparation of consolidated financial statements. In the next two years, 2009-2011, in addition to consolidated accounts, banks were obligated to prepare a second set of *individual* financial statements in accordance with the IFRS, for informative purpose only. During this period, the Romanian rules (compliant with the European directives) were applied as accounting basis and the IFRS as reporting basis. From the 1st of January 2012, banks have been using the IFRS mandatorily, for both purposes.

Regarding derivatives, Romanian banks apply IAS 39 „Financial instruments: recognition and measurement”, IAS 32 „Financial instruments: presentation” and IFRS 7 „Financial instruments: disclosures”. None applies IFRS 9 „Financial instruments” as it is yet to be endorsed by the EU. According to IAS 39, derivatives are classified as financial instruments at fair value through profit and loss, unless they are used in hedging activities, when hedge accounting applies. Therefore, trading derivatives are measured, both initially and subsequently, at fair value. The accounting treatment for hedging derivatives consists of recognizing the changes in their fair value through profit or loss (where they compensate the opposite changes in the fair value of hedged items – fair value hedge) or deferring them to other comprehensive income (cash flow hedges). Disclosures on derivatives follow the requirements from IFRS 7.

The present work comes to fill in a gap from the literature dealing with reporting of derivatives used by banks in Romania. The only researches available are the ones assessing the overall application of the IFRS in the banking system. They address the rules for financial instruments (and not explicitly derivatives) in the broader context of the transition to IFRS. Studies conducted by KPMG (KPMG, 2010 and 2011) make an inventory of the differences between national rules and the IFRS and identify the fair value accounting, the amortised cost or the impairment model applicable to financial instruments as the main sources of discrepancies. Ștefan and Mușat (2011) perform a critical analysis of the regulations issued by the National Bank of

Romania (NBR) to allow the transition to IFRS while Grecu (2011) focuses on the challenges imposed by this transition to managers and auditors. Răducănescu and Dima, 2011 review the impact of IFRS application on prudential regulations used by NBR.

Other studies (Gîrbină et al., 2011) analyze the perceptions of preparers from Romanian banks regarding the IFRS application. Their findings show that impairment methodology, fair value determination, hedge accounting and disclosure requirements of IFRS 7 are the most challenging rules when applying IFRS. A study addressing the disclosures on financial instruments by the Romanian banking system (Ștefănescu, 2012) argues that the accounting practices have improved over the years but the level of material harmonization of the individual financial reporting is still relatively moderate.

#### 4. DATA SET, SAMPLE AND METHODOLOGY

The research is based on the information about the use of derivatives provided by all the banks operating in Romania between 2007 and 2012 through their annual financial statements. These documents were available on the banks' websites. *Consolidated or individual financial statements* were analyzed and all amounts used were *comparable* because they were prepared according to *the IFRS*. The list of banks operating in Romania was taken from the National Bank of Romania's annual reports for the period 2007-2012. The 6-year interval was selected as such to allow the analysis of the derivatives use from the moment in which Romania became an EU member state until present times (the most recent year for which annual financial statements were available was 2012).

*Table 1* presents the banks using derivatives for each of the sampled years, according to the available financial statements.

**Table 1 - Bank using derivatives in Romania by year**

2007	2008	2009	2010	2011	2012
Alpha Bank	Alpha Bank	Alpha Bank	Alpha Bank	Alpha Bank	Alpha Bank
Banca Românească	Banca Românească	Banca Românească	Banca Românească	Banca Românească	Banca Românească
BancPost	BancPost	BancPost	BancPost	BancPost	BancPost
BCR	BCR	BCR	BCR	BCR	BCR
BRD	BRD	BRD	BRD	BRD	BRD
Citibank	Citibank	CEC Bank	CEC Bank	Carpatica	Carpatica
Emporiki Bank	Credit Europe Bank	Credit Europe Bank	Credit Europe Bank	CEC Bank	CEC Bank
Piraeus Bank	Intesa SanPaolo Bank	Emporiki Bank	EximBank	Credit Europe Bank	Credit Agricole Bank
Raiffeisen	OTP bank	Intesa SanPaolo Bank	Garanti Bank	Emporiki Bank	Credit Europe Bank
SanPaolo IMI	Piraeus Bank	Leumi Bank	Intesa SanPaolo	Garanti Bank	Garanti Bank



Bank Unicredit	Raiffeisen	Marfin Bank	Bank Leumi Bank	Intesa SanPaolo Bank	Intesa SanPaolo Bank
Volksbank	Unicredit Volksbank	OTP bank Piraeus Bank Raiffeisen Unicredit Volksbank	Marfin Bank OTP bank Piraeus Bank Raiffeisen RBS Bank Romania Unicredit Volksbank	Leumi Bank Marfin Bank OTP bank Piraeus Bank Raiffeisen RBS Bank Romania Unicredit Volksbank	Leumi Bank Marfin Bank OTP bank Piraeus Bank Raiffeisen Unicredit Volksbank

A total number of 132 financial statements were available. Overall, around 74% of financial statements were publicly posted on the banks' websites, with the lowest percentage in 2007-2008 (60%) and the highest in 2010-2011 (over 83%).

Using the *content analysis* of the financial statements and also a *quantitative analysis*, the paper aims at accomplishing the following objectives:

- exhibiting *the extent of the derivatives use* among banks operating in Romania;
- identifying *the purpose of the derivatives use* (hedging or trading);
- analyzing *the structure of the derivatives* by type and by the financial risks against which they are used for;
- displaying *the balance sheet presentation* of the derivatives used in terms of *assets and liabilities* and also in terms of the *weight of derivatives as compared to total fair value assets*;
- assessing *the extent of the hedge accounting use* by computing the weight of hedging derivatives as compared to total derivatives used.

## 5. RESULTS AND DISCUSSION

The *extent of the derivatives use* was primarily measured by dividing the number of banks reporting derivatives in their financial statements by the total number of banks for which financial statements were available. From the total number of 132 available financial statements, 96 of them reported information on derivatives use (*Table 2*).

**Table 2 - Extent of derivatives use**

Year	Users	Total no of banks*	%
2007	12	18	66,67
2008	13	18	72,22
2009	16	22	72,73

2010	18	25	72,00
2011	19	25	76,00
2012	18	24	75,00
<b>Total no of financial statements</b>	96	132	72,73

\*for which information is available

Table 2 shows that, overall, almost 73% of the sampled banks used financial derivatives. The lowest percentage was reported in 2007 while the highest use was noticeable in 2011. The extent of derivatives use remained above 72% in the last 5 reporting years.

In terms of *purposes for which derivatives were used*, the research identified 2 main purposes: *trading and hedging* (Table 3). The hedging activities were furthermore analyzed taking into account the IFRS rules: banks were grouped based on whether they applied hedge accounting or not, according to IAS 39. The findings showed that almost half of the banks used derivative for hedging purposes only but did not apply hedge accounting while a quarter of them used derivatives for trading activities only. Table 3 reveals that hedge accounting has been used since 2008 by one single bank and only in 2011 this number increased at 4.

**Table 3 - Purpose of derivatives use**

	2007		2008		2009		2010		2011		2012	
	No	%	No	%	No	%	No	%	No	%	No	%
<b>Trading derivatives (only)</b>	4	33	3	23	3	19	6	33	5	26	4	22
<b>Economic hedging without hedge accounting (only)</b>	5	42	5	38	9	56	9	50	8	42	8	44
<b>Trading and economic hedging</b>	3	25	4	31	3	19	2	11	2	11	2	11
<b>Trading, economic hedging and hedge accounting</b>	0	0	1	8	1	6	1	6	3	16	3	17
<b>Economic hedging and hedge accounting</b>	0	0	0	0	0	0	0	0	1	5	1	6
<b>Total number of banks</b>	12	100	13	100	16	100	18	100	19	100	18	100

The most used *type of derivatives* by banks operating in Romania (Table 4) is represented by *swaps* (currency swaps, interest rate swaps and cross currency interest rate swaps). The other types are forwards and options. This shows a relatively simple *structure of derivatives*, without complex or exotic financial instruments. In addition, banks reported almost exclusively OTC derivatives. Another significant detail is that derivatives were included in the “other” section from Table 4 not only when they represented some different type of contracts, but also when no information about the type was provided at all or when several instruments were presented together and it was impossible to separate them by type. Therefore, banks might have been using swaps to even a higher degree than the one reported in Table 4.

**Table 4 - Derivatives use by type**

Year	2007			2008			2009		
	No of users	Assets	Liabilities	No of users	Assets	Liabilities	No of users	Assets	Liabilities
Swaps	7	22.76	24.02	9	15.54	55.68	12	43.13	87.27
Currency forwards	4	7.80	13.88	5	7.29	4.17	7	29.09	1.33
Options	3	13.03	7.81	3	11.01	4.65	5	17.14	4.14
Other derivatives	6	56.41	54.29	8	66.16	35.50	7	10.64	7.26
Total assets or liabilities ('000 RON)		635.774	1.077.228		1.650.176	3.923.881		659.548	2.777.410
Year	2010			2011			2012		
	No of users	Assets	Liabilities	No of users	Assets	Liabilities	No of users	Assets	Liabilities
Swaps	15	48.04	91.98	15	47.07	90.52	14	70.97	91.93
Currency forwards	8	11.32	1.28	8	15.72	1.66	6	9.18	1.35
Options	6	31.67	4.72	4	25.85	4.96	5	8.15	2.29
Other derivatives	10	8.97	2.11	7	11.36	2.86	9	11.69	4.43
Total assets or liabilities ('000 RON)		459.808	3.035.180		558.187	2.891.261		790.411	2.827.442

The number of banks using swaps increased significantly from 2007 until 2010 (*Table 4*). But what is more significant is that the swaps' fair value has started to weigh more and more in total derivative-assets (from 15.54% in 2008 to almost 50% in 2009-2011 and above 70% in 2012) and especially in total derivative-liabilities (more than 90%). This tells the real story of the swaps' volumes used in the Romanian banking system.

The *structure of derivative instruments* was also analyzed according to *the financial risks* protected through their use (*Table 5*). The most used derivatives were on currency risk (mainly currency swaps, currency forwards and currency options). Virtually all banks (except in 2010) reported this type of derivatives while interest rate derivatives were used by only half of them. The other risks, such as credit risk or liquidity risk, were not taken into account by many banks when they decided to use derivatives as tools for implementing their risk management policies.

**Table 5 - Derivatives by financial risks**

Years	2007		2008		2009		2010		2011		2012	
	Use rs	% of total	Use rs	% of total	Use rs	% of total	Use rs	% of total	Use rs	% of total	Use rs	% of total
Interest rate risk	5	41.66	6	46.16	8	50.00	10	55.55	11	57.89	11	61.11
Currency risk	12	100	13	100	16	100	17	94.44	19	100	18	100
Other risks	1	8.33	1	7.7	1	6.25	1	5.55	2	10.53	4	22.22

In terms of *balance sheet presentation*, throughout the analyzed period, banks operating in Romania recorded negative fluctuations in derivatives' fair value (reported accordingly as *liabilities*) more frequently than positive fluctuations (reported as *assets*) (Table 6). The findings showed the biggest difference between assets and liabilities in 2010 when liabilities surpassed assets by 6.6 times. Overall, liabilities were 3.48 times greater than assets. In the first four years (2007-2010), the discrepancy between assets and liabilities accentuated more and more. But the trend reversed in the last two years (2011-2012), when the difference started to decrease significantly from one year to another.

**Table 6 - Balance sheet presentation**

	2007	2008	2009	2010	2011	2012	Total
<b>Assets ('000 RON)</b>	635.774	1.650.176	659.548	459.808	558.187	790.411	4.753.904
<b>Liabilities ('000 RON)</b>	1.077.228	3.923.881	2.777.410	3.035.180	2.891.261	2.827.442	16.532.402
<b>Liabilities &gt; Assets (times)</b>	1.69	2.38	4.21	6.60	5.18	3.50	3.48

Because the weight of derivatives in total assets or liabilities of the Romanian banks is almost irrelevant (below 0.001%), *the weight of derivatives in total assets reported at fair value* (that include available for sale investments and other financial assets reported at fair value through profit or loss - FVTPL) was computed (Table 7). The findings show an important decrease in this weight from 2008 to 2009. Prior to 2009, the percentage of derivatives use was comparable to other assets at FVTPL. In the last 4 years, derivatives weighted around 2% of total assets reported at fair value.

It was already stated in Table 3 that, in 2007, no bank operating in Romania designated derivatives as hedging instruments and applied *hedge accounting*. Also, for several years (2008-2010), only 1 bank applied this special accounting treatment. Nonetheless, this bank was the most important player on the banking derivative market, according to the data presented in Table 8 (and coincidence?, the largest Romanian bank by total net assets).

**Table 7 - Weight of derivatives as compared to total fair value assets**

Years / %	Derivative Assets	Available for Sale	Other Assets at FVTPL	Total
<b>2007</b>	12.65	64.19	23.16	100.00
<b>2008</b>	20.86	47.44	31.70	100.00
<b>2009</b>	3.34	71.44	25.22	100.00
<b>2010</b>	1.72	87.23	11.05	100.00
<b>2011</b>	1.99	87.18	10.83	100.00
<b>2012</b>	2.35	86.85	10.80	100.00

The increase in number of banks applying hedge accounting by 2011 (*Table 8*) did not really change the weight of hedging derivatives in total derivative-assets or liabilities (on average, above 6% of assets between 2010 and 2012 and above 60% of liabilities in the same period of time).

**Table 8 - Weight of hedging derivatives as compared to total derivatives**

Years	% of Assets	% of Liabilities
2007	0.00	0.00
2008	0.02	33.76
2009	0.00	66.12
2010	7.03	57.75
2011	5.55	64.07
2012	6.19	61.59

To summarize our findings, we performed a year-by-year analysis:

**2007:** only 2/3 of the reporting banks for which financial statements were available used derivatives. The purpose of the use was mainly for hedging activities, without the application of hedge accounting. It is the only year in which no bank uses hedge accounting. Earning short-term profits from the derivative use is the other goal, while ¼ of banks pursue them both. The other derivatives used (*Table 4*) represented more than half of all derivative-assets and liabilities, not because swaps were not the most used, but basically because little information was provided about the type of derivatives. The difference between derivative-assets and liabilities was at its lowest and derivatives ranked well above average percentage (7.15%) as compared to other assets reported at fair value.

**2008:** regarding the extent of the derivatives use, there was a slight improvement in the number of banks reporting derivatives (from 66.67% in 2007 to 72.22% in 2008). More banks used these contracts for a combined purpose: economic hedging and trading, and the 1<sup>st</sup> bank started to apply hedge accounting. Swaps were used by more banks, but the number of banks not providing additional information about the type of derivatives (included in “other derivatives”) was still very high. All banks used currency derivatives and almost half of them interest rate derivatives. The difference between assets and liabilities (*Table 6*) increased. Fair value of derivatives reached its highest figure of all 6 years, also, the weight of derivatives when compared to other assets reported at fair value.

**2009:** the number of financial statements available increased, so the number of banks using derivatives, but only in numerical value. The percentage was almost equal to the 2008 one. For the 1<sup>st</sup> time, more than half of the banks used derivatives only for economic hedges (without hedge accounting). The same bank continued to apply hedge accounting. Swaps were, for the 1<sup>st</sup> time, the

most used type of contracts. Even though many banks still did not provide enough information about the type of derivatives used (other derivatives), their weight in total derivative-assets and liabilities significantly decreased. Derivative-liabilities surpassed assets even more than in previous years, but their numerical value decreased (especially for assets - with more than 60%). This huge decrease was also noticeable in the weight of derivatives as compared to total fair value assets. No hedging instrument had a positive fair value fluctuation in 2009. These results might have been influenced by the most recent financial crisis that was already affecting the Romanian banking system since the end of 2008.

**2010:** the percentage of banks reporting derivatives remained about the same as in the previous 2 years. In terms of purposes for the derivatives use, there was a slight increase toward speculative goals and no change in the application of hedge accounting. Derivative-assets recorded their lowest value for the 6-year period being surpassed by liabilities by 6.60 times.

**2011:** it was the year with the highest level of derivatives use (76%) among banks operating in Romania. It was also the year in which 3 other banks started to apply hedge accounting. Unsurprisingly, swap contracts maintained their 1<sup>st</sup> position in the ranking. The use of interest rate derivatives also increased.

**2012:** this year marked a 1% decrease in the number of banks using derivatives. There was no significant change in terms of purposes for the use of derivatives. Swaps increased their dominance over total derivative-assets. The number of banks using interest-rate derivatives remained constant although their percentage increased when compared to total number of banks. The positive fluctuations of fair value of derivative-assets increased from previous years and the difference to derivative-liabilities further decreased. No other new bank started to apply hedge accounting.

## CONCLUSIONS

The main finding of this paper is that Romanian banks use derivative for economic hedging rather than for speculative purposes. Nonetheless, they hardly apply hedge accounting. Also, maybe due to the larger economic context, derivatives record negative fair value fluctuations more often than not. As far as disclosures are concerned, the paper argues that Romanian banks disclose information about derivatives according to the IFRS rules, meeting the minimum requirements. Nevertheless, the lack of additional information allows for ambiguities and misinterpretations. For example, some banks do not declare the purpose of derivative use. This cannot be always identified by simply assessing the balance sheet presentation (e.g. derivatives used in economic hedged without hedge accounting are reported as trading even though the bank might not have any intention

to speculate on them) so, additional presentation in the footnotes would be very helpful. Another example regards hedge accounting: many banks do not mention the reasons for not applying it. Such information would be particularly useful in establishing whether the option of hedge accounting is not used due to the bank not meeting the IAS 39 criteria or simply due to the bank choosing not to apply it. Moreover, some information is nothing but a word-by-word reproduction of the IFRS rules, without further explanation (e.g. fair value techniques or methods to assess hedges' efficacy). Also, certain presentations are not detailed by type of derivatives or 2 or more instruments are presented together without any possibility of separating them. Sometimes, derivatives are put together with other financial instruments reported at fair value.

Research limitations are determined mainly by the fact that this study neither analyzes the causalities nor identifies the factors that led to the aforementioned results. Future research is necessary to address these limitations.

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# EUROPEAN ENTREPRENEURSHIP IN TIMES OF CRISIS: REALITIES, CHALLENGES AND PERSPECTIVES

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**Abstract:** *The role of entrepreneurship in economic growth and development has been largely debated and acknowledged, both in literature and in policy making. Within the context of the present crisis, at a European level, entrepreneurship development is seen as the main solution for job creation and sustainable economic growth. As a consequence, there have been several calls and initiatives to make entrepreneurship the growth engine of European economy and to put the principle of “think small first” at the core of national and European policies. This paper discusses the challenges and the perspectives for entrepreneurship development in European countries from the point of view of the three areas of intervention proposed by Entrepreneurship 2020 Action Plan. The research methods are the analysis of different reports and policy papers and comparative analysis of statistical data from international databases. The main findings confirm the differences in entrepreneurial activity, level and nature of entrepreneurship existing at European level during the crisis, and also point out the strengths and weaknesses of European countries in the three areas proposed by the 2020 Action Plan.*

**Keywords:** entrepreneurship; crisis; entrepreneurial education; culture of entrepreneurship; European Union.

**JEL Classification:** L26; M13; Y1.

## INTRODUCTION

The role of entrepreneurship in employment, economic growth and innovation has been largely debated and unanimously acknowledged, both in literature and in policy making. The current economic crisis has increased attention on entrepreneurship and its essential role in all economies.

The existing literature shows no consensus about the effects of the crisis on entrepreneurial activity (Peris-Ortiz et al., 2014). Some authors argue that economic downturns provide opportunities for enterprises (Bartlett, 2008) while other researchers conclude that the crisis hampers the possibilities for entrepreneurs to discover and exploit opportunities and innovation. Using panel data for 93 countries, Klapper and Love (2011) show that, during the crisis, the majority of countries were affected by a significant decrease in new firm registration.

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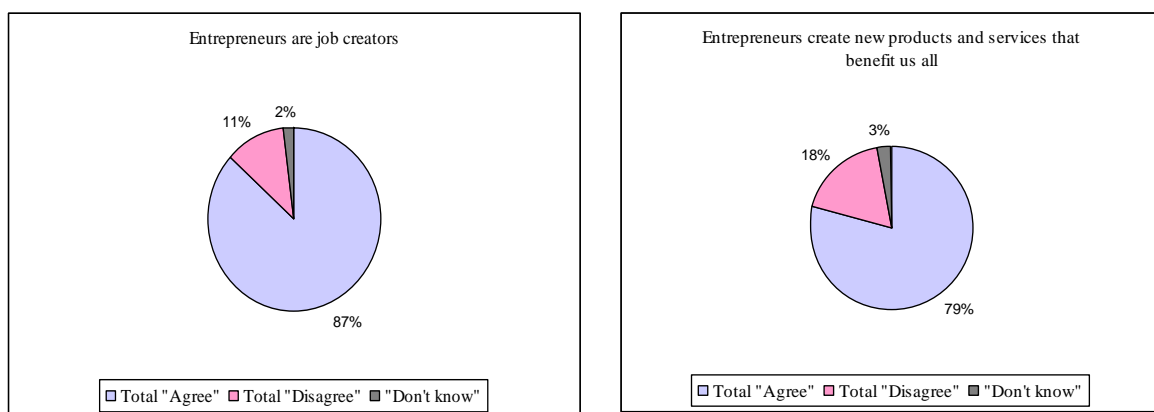
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The common denominator in literature and policy making is the perspective of entrepreneurship development as a solution for the problems created by the crisis. Researchers argue in its favour as a “way out of the economic crisis in Europe and other regions” (Rudiger et al, 2014). Official reports point out in the same direction. “To bring Europe back to growth and higher levels of employment, Europe needs more entrepreneurs” (European Commission, 2013, p. 3).

The general public also acknowledges the positive role entrepreneurs play for economy and society. Using data from the latest Eurobarometer on entrepreneurship in European Union, Figure 1 shows people perceptions on entrepreneurs as job creators and their role in creating products and services for the benefit of the whole society. It can be noticed that a vast majority of Europeans has a positive perception on entrepreneurs and agree on the benefits of entrepreneurship.

**Figure 1 - Perceptions of the role of entrepreneurship, EU - 27, 2012**



Source: Authors’ presentation based on data from European Commission (2012), Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, [http://ec.europa.eu/public\\_opinion/flash/fl\\_354\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf)

Considering the aspects presented above, this paper aims at providing an overview on the dynamics of European entrepreneurship during the crisis and at highlighting the challenges for its development in European countries from the perspective of the three areas of intervention proposed by Entrepreneurship 2020 Action Plan: entrepreneurial education and training, creating a supportive business environment and enhancing entrepreneurial culture and reaching out to specific groups.

The next section of the paper presents the research data and methodology. Section 2 provides a comparative analysis of the dynamics of European entrepreneurship from 2008 to 2012. Section 3 intends to assess the situation of entrepreneurship in EU countries. The last part summarizes the conclusions.

## 1. RESEARCH DATA AND METHODOLOGY

The paper uses secondary data from international databases - Global Entrepreneurship Monitor – GEM and Doing Business and The Entrepreneurship Database – registered for 2008 – 2012, and Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, 2012.

The main indicators used in this paper for the comparative analysis of entrepreneurship dynamics and the assessment of the situation of entrepreneurship and its enhancers in European countries are:

- Total Early-Stage Entrepreneurial Activity (TEA) – “*the percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business*” (Global Entrepreneurship Monitor Key Indicators and Definitions, <http://www.gemconsortium.org/docs/download/414>);

- Business Entry Density Rate – “*the number of newly registered companies with limited liability per 1000 working-age people (those ages 15-64)*” (Doing Business and The Entrepreneurship Database, <http://www.doingbusiness.org/data/exploretopics/entrepreneurship>)

- Entrepreneurial Intention - “*the percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years*” (Global Entrepreneurship Monitor Key Indicators and Definitions, <http://www.gemconsortium.org/docs/download/414>).

- Total early-stage Entrepreneurial Activity for Female Working Age Population – “*the percentage of female 18-64 population who are either a nascent entrepreneur or owner-manager of a new business*” - (Global Entrepreneurship Monitor Key Indicators and Definitions, <http://www.gemconsortium.org/docs/download/414>).

- Difficulties encountered when starting up a business (Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, [http://ec.europa.eu/public\\_opinion/flash/fl\\_354\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf)).

- Perceptions on entrepreneurship and the role of education (Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, [http://ec.europa.eu/public\\_opinion/flash/fl\\_354\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf)).

Based on data availability for the selected indicators and 2008-2012 period, the following EU countries were included in our analysis: Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Latvia, Netherlands, Romania, Slovenia, Spain, and United Kingdom.

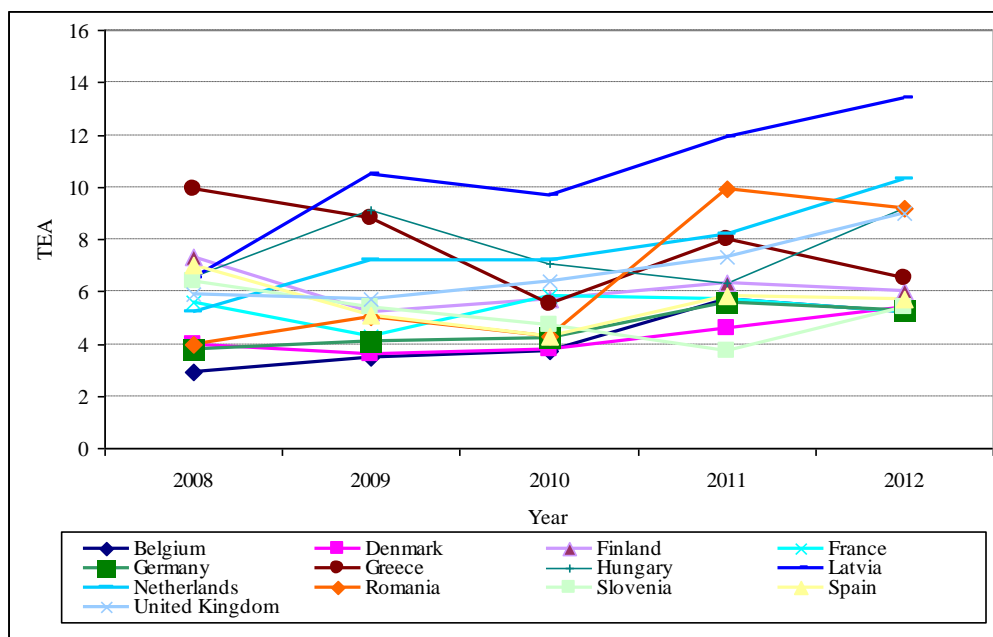
The research methods are the analysis of different reports and policy papers and comparative analysis of statistical data from the international databases mentioned above.

## 2. THE DYNAMICS OF EUROPEAN ENTREPRENEURSHIP DURING THE CRISIS

When analysing the evolution of the percentage of nascent entrepreneurs or owner-managers of a new business in the selected European countries between 2008 and 2012, we notice different patterns. On average, the level of TEA increased at the beginning of the crisis from 5.7% in 2008 to 5.9% in 2009. It decreased to 5.5% in 2010 and again increased in the following years (6,8%, in 2011 and 7,3%, in 2012). Large differences can be observed at country-level. We can distinguish between countries like Denmark, Finland, France, United Kingdom which had all experienced a decrease in TEA from 2008 to 2009 and a continuing increase from 2009 to 2012, and countries like Belgium, Germany, and Netherlands which display positive trends for TEA for the whole period. There are also several countries (Greece, Slovenia and Spain) which registered ups and downs in the percentage of nascent entrepreneurs during the crisis and were, in 2012, far from the level of 2008.

Figure 2 presents the evolution of Total Early-Stage Entrepreneurial Activity (TEA) between 2008 and 2012.

**Figure 2 - Total Early-Stage Entrepreneurial Activity (TEA), selected countries, 2008-2012**

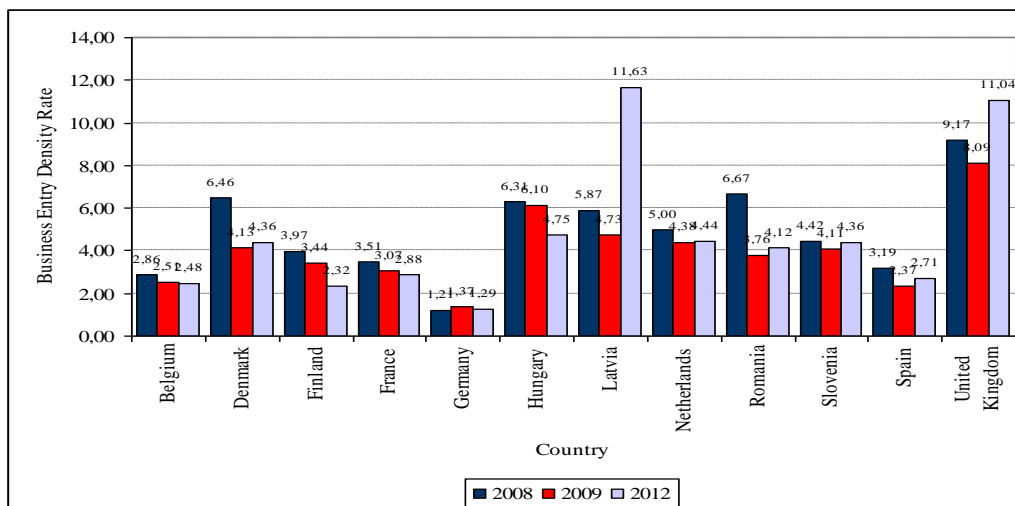


Source: Authors' presentation based on data from GEM database, <http://www.gemconsortium.org/key-indicators>

Figure 3 presents the evolution of business entry density rate in 2008, 2009 and 2012. Out of the analysed countries, only Germany shows a positive evolution at the beginning of the crisis (from 1,21% in 2008 to 1,33% in 2009), all the others experiencing drop-outs for this indicator.

Worthwhile mentioning is the high level of business entry density rate in Latvia after a significant increase from 2009. This aspect shows that entrepreneurship is a viable alternative for employment, Latvia being significantly affected by the crisis.

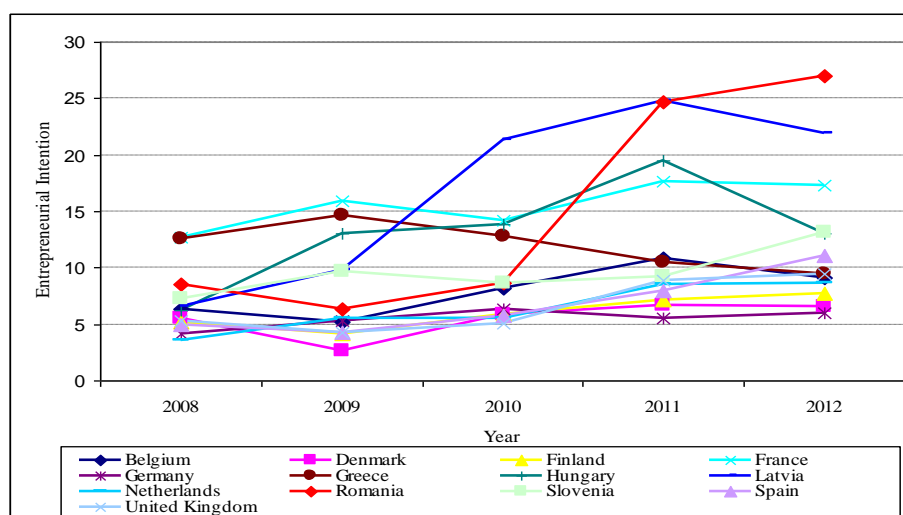
**Figure 3 - Business Entry Density Rate, selected countries, 2008, 2009, 2012**



Source: Authors' presentation based on data from Doing Business and The Entrepreneurship Database, <http://www.doingbusiness.org/data/exploretopics/entrepreneurship>

The encouraging positive evolution of business entry density rate is supported by the growing percentage of Europeans who intend to start a business within three years. Figure 4 shows the dynamics of entrepreneurial intentions in the analysed countries from 2008 to 2012. Most of the analysed countries registered a decrease from 2008 to 2009, as a normal consequence at the beginning of the crisis, with ascending trend subsequently. The most significant increase can be noticed in Romania (from 6,3% in 2009 to 27% in 2012).

**Figure 4 – Entrepreneurial Intention, selected countries, 2008-2012**



Source: Authors' presentation based on data from GEM database, <http://www.gemconsortium.org/key-indicators>

The comparative analysis of the dynamics of European entrepreneurship during the crisis points out on one side, relatively low levels of entrepreneurial activity in most of the analysed EU members and, on the other side, an encouraging situation, if we consider that people are willing to become entrepreneurs and the indicators which describe the level of entrepreneurship development show positive evolution from 2009 to 2012.

The next section of the paper addresses, in the context of Entrepreneurship 2020 Action Plan, the challenges for developing entrepreneurship in Europe.

### 3. CHALLENGES AND PERSPECTIVES FOR EUROPEAN ENTREPRENEURSHIP

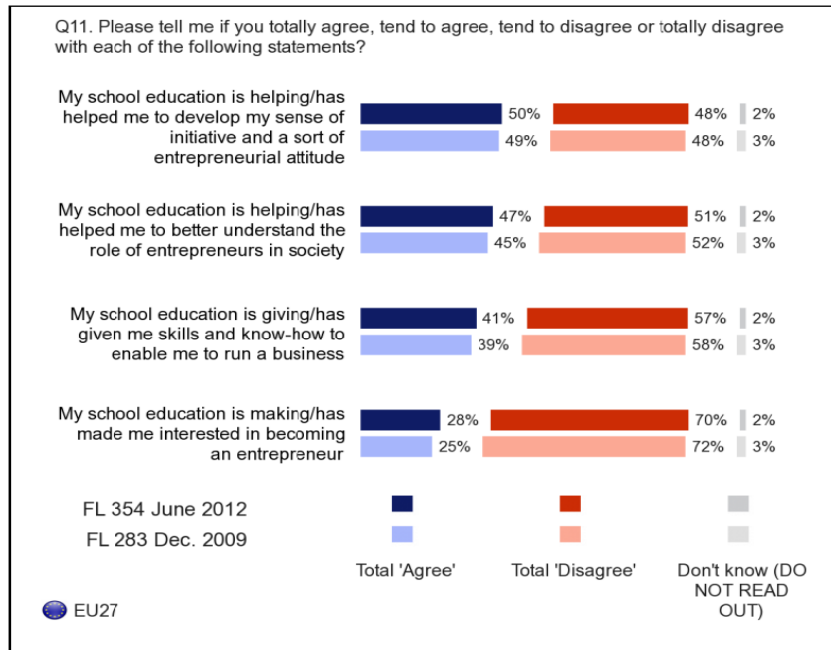
#### 3.1. Entrepreneurial education and training

Existing literature points out a positive influence education, in general and entrepreneurial education, in particular, has on entrepreneurship (Robinson, 1994; Honig, 2004). Surveys suggest the same positive relationship between the two variables (European Commission, 2013).

Figure 5 presents the Europeans' level of agreement in this matter. 50% of the respondents agree that education helped them to develop a sort of entrepreneurial attitude. Only 47% agree that education helped them understand the role of entrepreneurs in society while 41% consider that education provided them with the know-how to run a business. Finland, Romania and Spain are the countries with the highest levels of agreement for the education-entrepreneurship related statements.



**Figure 5 – Perceived role of entrepreneurial education, EU-27, 2009 and 2012**



Source: European Commission (2012), Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, [http://ec.europa.eu/public\\_opinion/flash/fl\\_354\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf)

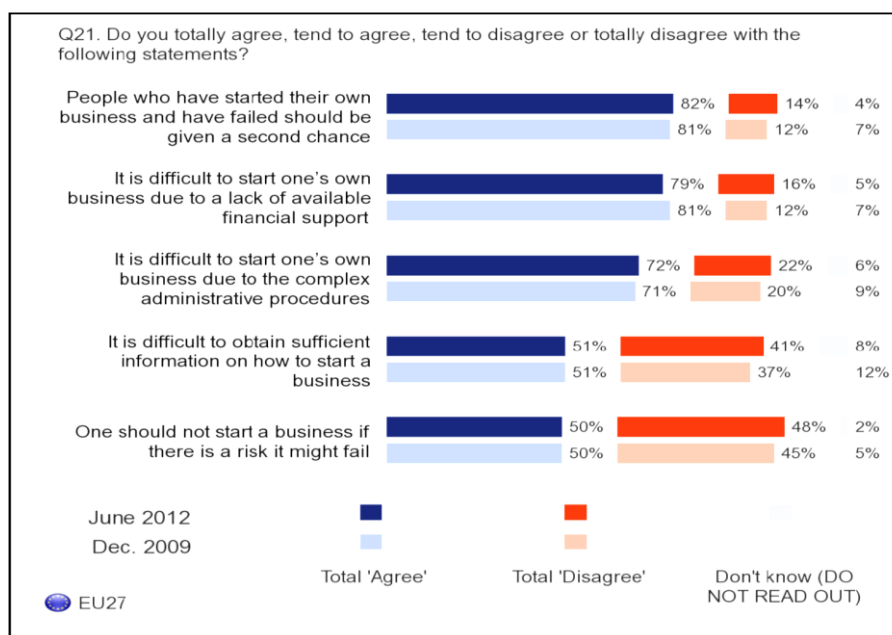
From Figure 5 above it can also be noticed a slight increase in the level of agreement between 2009 and 2012 which speaks about the need to promote and to support entrepreneurial education in all European countries.

### 3.2. Business environment

The creation of a supportive business environment is the second action pillar of Entrepreneurship 2020 Action Plan. The document also sets six key areas to remove the existing difficulties in starting-up and new business growth (European Commission, 2013, p. 8): “access to finance, support for entrepreneurs in the crucial phases of the business lifecycle and their growth, unleashing new business opportunities in the digital age, transfer of business, bankruptcy procedures and second chance for honest entrepreneurs, and regulatory burden reduction.”

The bottom up perspective is in line with the issues addressed by the Plan. Figure 6 presents the perceived difficulties which might be encountered when starting up a business. The comparison between data from 2009 and data from 2012 shows the same perceived obstacles with minor changes in the percentages. The “availability” of second chance for those who failed, access to finance, the burden of administrative procedures, the difficulty of getting information, fear of failure, are considered as main difficulties in starting-up a business.

**Figure 6 – Difficulties in starting up a business, EU-27, 2009 and 2012**



Source: European Commission (2012), Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, [http://ec.europa.eu/public\\_opinion/flash/fl\\_354\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf)

At country level (European Commission, 2012), in 2012, over 75% of the respondents agree that people who started their own business and failed should be given a second chance. Only in Hungary and Slovenia, the percentage is lower, namely 69% and 60%. The lack of available financial support is considered an obstacle by 96% of Greek respondents, 90% of Romanians, and 89% of Spanish respondents. The level is considerably lower in Finland (52%) and Germany (65%). The complexity of administrative procedures is a real burden in Italy, Greece, Romania, Latvia, with a level of agreement of over 80% while in Netherlands, Slovenia and United Kingdom the percentage of agreement falls below 65%.

### 3.3. Entrepreneurial culture and new horizons

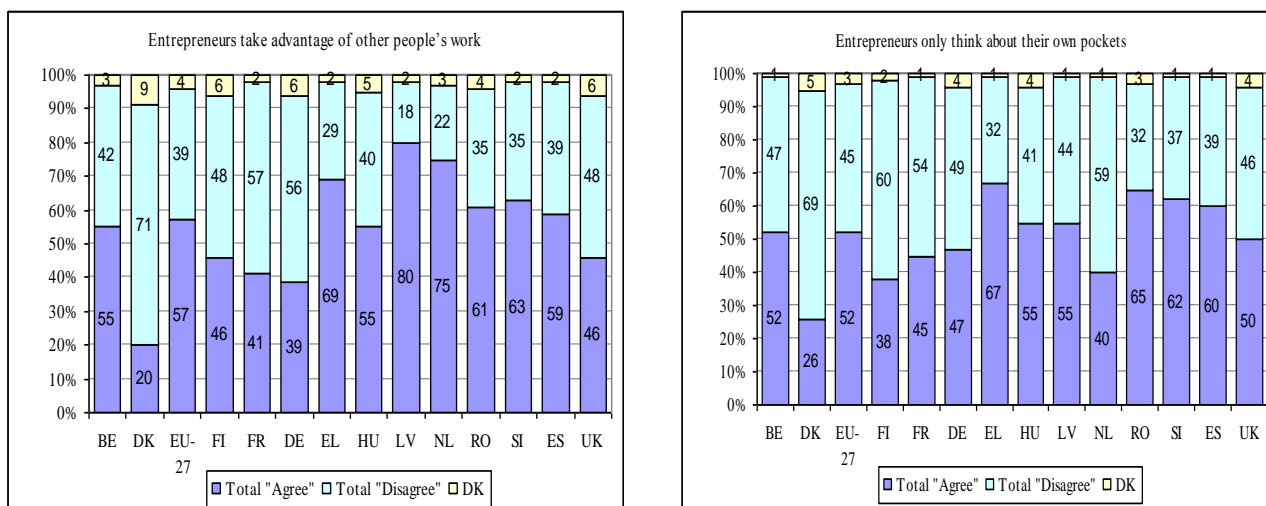
#### 3.3.1. Entrepreneurial culture

Only 53% of the European respondents in the 2012 Flash Barometer 354 have a favourable opinion about entrepreneurs while 38% declare a neutral opinion, and 7% view them unfavourably. In the countries considered in our sample, entrepreneurs enjoy the best reputation in Denmark (74%), Finland (67%) and Spain (62%). On the opposite, in Hungary and Slovenia entrepreneurs are viewed less favourably. Although the positive role of entrepreneurs is acknowledged by most of

the Europeans, as shown in Figure 1, the situation is different when it comes to entrepreneurs motives. They are rather perceived as exploiters and selfish.

Figure 7 below shows the level of agreement with two statements: “Entrepreneurs take advantage of other people’s work” and “Entrepreneurs only think about their own pockets”.

**Figure 7 – Perceptions of entrepreneurship motives, selected countries, 2012**



Source: Authors’ presentation based on data from European Commission (2012), Flash Eurobarometer 354 *Entrepreneurship in the EU and beyond*, [http://ec.europa.eu/public\\_opinion/flash/fl\\_354\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf)

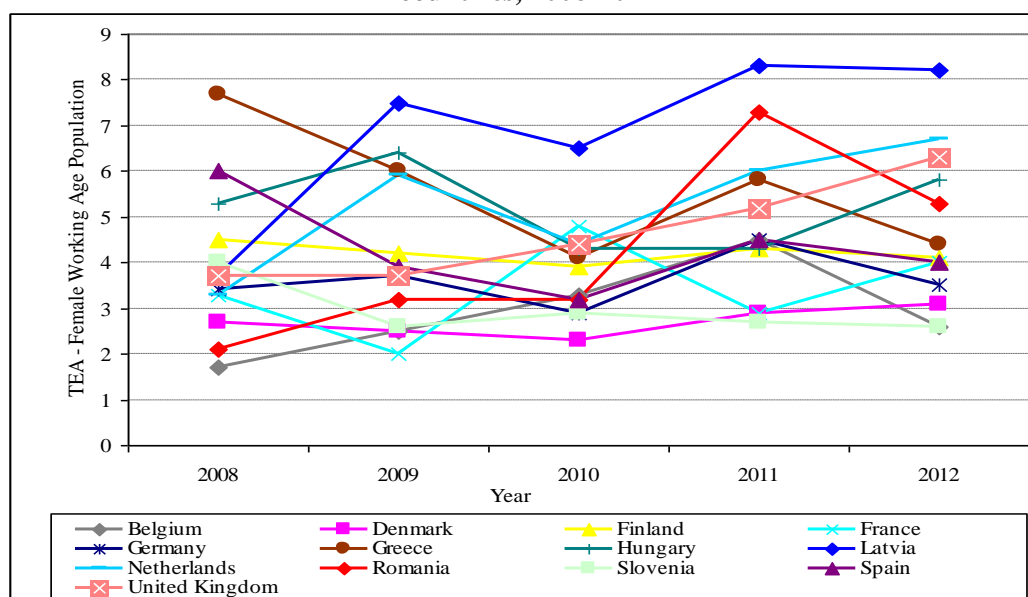
We notice that the EU-27 average is 57% “total agree” with the first statement and 52% “total agree” with the second one. This aspect shows that entrepreneurs are not seen as role models and the culture of entrepreneurship is rather low in EU countries. In our sample, Denmark is the country which appreciates the most entrepreneurial occupation. The opposite situation characterizes Greece and Romania.

### 3.3.2. Reaching out to certain groups

One of the challenges for entrepreneurship at European level consists in opening new horizons and reaching out to women, seniors, migrants and the unemployed young people (European Commission, 2013, p. 22). That is, designing specific activities adapted to each group and includes them in entrepreneurial training programmes.

If we consider, for example, the entrepreneurial potential of the female population, the reality shows that it is underexploited. Figure 8 below supports this statement.

**Figure 8 – Total early-stage Entrepreneurial Activity for Female Working Age Population, selected countries, 2008-2012**



Source: Authors' presentation based on data from GEM database, <http://www.gemconsortium.org/key-indicators>

The percentage of female 18-64 population who are either a nascent entrepreneur or owner-manager of a new business is very low if taking into account that women constitute 52% of the total European population (European Commission, 2013, p. 22). Out of the analysed countries, between 2009 and 2012, the highest values are registered by Latvia which for this period is also the country with the highest Total Early-Stage Entrepreneurial Activity.

## CONCLUSIONS

This paper aimed at analysing the dynamics and the patterns of entrepreneurship in several European Union member states from the perspective of the three areas of intervention proposed by Entrepreneurship 2020 Action Plan.

The comparative analysis of the evolution of several indicators of the dynamics of European entrepreneurship during the crisis points out on one side, relatively low levels of entrepreneurial activity in most of the analysed EU members and, on the other side, a positive situation. Although registering low values, the indicators mentioned above display ascending trends, after a significant decrease in the first year of the crisis. Besides, a growing number of Europeans are willing to become entrepreneurs.

The main challenge at a European level consists in increasing entrepreneurial activity and providing support for more and more people to become entrepreneurs.

The premises already exist. The measures undertaken up to the present are meant to overcome the challenges. Europeans are aware and declare their recognition of entrepreneurship as a solution for job creation and growth. In most countries, progress has been made in creating a supportive business environment; with less administrative burdens and easier access to finance; more people are aware of the importance of entrepreneurial education and the need to include specific groups in the training programs. We believe the most challenging endeavour is to create a real entrepreneurial culture, to reach that moment when almost unanimously Europeans appreciate entrepreneurs as models and choose entrepreneurship as desirable career choice.

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# CAN SOCIAL PROTECTION REALLY MAKE A SIGNIFICANT CONTRIBUTION TO POVERTY REDUCTION? THE CASE OF ROMANIA

Mihaela Ifrim\*

**Abstract:** *Most Romanians believe that the state should assume more responsibility for the welfare of everyone. Social protection must actually be understood in the broader framework of gradual and more alert transfer of the responsibility from the individual to the state level. If in the case of a minimal state the individuals would be forced to save to cope with unforeseen situations like job loss, disability or illness, in the case of a welfare state, which guarantees minimum incomes, these reasons fade. Individuals have increasing expectations from the authorities, and largely decline their capabilities of helping others through charity or philanthropy. In the light of the lack of confidence in the strength of private actions to support those in need, public solutions are expected to eliminate poverty through social protection programs. The purpose of this paper is to analyze the ability of social protection programs in Romania to help improve well-being among the most disadvantaged citizens of Romania and the costs associated with such objective.*

**Keywords:** social protection; minimum guaranteed income; poverty; Romania.

**JEL Classification:** E64; I32.

## INTRODUCTION

Social protection policies are seen as tools for poverty reduction. Although each of us has a projection about what poverty means, capturing it in a definition is difficult. References to poverty are most often made in relative and absolute terms or by using indices that measure the degree of individuals' deprivation. In relative terms, the poor would be those who live in worse conditions than others. This comparative approach has a high degree of subjectivity, but an attempt to tackle poverty in an objective key does not dilute too much the difficulty of such undertake. If a poor person is one who can afford food below what could ensure a normal health, can afford a home below the human dignity and has insufficient income to their own needs, setting such objectives goals does not change too much the subjective character of relating on poverty. Relating to an average income or to a threshold tries to solve these difficulties. Thus, in Europe, the poor are defined as those whose incomes are less than 60% of the average national income. Thus, each country has their own poor and their own measures to support them, reducing poverty.

Poverty is a problem as old as mankind itself. Poverty reduction policies in Europe have evolved from the practices of selling grain to the poor at fixed below market prices in the Roman Empire, to the organization of workhouses by Poor Law Act in England and to state paternalism of

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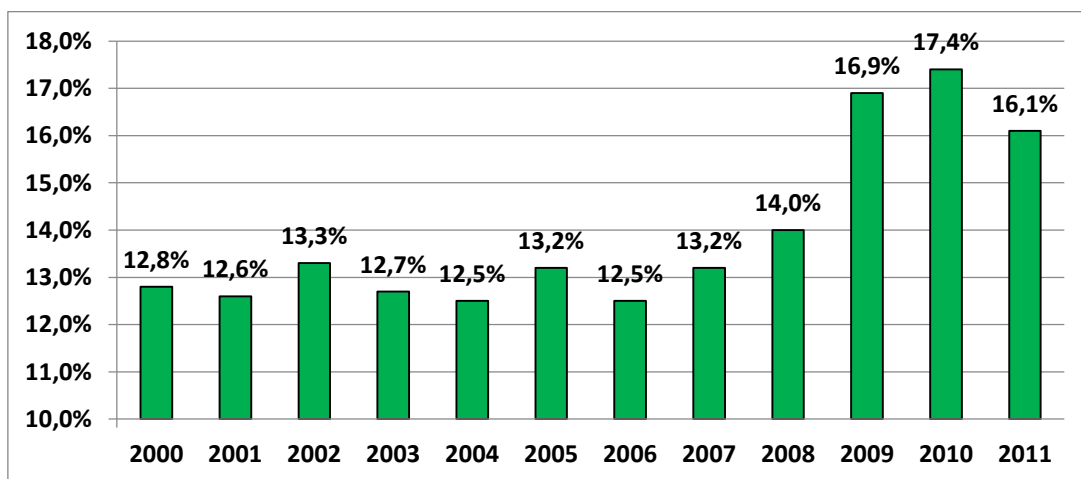
Germany's Otto von Bismarck. The increasing popularity of welfare state model led to widespread security and social welfare systems in Europe, through the introduction of health insurance, the pension system for the elderly, widows and orphans, the assistance for unemployed and "free" medical care. Last century is a temporal stage for gradual expansion of social protection in developed countries, in unison with the expansion of the state apparatus and government spending. The welfare "supply" consisted of numerous insurance and support programs for broad categories of citizens: from protection systems of the foreseeable (old age, death), to protection systems of the unforeseeable (disease, poverty, living conditions below the "standard" and so on). In fact, social protection measures included new and new programs; the number of beneficiaries has expanded, while increasing the tax burden. Each employee must give up a growing percentage of its revenue on behalf of their compulsory insurance and to supporting others. In this framework, the welfare state seems to have become a threat, as argued Wilhelm Ropke in "Humane Economy". Contemporary welfare state is far from the model imagined by John Locke, whose action is limited to defending the freedom and property of individuals. The state of the last century was one of the promises to escape from the constraint of limited resources in return for giving up freedom. People were promised prosperity without to do significant efforts in this regard. In fact, individuals declined the duty of following their own interests by transferring it to the state that promised it could follow them better. Faced with uncertainty, people ask today for guarantees. If, in the case of a minimal state, individuals would have to save in order to face some unforeseen situations like job loss, disability, illness, in the case of a welfare state that guarantees minimum incomes, this reasons fade.

## **1. SOCIAL PROTECTION EXPENDITURES IN ROMANIA**

Social protection in Romania is problematic from several angles. Undoubtedly, Romania is one of the poorest European countries, with a significant proportion of the poor. Roma and rural population are mostly affected by poverty, the long years of transition from communism leaving a deep mark in the structure of Romanian society. Inefficient government policies, corruption, bureaucracy, fiscal pressure, the lack of jobs in the context of industrial restructuring and the lack of competitiveness of Romanian companies have resulted in high rates of unemployment and emphasize the phenomena of migration. Loss of identity and family values have led to an alarming number of cases of abuse and family break, school abandonment and minors or elderly left to the mercy of the state. Lack of education, poor qualifications and lack of means of subsistence have increased poverty and the reliance on state policies regarding assistance.

Romania has some of the lowest levels of expenditure on social protection in the European Union. At purchasing power parity, the Romanian government spending stands at one fifth of the EU average, being 8 times smaller than social protection expenditure in Luxembourg. Spending on social protection has increased in the period 2000-2010, as can be seen in the figure below. A significant jump occurred in the years 2008-2009, in the context of economic crisis and the increasing number of individuals at high risk of poverty. However, Romania is at a significant distance from the expenditures average of 30% of the European Union.

**Figure 1 – Social benefits expenditures % of GDP**

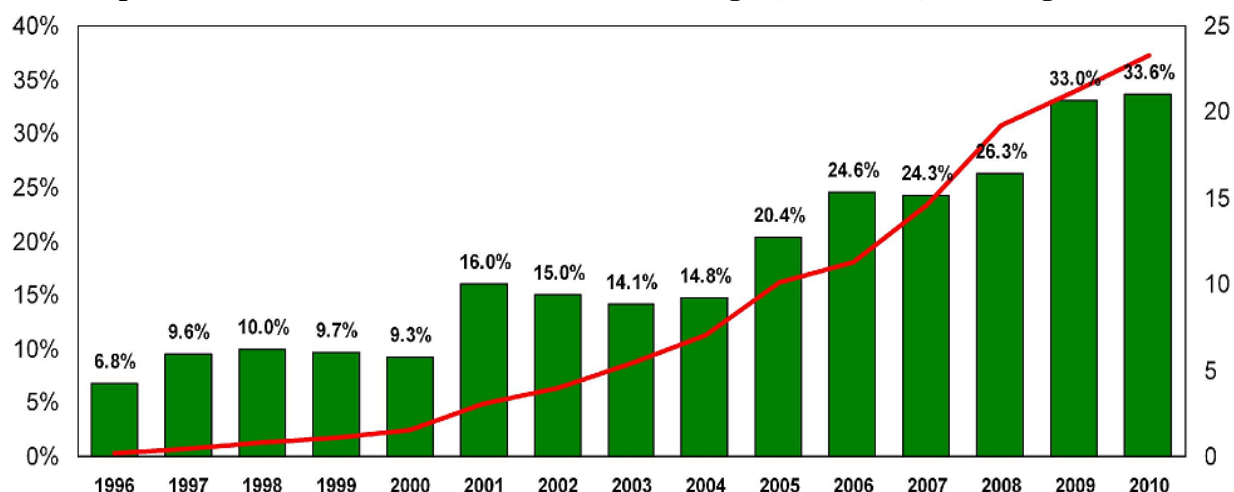


Source: author's representation based on INSSE data

In 2013, the social protection expenditure were intended for old age and survivors, in a proportion of 50.7%, for sickness, health care and disability - 34.7%, for family and children - 9.6% , for unemployment - 3.2% and for housing and social exclusion - 1.7%.

Although the proponents of extending social programs indicate the relatively low level of social protection expenditure in Romania, we should not overlook that they are still high relative to government revenues.

**Figure 2 – Social benefits expenditures % of state budget revenues, vs Total Social benefits expenditure (central and local administrations budgets, billions lei, on the right scale)**



Source: BusinessDay, 2010

Most of the revenues for social protection (53.3%) comes from the Romanian government contributions, 32.1% from the employer's social contribution, 13.8% from social contributions paid by protected persons and 0.9% from other sources (European Social Statistics, 2013 ). Interestingly, the European average of government contribution is 39.8%. Romania is exceeded only by Denmark, Ireland and Bulgaria in this perspective. This number, however, is not surprising, given the position of most Romanian citizens regarding the social responsibility of the state. It appears to be the easiest solution for most Romanians. More than a third of Romanians believe that retirement pensions should be given to those who really need them, regardless of their contribution to the system, respectively that these should be offered equally to every citizen, regardless of their contribution (România și statul social, 2013).

## 2. DEPENDENTS ON SOCIAL PROTECTION

In January 2014, the social assistance recipients were included in these four categories, as follows: state allocation for children – 3.769.856 beneficiaries, family support allowance – 259.341 beneficiaries, child allowance – 170.913 beneficiaries, and social assistance (minimum income) – 241.185 beneficiaries. The social support (minimum guaranteed income) was received by 1.3% of the Romanians, the allocated amount being 55.713.172 lei. According to the Report on Social Support (guaranteed minimum income) issued by the National Agency for Payments and Social Inspection, the evolution of the amounts allocated to social assistance is shown in the following figure.

**Figure 3 – Minimum guaranteed income, amounts paid**

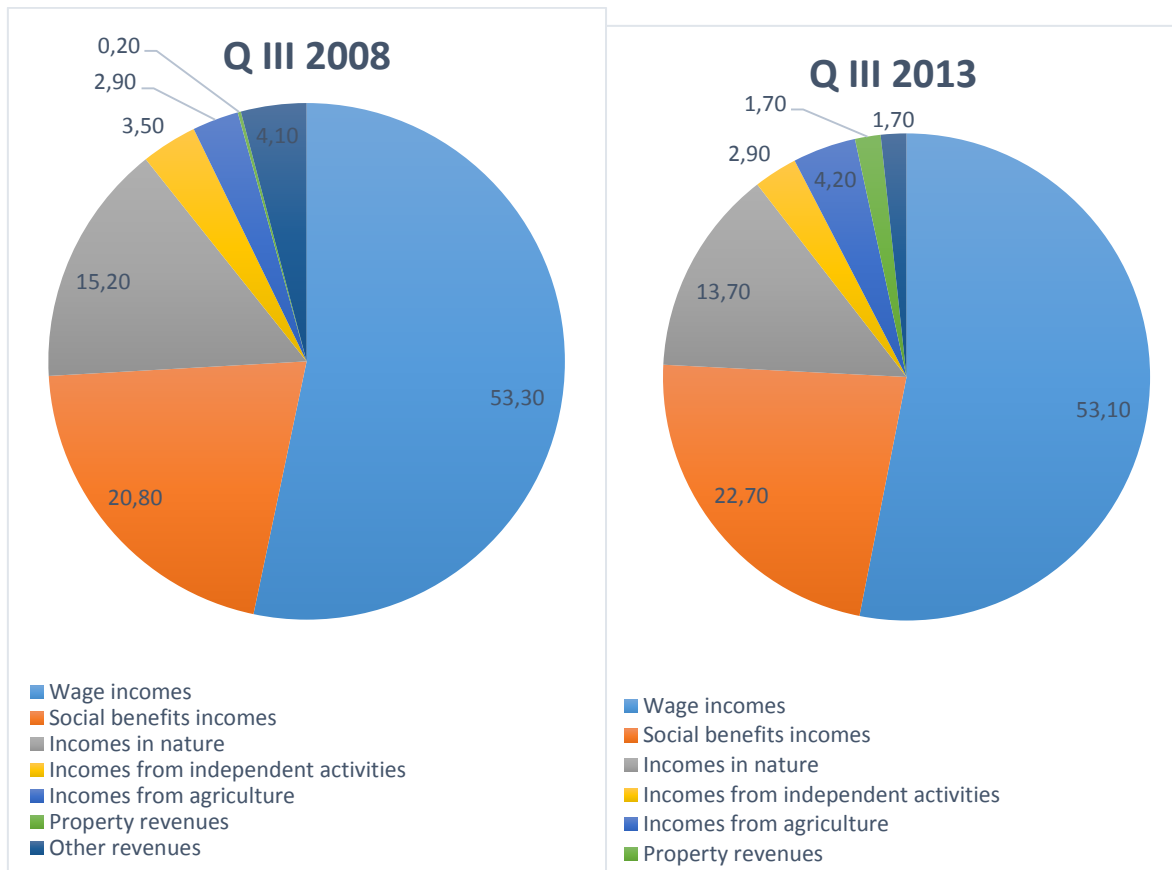


Source: author's representation based on data provided by Agentia Nationala pentru Plati si Inspectie Sociala, 2014

The amount of social assistance is determined as the difference between monthly levels of minimum income and net monthly income of the family or single person, resulting from the calculation sheet done by people in the public social service which completes sheet calculation of social support based on the data from application and statement, from the documents submitted by the applicant and of the results of social survey. The Social Reference Indicator (SRI) value was set at 500 lei in 2008. Thus, the guaranteed minimum income for 2014 is calculated as  $0,283 \times \text{SRI}$  for one person;  $0,510 \times \text{SRI}$  for families of 2 persons and  $0,714 \times \text{SRI}$  for families of 3 persons.

Increasing social protection expenditure in Romania reflects an increase in the weight of this form of income in the total household revenues. Thus, if the wages proportion remained relatively unchanged in total revenues, incomes from agriculture and from various social benefits experienced an increase in the interval 2008-2013, as can be seen in the following figure.

**Figure 3 - Household total income structure**



Source: author's representation based on INSSE data

Despite the increasing dependence of amounts allocated through various channels of social protection, Romania cannot be considered a welfare state because (Benezic and Grosu, 2011):

1. The percentage of social benefits in GDP is among the lowest in Europe;
2. The amounts granted for assisted persons are small, and in some cases even derisory, reported both to the values in other EU countries and to the purchasing power in Romania.
3. The so called social programs are inconsistent, random, do not pursue long-term goals and are not obtaining adequate effects.

In the view of the same authors, Romania is, rather, a populist state, because:

1. Though it has among the lowest percentage of GDP allocated to social benefits, Romania has one of the largest allocations of money it actually receives.
2. No less than 65% of Romanian benefits in some form or another of social assistance. Basically, the state gives us the impression that we are a country of assisted persons, when, in reality, we are a country of self-assisted, through the state. The many forms of social assistance are financed by a large number of taxes. Most of the amounts allocated for social protection come from government revenues.

3. Romanian state grants no less than 202 types of social support, in fact, a long series of electoral measures that have been accumulated from year to year and from election to election. The support is really multiple compared with other countries, and also, by comparison, derisory.

4. In many cases, assistance is given fraudulently, the tracking and allocation laws being not respected.

Although the amounts allocated to different forms of social protection are higher every year, Romania remains among the European countries with the lowest performance in terms of poverty reduction and the risk of social exclusion, as seen in the European Commission report, "Trends in poverty and social exclusion between 2012 and 2013". Romania has a risk of poverty or social exclusion of 41.7% compared to the European average of 24.7%, up 1.4 percentage points. Severe material deprivation reaches 29.9% of the Romania population.

**Figure 4 – Development in main social indicators (2008-2012)**

	Risk of poverty or social exclusion		At risk of poverty rate		Poverty threshold change (2011-12) (%)	Severe material deprivation		Jobless households		Anchored poverty rate (2008)		Nowcasted at risk of poverty rate		Poverty threshold change (2011*-13*) (%)
	2012. %	2011-12 change (pp)	2012. %	2011-12 change (pp)		2012. %	2011-12 change (pp)	2012. %	2011-12 change (pp)	2012. %	2011-12 change (pp)	2013*. %	2011*-13* change (pp)	
EU27	24.7	0.4	16.9	0.0		9.9	1.1	10.3	-0.1	18.2	1.7			
EU28	24.8	0.5	16.9	0.0		9.9	1.0	10.3	-0.1					
EL	34.6	3.6	23.1	1.7	-14.3	19.5	4.3	14.2	2.2	35.8	15.7	23.7	1.8	-19.7
CY	27.1	2.5	14.7	-0.1	-3.4	15.0	3.3	6.5	1.6	17.6	1.7			
IE**	29.4	2.1	15.2	0.0	-4.9	7.8	2.1	24.2	1.3	21.7	6.2			
IT	29.9	1.7	19.4	-0.2	-2.8	14.5	3.3	10.3	-0.1	22.7	4.0	18.2	-0.2	2.3
AT	18.5	1.6				4.0	0.1	7.7	-0.4			11.8	-0.6	2.5
LU	18.4	1.6	15.1	1.5	-2.1	1.3	0.1	6.1	0.3	17.5	4.1			
RO	41.7	1.4	22.6	0.4	-2.7	29.9	0.5	7.4	0.7	19.9	-3.5	21.2	1.1	3.7
UK	24.1	1.4	16.2	0.0	0.8	7.8	2.7	13.0	1.5	21.3	2.6			
HU	32.4	1.4	14.0	0.2	0.6	25.7	2.6	12.8	0.6	14.0	1.6			
MT	23.1	1.0	15.1	-0.5	2.1	9.2	2.6	9.0	0.1	13.8	-1.5			
PT	25.3	0.9	17.9	-0.1	-3.7	8.6	0.3	10.1	1.8	19.4	0.9	17.3	-0.8	-4.7
BE	21.6	0.6	14.8	-0.5	-2.4	6.5	0.8	14.1	0.3	14.3	-0.4			
ES	28.2	0.5	22.2	0.0	-3.6	5.8	1.3	14.3	0.9	28.1	7.3	20.9	-0.2	-2.0
SI	19.6	0.3	13.5	-0.1	-1.7	6.6	0.5	7.5	-0.1	13.5	1.2			
EE	23.4	0.3	17.5	0.0	2.6	9.4	0.7	9.1	-0.9	24.2	4.7	17.7	0.7	13.4
BG	49.3	0.2	21.2	-1.0	-4.2	44.1	0.5	12.5	1.5	18.6	-2.8			
DK	19.0	0.1	13.1	0.1	-1.6	2.8	0.2	11.3	-0.4	13.0	1.2			
CZ	15.4	0.1	9.6	-0.2	-1.8	6.6	0.5	6.8	0.2	8.7	-0.3			
HR	32.3	0.0	20.5	-0.8	-4.6	15.4	0.6	16.2	0.8					
SK	20.5	-0.1	13.2	0.2	5.9	10.5	-0.1	7.2	-0.5	6.0	-4.9			
FR	19.1	-0.2	14.1	0.1	0.8	5.3	0.1	8.4	-1.0	13.8	1.3	13.9	-0.8	-0.3
DE	19.6	-0.3	16.1	0.3	0.7	4.9	-0.4	9.9	-1.3	16.0	0.8	15.5	-0.2	3.0
PL	26.7	-0.5	17.1	-0.6	0.2	13.5	0.5	6.9	0.0	11.8	-5.1	17.8	0.2	5.0
SE	15.6	-0.5	14.1	0.1	3.0	1.3	0.1	5.7	-1.2	10.8	-1.4			
LT	32.5	-0.6	18.6	-0.6	9.0	19.8	0.8	11.4	-1.3	27.4	7.4	21.4	0.0	9.9
NL	15.0	-0.7	10.1	-0.9	-1.5	2.3	-0.2	8.9	0.0	10.7	0.2			
FI	17.2	-0.7	13.2	-0.5	0.8	2.9	-0.3	9.3	-0.7	11.6	-2.0	12.1	-0.3	4.6
LV	35.1	-5.0	19.4	0.4	3.7	24.0	-7.0	10.0	-2.6	35.0	9.1	21.4	0.9	9.4

Source: EU Employment and Social Situation, 2014

If it is considered not being yet demonstrated that it would be possible to obtain a low level of poverty without substantial public expenditure (Cantillon, 2006), the same is true in reverse. It is not demonstrated that an increase in government spending is the condition for poverty reduction. In such logic, we can say that the solution to eliminate poverty stands in the hands of the authorities that could allocate all their spending in this regard. As, otherwise, the same is true in terms of inflationary measures to provide everyone additional amounts of money, as if that would be the real

solution against poverty. We live in a world of scarce resources and of competition for access them. The only solution to provide more for many is no other than increasing production and competitiveness. Only through economic growth can be offered more and better paid jobs. A first step to stimulate industrial production would be the reduction of fiscal pressures. In this way, those without jobs could hope to achieve real and sustainable support from the same individuals, as entrepreneurs of this time, and not just taxpayers. Moreover, we cannot know, based on certain calculations, if social services could not be produced with much lower costs by the free market (Păun, 2011). Given the not to be neglected number of private charitable association that seems to significantly support the reintegration into society of abandoned children and persons with disabilities or sustain helpless elderly, the "competition" in social protection could make them win the case. It should not be overlooked that many social assisted persons turn to private mercy (begging) because that they can get so much more than the gains offered by the state.

## CONCLUSIONS

The question that remains is whether the state can provide social protection to all those without jobs and ensure guaranteed minimum income without jeopardizing, through increased fiscal pressure and inflationary policies, the urge to work of the others. What often gets overlooked by the officials concerned with the standard of living of their voters is that their support is maintaining in a vicious circle. On the one hand, they propose measures to support the more disadvantaged social categories, which imply an additional fiscal effort. The tax increases, in addition to their unpopularity, will involve a decrease in earnings, consumption and living standards for the individuals with the lowest income. As a result, many people will need social protection. If the budget deficit will be covered by monetary expansion, so by inflation, the number of those adversely affected will certainly be significant. It is known that any monetary growth produces, through Cantillon effect, a transfer of wealth from the last recipients of monetary growth to the first (government administration, banks, and beneficiaries of public works). As a result of price increases, in leaps and uneven, many individuals will be able to buy less, which means a reduction in their standard of living and, why not, a growing number of those who will be included in the category of people threatened by poverty. In this vicious circle, where state measure to poverty reduction complements other interventions, of the same state, which has reduced the livelihoods of individuals, should be included the minimum wage. Although it is designed to be a measure of protection for the employees with the lowest income, the imposition of such a price threshold discourages, actually, the employers. Setting the free market price of labor will make certainly that



the number of jobs offered and those willing to work for wages below the minimum threshold to be higher. As a result, many social assisted would become responsible for obtaining their own incomes, reducing their relationship of dependency to paternalist state.

As very correctly Thomas Malthus noticed in the end of the XVIII<sup>th</sup> century, "poor laws" tend to increase population without increasing the amount of food (resources) to support it. Families assisted by the state tend to become more numerous, without worrying too much of their livelihood except those offered by authorities. In practice, often, social protection policies create moral hazard and the widespread sentiment that there will always be someone who will give a piece of bread and a roof to those that sometimes make too little for that. In the words of Malthus, these policies "create the poor which they maintain."

It is important to know the causes of poverty, not to disguise its consequences. The support of those in need does not have to mean the creation of a kind of dependence on the generosity of others. This, more as the "generosity" is not manifested through private charity, but through government transfers, through redistributive income measures in society, creating high risk for the manifestation of adversity of "assistants" to those "assisted."

The reduction of amounts for social protection programs is not certainly an appropriate solution. The correct direction is to reduce the number of state support dependent. For this, a measure having good results would be the conditional aid offered to those able to work by the provision of certain community activities. But the most fruitful way to reduce the number of social assisted people remains cultivating family values, mutual responsibility between its members, awareness of the inherent uncertainties about the future, prudent behavior, savings and non-dependence.

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# "THE EUROPEAN DREAM"- A MORE SOCIAL EU. FROM THE ECONOMIC AND FINANCIAL CRISIS TO EUROPE'S 2020 AGENDA

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**Abstract:** *Major challenges have been created by the unprecedented international economic and financial crisis (starting Autumn 2008) with significant impact on the EU's social sector calling into question not only the banking sector, but also many of the achievements that had already been taken for granted in the EU like the Schengen Area or the Euro zone. This article argues that, in the last five years, the impact of the crisis throughout Europe has become more evident on the employment market, the relation of the majority with the immigrants, minorities and the marginal members of the society. Our approach underlines that there is a real need for increased European trans-national socio-economic cooperation and policies in order to deal with the causes of the crisis and such a "coherent European exit strategy" could be Europe 2020 Strategy.*

**Keywords:** EU policy-making; economic crisis; immigrants; social policy; trans-national cooperation.

**JEL Classification:** O52; E32.

## INTRODUCTION

According to many economists, the financial crisis that hit the global economy since the summer of 2007 is without precedent in contemporary economic history, with significant impact on the EU's social sector. Its size and extent are breath-taking questioning not only the banking sector, but also many of the achievements that had already been taken for granted in the EU like the Schengen Area, the Euro zone or the EU integration process. Although the crisis has many features in common with similar financial-stress driven recession episodes in the past (see the Great Depression of the 1930s), its socio-economic and security impact throughout Europe is far more evident on the employment market, the relation of the majority with the immigrants, minorities and

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the marginal members of the society. This situation calls for an integrated trans-national approach to deal with the socio-economic effects of the crisis and this strategy could be Europe's 2020 Strategy.

## **1. THE EFFECTS OF THE ECONOMIC CRISIS ON THE EUROPEAN UNION**

Far from being over, the European crisis is getting worse and its socio-economic and security effects are becoming more visible due to “disturbing levels of poverty and deprivation among children and youth” according to an article from *The Guardian* (Smith, 2014). The causes of the economic crisis resemble those of other events of this type, like “long periods of rapid credit growth, low risk premiums, abundant availability of liquidity, strong leveraging, soaring asset prices and the development of bubbles in the real estate sector” (European Commission, 2009, p.1).

Although EU politicians talk about overcoming the crisis, austerity and economic realities of different countries severely affected by it, such as Romania, Greece, Bulgaria, Portugal, Spain, Italy or Cyprus come to contradict the EU political optimism / populism. In Cyprus, the rate of poverty among citizens aged over 65 reached 29.3% (Smith, 2014), while in Greece the situation is even worst.

The bankruptcy of Greece posed many questions in term of managing inter- and transnational relations. Furthermore, it contributed to the public perception of the EU as an oxygen mask that can resuscitate any patient (Bunce, 2003), regardless of how serious the problems might be. In this context, the internationally acknowledged coma of Greece is both relevant and harmful, since it leads to a destructive argument that might encourage other countries to follow the pattern: if there were bailout plans for Greece, no matter how serious their financial problems were, there should be a way out for other EU members, as well.

The country's political scene has undergone important changes, causing the rise and popular support for extreme right-wing parties, hasty measures and populist discourse. This crisis has also the potential to undermine all institutions and progress made by the European Union in order to achieve the "United States of Europe" (Ivan, 2009).

Considering the EU the saving solution to all its citizens' problems, even to the deficient internal management is not a new issue. The European officials and the institutions they represent have often been perceived as a viable alternative to the slow, corrupt and incompetent leadership at national level. Still, the recent years' development has proved some failures in terms of European consolidation. To begin with, the lack of mechanisms of control on the Member States and Greece is a particularly pertinent example in this respect, since European officials have failed to identify the

real problems, being target of the downright deceit of the Greek authorities. The absence of such procedures hampers the avoidance of further similar cases, threatening, at the same time, the security of the EU's countries. The positive aspect is that all that speculation occurred immediately after the crisis has not emerged into something real, remaining pure supposition. Moreover, the EU does not seem to react when citizens of two of its member states (the United Kingdom and the Netherlands) are prejudiced following the Iceland banking collapse, taking into consideration the wider context of Iceland's accession process to the EU (BBC News , 2011).

Another aspect that indicates the vulnerability of the EU is the way it organizes its expenditure. The financial report of the European Court of Auditors published in November 2010 indicates major errors of calculation of the 2009 spending on agriculture, structural funds, research, education and foreign aid, categories that bring together more than 90% of the EU budget (European Court of Auditors, 2010). These errors can be traced back to the activity of the Member States, where irregularities are annually observed by the regulatory authorities in Luxembourg. Still, the sum that the European Commission recovered from inaccurate or misleading project implementation in 2009 was with approximately 400 million larger than in the previous year. Regardless of the reasons underlying such a process, the improvement of the management of EU expenditure can avoid or at least diminish further issues in this respect.

The examples presented above illustrate how the EU has neither the self-sufficient potential nor the plans for problem-solving at macro level. The existence of disruptions is imminent within such an institution as the EU, but it is of the utmost important how these issues are dealt with. We argue that there is no reason for a country with an ailing economy to wait for the saving intervention of the EU. European support should be useful, but not addictive.

## **2. THE CONSEQUENCES OF THE CRISIS ON THE SCHENGEN AREA**

The consequences of this crisis are not totally identifiable because it has not finished yet and its effects extend beyond national borders or development sectors. On the other hand, it is possible to identify some outcomes arising from the economic recession. The magnitude and the consequences of the crisis emphasized the need for a unified reaction and for political coordination between EU's member states from a geopolitical perspective since the EU has to act as a single political actor (McNamara, 2010, p.22).

The severe financial instabilities and the strong economic recession that brought the political ascension of populist anti-European parties alongside with the resurgence of nationalism and protectionism are also affecting the Schengen accession process\*.

Amid economic crisis, the increased levels of unemployment, inflation and cuts in the budget in several sectors, governments have brought to the forefront of political discussions the issue of illegal immigration and, consequently, the agreement of free movement. The main concern was the wave of unemployed from the states of Central and Eastern Europe, mainly Romania and Bulgaria. At the same time, the severe crises in Greece, Ireland and Portugal began to raise questions not only about the Schengen Area but also about the euro zone survival (Arestis & Sawyer, 2012, p. 3). Experts underlined the fact that an important cause of the euro crisis was the EU's lack of competence in harmonizing national economies with different levels of competitiveness and various levels of financial difficulty (Corbu, Ștefăniță, 2013, p.8).

In this context, the Schengen integration process (based on the Schengen Agreement<sup>†</sup>) faced substantial mutations, with repercussions on the very idea of participation, inclusion, or having full rights within a form of security based on entirely different principles.

Lately for that matter, due to national security reasons, some of the Schengen Member States have reinstated controls at the internal borders for a limited period, especially on the occasion of certain events. In this respect, Norway applied these measures during the Nobel Prize ceremony or Poland, which conducted such activities during the European Football Championship. Denmark, followed partially by France and Germany tried to unilaterally impose internal border controls (Câmpeanu, 2013).

In 2013, after the Boston attacks in the United States, the Schengen Member States took into consideration an increase in security at the internal borders. In this context, the European Union decided to reform the Schengen Agreement, so that since 2014, the Member States will be able to reinstate controls at the national borders for a maximum of 2 years. Thus, an emergency mechanism was adopted which can be activated by the Schengen states fearing a massive immigration wave.

This mechanism has increased the wave of xenophobia, as demonstrated by French case: the ascent of the National Front in local/national polls, the anti-Roma campaign and the nationalist discourse.

The decision was communicated to the European Commissioner for Internal Affairs, Cecilia Malmström. She stated that the Member States, the European Commission and the European

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\* We are referring here to Romanian and Bulgarian cases and not to Cyprus case (who can't join because of the so-called Republic of Northern Cyprus, which is not subject to EU rules).

<sup>†</sup> *The Schengen Agreement* was signed between the Governments of the Benelux Economic Union, the Federal Republic of Germany and the French Republic states on the gradual abolition of checks at their common borders in Schengen on the 14<sup>th</sup> of June 1985.



Parliament reached a common view in this respect. The new regulations will come into force after a transition period in the fall of 2014. Nevertheless, the agreement is required to be approved by the plenary of the European Parliament and The Member States, but the gesture can be only considered a formality at this point (Diaconu, Colintineanu, 2013).

The reform allows for the possibility of internal border controls to be applied only in exceptional cases and only as a last resort, when a European state can no longer protect its external borders and when the internal security of the European states is threatened, unilateral endeavors being forbidden by the new project.

In an optimistic scenario, the crisis might prove to be a catalyst for positive socio-economic and political changes, but at the same time it can turn into a high risk political instrument called “the fear of immigrants”. In political discourses, through amalgamation and contextualization, themes such as foreigners, immigrants are identified as the cause of several internal socio-economic and security-related issues, in an attempt to cover the policymakers’ failure in identifying viable measures to overcome the economic crisis.

### **3. THE EFFECTS OF THE LABOR MARKET AND THE MEASURES TAKEN TO FIGHT AGAINST UNEMPLOYMENT**

The social and unemployment situation within the EU remained critical in the fourth quarter of 2012, the number of jobs decreasing and the rate of unemployment rising globally, while the financial situation of households was still severe, according to the latest Quarterly Bulletin of the European Commission on employment and social situation. In some Member States, the negative effects of budget cuts and increased taxes upon employment and living standards are more and more apparent. The statistics also show that the net immigration from outside the EU decreased, and furthermore, the crisis has a negative impact on the birth rate (European Commission, 2013a).

Unemployment continued to rise in January 2013, affecting 26.2 million people in the EU (19 million in the Euro zone), i.e. 10.8% of the active population (11.9% in the Euro zone). The gap in terms of unemployment rate between the South/periphery and the North of the Euro zone reached an unprecedented value of 10 percentage points in 2012. The EU GDP contracted by 0.5% during the fourth quarter of 2012, being the largest decline since the beginning of 2009. The global level of employment in the EU decreased with 0.4% in 2012, positive developments being registered only in respect of part-time jobs. Only in the fourth quarter of 2012, the level of employment decreased with 0.2% as compared to the previous quarter (European Commission, 2013a).

In March 2013, the European Council confirmed that the tackling of the unemployment issue and the social consequences of the crisis represent a major priority of the EU policies as well as the national state policies. Thus, in February 2013, the Commission presented a set of measures regarding social investments (European Commission, 2013b). This set, which is an integrated strategic framework taking into consideration social, economic and budgetary differences between the Member States offer them guidelines for a greater efficiency and effectiveness of the social policies in response to the challenges they face. As a result, they focus on: adapting social protection systems to the needs of the people going through critical stages of life; additional measures need to be taken to reduce the risk of social exclusion and thus avoid greater social costs in the future; simplified and better oriented social policies, targeting new adequate and sustainable social protection systems; some states achieve better results in the social domain than others do, despite the fact that they have similar or smaller budgets, which proves that it is possible to streamline social policy spending; modernizing active inclusion strategies applied by the Member States; childcare services and education with affordable and quality costs; preventing premature school dropout; professional training; support for employment, housing assistance and accessibility to medical services are all policy areas with a strong social dimension.

The set concerning social investments is closely related to the European platform regarding the fight against poverty and social exclusion. This initiative provides the Member States with guidelines and favorable directions for the necessary national reforms to achieve the common objectives agreed upon in the 2020 Europe Strategy (smart, sustainable, inclusive growth with greater coordination of national and European policy\*).

#### **4. EUROPE 2020 – A COHERENT EUROPEAN EXIT STRATEGY?**

Taking for example Spain, in the context of the economic crisis, the number of people at risk of poverty or social exclusion increased to 12.37 million in 2011 (27% of the general population, 30.6% of children). In 2011, the share of people living in households with low labor force increased to 12.2%, while severe poverty reached 3.9%. The rate of unemployed people also rose to 40.4%, and poverty in the labor field (among workers) to 12.3%, this being the third highest level within the European Union (Social Europe. Current Challenges and the Way forward Annual Report of the Social Protection Committee 2012, 2013, p.220).

In this context, in terms of social inclusion, Spain's objective is to reduce the risk of poverty for 1.4-1.5 million people by 2020, using the indicator developed by the European Commission,

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\* For details about *Europe 2020*, see [http://ec.europa.eu/europe2020/index\\_en.html](http://ec.europa.eu/europe2020/index_en.html).

according to which the European Union is trying to reduce the risk of poverty and social exclusion for 20 million people by 2020. This objective is closely related to employment and educational goals set by Europe 2020, namely 75% of the 20-64 year-olds to be employed and at least 40% of 30-34-year-olds completing third level education (*Europe 2020 targets*).

Each year in April, every EU member state has to submit two progress reports (Stability/convergence programmes and National reform programmes ) to explain what they are doing to move closer to the Europe 2020 national targets. Dialogue between national, regional and local government will bring the EU's priorities closer to people, strengthening the feeling of ownership needed to get everyone involved in moving Europe towards the 2020 targets\*. In the context of bringing EU much closer to the people, the civil society is being actively involved in fulfilling the Europe 2020 goals by adopting them as being their own.

According to the 2012 country progress reports, in the context of the prolonged crisis effects, the situation in terms of national employment rates target varies from country to country (from 62.9 % in Malta to 80 % in Denmark, the Netherlands and Sweden) (*Europe 2020 Targets: Employment Rate*, p.2) with direct consequences on the general Europe 2020 goals. In this situation the EU member states shall endeavor considerable effort to reach the target of 75 % proposed by the European Commission in March 2010.

In this context, the success of the Europe 2020 Strategy depends on an integrated and coherent approach to all areas of action, with a special focus on social, economic and employment, along with a close collaboration between all levels of government, relevant stakeholders and civil society.

As we saw during our analysis, the economic crisis managed to challenge many of the achievements that had already been taken for granted in the EU like the Schengen Area, the Euro zone or the EU integration process with important socio-economic and security impact. Another aspect worth mentioning is the effect on the relation of the majority with the immigrants, minorities and the marginal members of the society.

In a Europe under economic crisis and a European Union under identity crisis, the immigrants, the unemployed, the marginal members of the society continue to be the ideal scapegoats in political discourses highlighting the lack of real social EU integration. Since the process of European integration was mostly based on economic instruments, the recovery of the economic situation is mandatory for continuing the Europeanization process (Corbu, Ștefăniță, 2013, p.6).

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\* For more details see [http://ec.europa.eu/europe2020/who-does-what/member-states/index\\_en.htm](http://ec.europa.eu/europe2020/who-does-what/member-states/index_en.htm)

## CONCLUSIONS

Hence, we argue that the role of the EU within the international system is undoubtedly an important one, but poorly shaped so far. The significant degree of heterogeneity among member states further influences the decision-making process when it is expected from the EU to act and react as a coherent actor on the world stage. The economic crisis that broke up in 2008 was a real test for the EU's capability to successfully manage the relations within it. The problems of some Member States and their further appeal to receive financial support from the richer ones (especially from Germany) have weakened its ability to aggregate various national interests and to create a common European vision. The economic crisis managed to challenge many of the achievements that had already been taken for granted in the EU like the Schengen Area, the Euro zone or the EU integration process with important socio-economic and security impact.

In this context, the 2020 European Strategy can be a viable solution for the Union to escape the crisis and can contribute to the "European dream" – a Europe closer to its citizens, if it continues to publish actual measures, implementation plans and budgetary provisions, consultations and coordination between various institutional actors. As for the rest, most actions are a continuation of already existing policies, programmes and networks.

It is time for the challenge of change in EU!

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# CHRISTMAS – FROM RELIGIOUS TO LAIC. THE STIMULI THAT “SELL” CHRISTMAS

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**Abstract:** *Romania has been a country with a strong cultural background since ancient times. The Romanian people, born Christian, cherished holy days as part of its daily life, Christmas included. From a religious viewpoint, Christmas is one of the twelve holy days celebrated by the rulers of Byzantine Churches, being considered the third great holy day after Easter and Pentecost. However, in relation to the field of marketing, Christmas is a popular holy day, hence an occasion to increase sales. At the level of financial advantages provided, this holy day is the most important one, not only for retailers, but also for the other categories of merchandisers. There are various ways to celebrate this feast: parties, family gatherings, going to church and gifts. Christmas is a religious feast, supported by some people and rejected by others for having been turned into an occasion to spend money and party, thus ignoring its sacred character.*

*Based on the aspects above as premises, this paper aims at shaping the buyer's behaviour during Christmas time. Therefore, our aims are the identification of those in-store stimuli that create the atmospherics desired by customers when they take the decision to shop in a Christmas context. Another aim is to shape the buyer's behaviour in choosing Christmas gifts, considering two variables: gender and age. Last but not least, we aim at highlighting the period in which in-store Christmas stimuli have been perceived, whether this coincides with the one when first gifts are bought or not, which was the average budget allocated or the moment people became aware they had to do the shopping for this holy day.*

*The methodological approach includes both a qualitative approach, by using the structured interview and a quantitative approach by conducting a survey based on the snowball sampling method. The population investigated is aged between 25 and 65, lives in the urban area, is married and it was compulsory for the respondents to be part of the families that actually shop for Christmas. The conclusions drawn from this research lead to a lay environment of Christmas holidays and are useful to all retailers interested in maintaining a good relationship with their customers, build consumer goodwill and boost sales during Christmas time.*

**Keywords:** Christmas gift; in-store stimuli; Christmas in stores; gender differences in choosing a gift.

**JEL Classification:** D12.

## INTRODUCTION

Culture is a component of the macro environment of a society which strongly influences buyer's decisions. Every one of us grows in a society (Kotler et al., 1999) within a system of values, perceptions, wishes and ways of behaviour acquired from family or other institutions. The period in which these characteristics are acquired and developed is childhood and the process is achieved through socialising (Solomon et al., 2006). Religion and language have been bridges over centuries that contributed to the consolidation of the Romanian people. The holy days of our people are

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mainly religious ones, the religious thus being intertwined with the lay. Lay feasts bear a part of the religious sacred vein which is impregnated in the life of people. Thus, our mainly lay character has prospered in its intermingling with the religious for centuries.

These religious feasts give merchants an occasion to make a profit; however, since competition is fierce, differentiation needs to be achieved through less popular methods used insofar. One of them could be a stimulation of the senses during the shopping experience by bringing into play elements such as specific scents of pine or cinnamon, playing Christmas carols and songs or using decorations with a strong impact on the store's customers. The experience at the selling point has to make the customer feel the desire of coming back there or influence customers' decisions, to arouse the feelings of wealth and generosity that come along with the holiday. Christmas is a unique occasion for consumption which is strongly related to the habit of offering gifts as part of the hedonic character. In its simplest form, a gift is generally an object transferred from a person to another. The tradition of making gifts is universal, yet it becomes particular from a culture to another one according to specific rituals. The importance of this habit consists of four elements (Laroche et al., 2000) which differentiates it from other opportunities to make gifts. First of all, Christmas has strong significances from a cultural viewpoint. Second, it is more promoted by mass media than any other holy day. Furthermore, strong marketing is brought into play and, last but not least, reciprocity is expected under the circumstances.

A study carried out by Michel Laroche et al. (2000) on the buyers' behaviour of Christmas gifts showed that this differs according to gender. Thus, men have the tendency to take the shoppers' advice and ask for information, whereas women pay more attention to product specifications and general aspects of the store. In addition, by its nature, a woman is more sensitive to external stimuli, especially those that are meant to awake the senses, hence the marketing strategies during winter holidays which need to be tailored to each customer's needs, as much as possible.

In America (McNary, 1999), Christmas is brought into stores since the beginning of September or even August, most of the stores starting to put on their decorations and exhibit articles on sale from this period. But their decision is most often not approved by customers. They would rather enjoy the holiday when it comes in December. But on the other hand, American retailers claim that sales are good even in September. This tendency seems to slowly influence Romanian marketers that have brought the Christmas spirit earlier and earlier in their shops for the past years.



## 1. PERCEPTION OF CHRISTMAS STIMULI

Perception is the build-up of several stages such as information gathering, its organisation and interpretation. The selection of information is based on the five senses, either isolated or in combination. For instance, we visit a store before Christmas and when we enter it we feel a strong scent, we hear music, we notice the special decorations and feel the excitement preceding this holiday.

Then, all this information is organized according to the principle of long-term memory to find other categories of stimuli to fit the ones they have just been subjected to. In the example above, once the scent attributes – pine, cinnamon, orange – and sound – carols are identified, we compare the experience in the shop with the one we had in the previous years.

Then interpretation is brought into play to help us establish whether the information we received gave us a nice feeling and the extent to which it is relevant to us. Thus, we may conclude, in our example, that the shop atmospherics is alluring and we love it more than the one from another shop we visited but that we do not like the carols playing.

As previously mentioned, despite our desire to be rational in the act of shopping, we often fall prey to emotions. This happens especially during Christmas, a time of many feelings. Peter Clarke's study (2007) pointed out the fact that celebrating Christmas and the habit of making gifts render this holiday a unique occasion for consumption led by feelings such as excitement, happiness, pride or nostalgia.

Generally speaking, people have positive feelings all the time, they put their Christmas feelings on a positive-negative continuum. While children get excited during this holiday as they benefit materially from gifts, parents' feelings are more moderate, considering their previous experiences, moral, cultural and ethical values on the way of celebrating or financial capacity. An overall vision of celebrating Christmas suggests that this period is a mix of traditions, rituals and shopping.

Good will, generosity, altruism and devotion are the terms employed by sociological literature to generally describe the Christmas spirit. Moreover, these feelings are often used as an 'excuse' for consumption activities during the winter holidays. An essential Christmas trait is to offer gifts to children and not only to them and took shape along time as a true ritual. The feelings that accompany winter holidays will contribute to an increasing sensitivity in consumers to the numerous marketing stimuli they will be exposed to. Retailers have to be aware of these details and use as many elements as possible to draw customers' attention and influence their decision for

buying from the selling point. But they have to avoid the other extreme, that of using a too larger number of stimuli as they may create confusion and discomfort.

From a commercial viewpoint, the most important activities that contribute to an increase in retailers' revenues are buying expensive gifts and products for the Christmas dinner. Firstly, it will be harder to take a decision as seeking a gift may take longer, and the use of stimuli could make the shopping experience pleasant. Despite all these, the way of choosing a Christmas gift differs according to certain variables such as buyers' age or gender.

## **2. OBJECTIVES AND RESEARCH HYPOTHESES**

In a Christmas context, the use of sensorial stimuli such as scent, music, decorations, having the possibility to taste products and implicitly touch them, may prove extremely efficient in inducing hedonic shopping. From the multitude of stimuli that invade us when we enter a shop, it is necessary to research the ones that awake our senses and are considered when the decision of what to buy from a store is made.

At the same time, another key problem is the behaviour of those who buy these gifts as integrating part of celebrating Christmas, and for retailers it is important to understand it, so as to apply an appropriate marketing strategy for each segment in part. Further to the analysis of literature and previous research, the objectives of this paper are the following:

***Objective 1:** Identification of Christmas stimuli that make up in-store atmospherics and are considered in the buying decision;*

***Objective 2:** Relevation of the effects of sensorial stimuli in shops on buyers;*

***Objective 3:** Understanding the buying behaviour of Christmas gifts according to people's age and gender;*

***Objective 4:** Deciphering other elements of buying behaviour during Christmas (the moment we feel the need to shop, the time we need to brief ourselves on the matter or the time frame in which the first Christmas gifts were bought);*

***Objective 5:** Identification of the budget allocated to Christmas shopping for 2013 and the extent to which it was respected.*

Turley and Milliman's study (2000) which brought together the results of over 60 pieces of research conducted on in-store atmospherics pointed out that sensorial stimuli influence buying behaviour. Even though there are many categories of variables which lead to a decision in the store, the way atmospherics is built by means of stimuli may have its effects. As a result, the hypothesis to be tested is the following:

*H<sub>1</sub>: sensorial stimuli (music, scent, setting, touch and product tasting) influence the buying decision;*

Positive effects on the buying process created by sensorial stimuli and presented in the work of these authors, as well, are various: spending more time, a larger amount of money, creating a favourable image of the store, the wish to explore the shop and return to it. Most research started from the stimulus organism response theory that leads to two types of behaviour, be it attraction or rejection from a certain in-store stimulus. The resulting hypotheses are the following:

*H<sub>2</sub>: in-store sensorial stimuli make us spend more time and money than intended and have a more favourable attitude towards the store; (Turley and Milliman, 2000)*

*H<sub>3</sub>: in-store stimuli have a significant influence in evaluating performance from the selling point in the desire to come back and explore the store. (Turley and Milliman, 2000)*

For these two hypotheses, we assumed that the answers I would receive from the questioned ones would be similar to those revealed by previous research. The assumption is that the effects mentioned above will show more on women than men as the former are more sensitive to marketing stimuli than the latter.

With respect to the buying behaviour of Christmas presents, Michel Laroche et al. (2000) conducted a study which revealed that there were three categories of information that buyers used to take a decision. This is general information, specific information and the one coming from the sellers.

His research showed that men used to take sellers' advice when they looked for gifts, whereas women were willing to take more time before making a choice. Thus, they pay more attention to product specifications, store display, rarely asking the personnel for help. As a result, the hypothesis to start with is the following:

*H<sub>4</sub>: women pay more attention to the process of looking for a Christmas gift than men who use to ask the sellers about it. (Laroche et al., 2000)*

Also, another study on the buying behaviour of gifts conducted in 2003 (Laroche and Cleveland, 2003) showed that older people were more likely to take the advice of store employees than younger ones. Our sample comprises four age intervals, hence the possibility to check whether there are differences between these categories of people. Thus, another hypothesis to be tested in this research is the following:

*H<sub>5</sub>: the older the person, the higher the chance to ask for help from the store personnel to look for a gift.*

This research did not only start from previous hypotheses, but also aims at revealing any relevant data that could be used as premises for other research. In this way, I wanted to check the

extent to which the period we become aware of Christmas's coming to shops coincides to the one in which the first gifts were bought for this occasion. Moreover, given the present economic context, the budget allocated to Christmas shopping is important especially since the average dropped considerably in 2009 and, as a result, marketers need to know the extent to which it was respected and the main categories of people who are offered gifts on this occasion.

### 3. METHODOLOGY

This paper is a descriptive piece of research which checks the hypotheses established. It is also exploratory in nature since it will analyse the buying behaviour during Christmas without starting from previously tested hypotheses. The behaviour analysed may differ from the one people show during the rest of the year from several points of view: motivation, emotions, allocated budget, sensitivity to store stimuli, etc.

**Research methods:** The ways previous research has been conducted ranged from laboratory experiments that stimulated the buying experience in the stores to research conducted in certain selling points. Moreover, self-administered questionnaires have also been carried out, not to mention qualitative techniques such as focus groups or in-depth interviews. Starting from previously employed research methods correlated with the restrictions of this research, we chose two methods: a qualitative one based on structured in-depth interview and a quantitative one, through survey. Each of them had different purposes: the former was used for a better understanding of the respondents' preferences and opinions and to contribute to the drafting of questionnaire for the second stage. Quantitative research will serve the checking of established hypotheses and provision of relevant numerical data.

Prior to the investigation, a secondary piece of research has been conducted by using various information sources such as Anelis databases available at "Mihai Eminescu" Central University Library of Iași and the ones at The National Institute of Statistics. The keywords in the search were the following: *atmospherics, retail environment, effects of music, scent, display, colours in retail, Christmas gift, in-store stimuli, gift search, Christmas in stores, gender differences in choosing a gift*. After the analysis of these secondary data, the primary research method has been chosen to meet the intended aims.

**Population investigated:** The population selected to conduct primary research is represented by the inhabitants of the city of Piatra Neamț. According to The National Institute of Statistics, the results of the census organised at the end of 2011 point out that the number of households in Piatra

Neamț is of 34.209. The current research took family as a survey unit and the respondent was the person in the family that bought gifts for Christmas.

The variable we are interested in, as far as this survey is concerned, is the respondent's age which should be between 25 and 65. The persons were divided into four categories, each of them being equally represented. Gender was not considered to be variable for the sampling process as by means of this survey, it was intended to speak to the person that made shopping for Christmas and was implicitly subjected to in-store stimuli. As a result, the number of women and men depended on the meeting of this condition.

**Sampling:** In the lack of data to show the division of the population of Piatra Neamț according to age categories, we chose the snowball sampling method. Thus, we selected a person for each age category and they pointed us another two having similar characteristics from the viewpoint of age, appurtenance to a family, the procedure continuing until the 152 people sample was reached. Even if, for a start, the people recommended bear a resemblance, we started to create a bigger sample to avoid subjectivity.

Since we choose the snowball technique, the refusal rate is lower than in the case of field investigation by means of the path of recommendation that we preferred. Despite all these, the method largely depends on the availability of possible respondents and the validity of answers to questions. To reach the sample of 152 interviewed, we contacted 178 persons, and 26 of them refused from various reasons; as a result, the refusal rate was of approximately 14%. Further to the analysis of the table, we can state that most people that did the shopping were women which points out that the task of Christmas shopping was mainly entrusted to them. Consequently, from the viewpoint of the decisions taken in the family, we are dealing with the dominating wife and syncretic decisions. As far as monthly family revenues are concerned, most of the people spent between 2001 and 3000 RON and regarding children, almost half of the respondents had a single child. Age categories were divided equally, this being one of the conditions for sampling.

**Type of investigation:** For a start, we conducted qualitative research under the shape of structured interviews. This was carried out based on an interview guide. The role of qualitative research was not only to find out various information, beliefs and opinions referring to the theme approached, but also to define the questionnaire answers better. The interview was in writing so the answers were written down one by one. They contribute to the shaping of a viewpoint with arguments to justify the results of quantitative research.

Thus, a number of 30 in-depth interviews were carried out during 10-20 December 2013, and their results led to a complete questionnaire to include multiple choice questions in agreement with the respondents' opinions.

After processing the data obtained further to the interviews, the questionnaire was drafted. The investigation was carried out after Christmas so that the respondents have the memory of the gifts bought fresh. Field investigation took place between 1 and 20 February.

One of the reasons that led to this type of survey is the weather which did not allow outdoor research.

**Research instruments:** The research instruments used are the interview guide and questionnaire. The former consisted both of open and closed questions. The latter was structured because we considered that the theme of Christmas shopping was a complex subject which might generate varied answers in case a discussion theme would simply be launched.

As far as the investigation is concerned, a questionnaire consisting of 19 questions was used. Within a family there are several roles to be played and for the research to be valid, it was necessary to have the respondent as buyer, that is the person subjected to in-store marketing stimuli. As a result, the filter question of the questionnaire refers to this idea. Questions in the questionnaire include all types of scales, mainly the continuous ones to carry out inferential analyses. Open and closed multiple choice questions are also included.

#### 4. STUDY RESULTS

**According to the first aim**, we wanted to identify the extent to which certain marketing stimuli contribute to the evaluation of store performance. For this purpose, eight independent variables were introduced in the equation, those with the higher frequency after in-depth interviews, out of which only four (scent, display, music and promotion) proved to be significant. For a start, we analysed Person coefficients that did not go beyond 0.7 since there was no multicollinearity. Furthermore, VIF values were lower than 10 which was another condition for the test to be valid.

For one of the variables introduced to be significant for the model, we need to respect the condition that p value which is the probability for the result to be accidental, not to go beyond the risk degree,  $\alpha=0.05$ . The results of the multiple regression analysis allow the following observations: smaller p values than 0.05 correspond to the four aforementioned variables so that another regression analysis was carried out to include only these variables.

The results of the second analysis show that 20.4% of the note variation for store performance is explained by note variation for display, smell, music and items on sale at the selling point. The equation of multiple linear regression is the following:

$$NAM = 3,133 + 0,147 * NM + 0,168 * ND + 0,179 * NFS + 0,136 * NP, \text{ where:}$$

**NAM** – grade for store aspect

**NM** – grade for scent

**ND** – grade for setting

**NFS** – grade for music

**NP** – grade for items on sale

In order to analyse which of these variables is the most significant in the equation model,  $\beta$  values need observing. They point out to the fact that setting had the greatest contribution, followed by scent, items on sale and music which was the last one. The conclusion we may reach is that one of the variables that make up the atmosphere of a store, setting, scent, and music have the greatest impact. They contribute to the evaluation of a selling point, hence marketers need to pay attention to these stimuli that awake people's senses.

The percentage of 20.4% corresponding to the determination coefficient points out that the 4 variables have a significant influence on the evaluation of a store where shopping is made but there are other criteria, as well. When the buying decision is made, the main elements to be considered are related to the product itself: price, quality, packaging, etc., therefore the percentage obtained is justified in the context in which the research theme consists only of the atmospherics created at the selling point.

As far as the correlation between the respondents' sex and the grades awarded to various categories of stimuli are concerned, the only significant relation was obtained in the case of music. The results of the bivariate correlation test based on Pearson coefficient pointed out that there was a positive relation between gender and the grade awarded to silent music ( $r=0.161$ ;  $p=0.047$ ). A more thorough analysis carried out by an Independent Sample t test showed that the only significant difference between the average of the grades awarded by men and women was recorded in the case of music.

Men awarded higher grades to music for the possibility to taste products, for the extremely crowded atmosphere and Christmas items on sale. As a result, we may say that they are more tolerant as far as the crowd is concerned and more interested in the gastronomic side of the matter than women, which involves the tasting of certain products more than women.

From a different angle, stimuli that did not bring satisfaction were equally important, that is those that corresponded to what buyers imagined they would find. They may serve the improvement of the activity carried out at store level. The most annoying in-store aspects could be: too few items



on sale for Christmas (19%), foul smell (17%), lack of decorations (14%) or employees' behaviour (12%).

**According to the secondary objective** based on two hypotheses, one of the questionnaire questions gave the possibility to choose a series of effects resulting from in-depth interviews, those that corresponded to the influence of in-store Christmas spirit. The results point out that the strongest effect was to create the pleasure to buy (98 selections), followed by the spending of a higher amount of money than intended (81 selections) and last, the spending of a longer time in stores (75 selections). Two persons chose the variant which indicated that in-store atmospherics did not have any effect on them which means that there are also buyers that do not care about a selling point's display.

Marketing elements to contribute to the atmosphere of a store are brought into play to induce hedonic shopping and improve the experience at the selling point. There are two categories of buyers, the utilitarian and the hedonic ones which emphasize the experience of buying. The results obtained reveal that Christmas atmospherics at the selling point may have a positive influence on people's attitude with implications on sales and the image buyers have of the store.

**The third objective** has in view the identification of buyers' behaviour of Christmas gifts taking into account three categories of stimuli: general, specific and human. The research conducted by Michel Laroche [2003] pointed out that men use to ask store employees for help when they are looking for a Christmas gift, ignoring aspects related to the product itself or general information. But on the other hand, women make greater efforts to find the right gift. To check if there is an association between gender and the tendency to ask store employees for help, we carried out a  $\lambda^2$  independence test.

Its validity is given by meeting the condition that the number of cells with a lower value than 5 does not reach 20%. The test pointed out that there was a significant, weak relation between gender and the tendency to ask sellers for help:  $\lambda^2$  (df=4, n=152)=12,044, p=0,017, Phi=0,281. As a result, the hypothesis initially established is confirmed. This shows that women are more involved in the buying process during Christmas time, hence their availability for a general search and a more thorough, specific one. (Laroche et al., 2000)

Despite all these, within this type of analysis, another connection that proved to be significant and, not included in the work of the author mentioned, is between gender and the habit of analysing the product's tag and specifications.  $\lambda^2$  independence test pointed out to a significant, weak relation between the two variables:  $\lambda^2$  (df=4, n=152)=12.58, p=0.014, Phi=0.288.

In the hypothesis initially established, only the interaction with the sellers was considered. Despite all these, the present study showed that men were also interested in the tag or other

specifications of the products purchased. First of all, the differences are explained by the fact that the study was conducted in another country and the behaviours' behaviour is distinct there.

Moreover, as far as age is concerned, a correlation test revealed that there is a significant, reversed, weak relation between the person's age and the tendency to ask for the sellers' help. As a result, the older they grow, the more important the shop employees become in giving advice to buy Christmas gifts. The relation is a reversed one since age categories were ordered increasingly, whereas the agreement and disagreement degree ordered decreasingly when codified in SPSS software. Each statement referring to the buying behaviour of Christmas gifts was measured on a Likert scale so the score of each statement can be calculated. As each of them was revealed by previous research, we granted +2 for "total agreement" and so on, decreasingly, up to "total disagreement" that received -2. The scores are as follows:

**We asked the sellers' advice** =  $40*2+43*1-26*1-19*2=59$

**We went over budget if necessary** =  $37*2+50*1-21*1-2*19=65$

**We compared prices between them** =  $44*2+59-17-6*2=118$

**We analysed the tag and product specifications** =  $39*2+59-17-12*2=96$

**I was influenced by the packaging** =  $82+54-21-18=97$

As can be seen, the highest score was encountered when prices were compared which means that people are led by reason during their shopping and are looking for useful gifts and good prices. The lowest score can be found when employees are asked for help. This may be explained by the fact that men do it more often, yet their number in the sample is smaller than women's, hence the lower points awarded.

**The fourth objective** refers to a more thorough analysis of buying behaviour during Christmas. The first stage in the decision process is needs ascertainment, resentment of a lack between the desired state and the existing one. The main purpose of retailers should be represented by the buyers' conviction that the former's products are needed. It seems that 53% of the respondents claim that they became aware of the need the moment they were doing shopping, hence inside the stores and only 35% at home, the remaining ones being influenced by third parties.

With respect to the period in which in-store marketing stimuli were seized based on the answers to in-depth interviews, we assigned four time frames. The results show that the first and the second half of November were periods when almost three quarters of the respondents felt the presence of Christmas stimuli in stores. As a result, retailers are advantaged by the fact that their marketing efforts are mainly perceived since November which means that people get used to Christmas coming to shops more quickly every year.

From the viewpoint of the moment shopping was made, we may notice that first gifts were bought between December 1-15, closely followed by November 16-30. The percentage of those that made their shopping for the first time the week before Christmas is of 25%, a percentage high enough to conclude that the habit of leaving things to the last minute is still in the pipeline.

In view of testing the relation between the period these stimuli have been sensed and the one in which the first gifts were bought, we applied a test of bivariate correlation Spearman based on which the following conclusions can be reached: between the two variables there is a significant relation of average intensity ( $p=0$ ,  $r=0.429$ ). This result highlights the idea that as the period of sensing stimuli is closer to Christmas, it coincides to the first gifts bought. For instance, even if 28% of the respondents felt the presence of Christmas in stores by means of various elements, during November 1-15, only 5% bought gifts.

The results of this correlation analysis show that marketing actions during Christmas time did not always have the effects desired. Thus, despite the fact that retailers introduce stimuli that call the Christmas spirit much before December 25 and are perceived by buyers, the latter do not proceed to shopping immediately. From the viewpoint of sale stimulations and awakening interest for Christmas products, this result is not a favourable one but to a certain extent is justified by the impossibility to convince all to start making shopping in the same period.

As far as the budget allocated to Christmas gifts for 2013 is concerned, the average of the present research is 784.87 RON. Since standard deviation is big, the median is more significant in this case, having a value of 700 RON. This value shows that half of the respondents spent less than 700 RON for this Christmas and the other half allocated a budget beyond this amount. Most of the questioned one allocated the amount of 600 RON.

As far as the way in which the 2013 budget was divided for Christmas, each respondent had 100 points to allocate for Christmas for certain destinations. The greatest part of the budget was allocated for the products necessary to the Christmas dinner, followed by the budget for gifts. This is an advantage for retailers who have to stimulate sales for these categories of products.

Out of the respondents, 68.4% declared that they went over the budget they allocated for this Christmas, as a result of the in-store stimuli that created the atmospherics; with respect to Christmas coming into store 47.4% consider that it was brought too early, whereas the rest claim the opposite. Close percentages do not afford us to reach a conclusion on this matter although, according to other studies, most buyers are not satisfied with the fact that marketers insist to bring the Christmas spirit to stores as soon as possible.

Since the budget allocated for Christmas shopping decreases every year, marketers have to find new methods to determine people to spend more money. Arousing their sensorial stimuli could be efficient.

**Limits of research:** Even though positive results were obtained for retailers, results that could be used in the future for their activity to be improve, this research has its flaws. First, the sampling method was a subjective one based on the snowball technique so the results cannot be generalized at the level of the entire population. This is because the research could only explore and not reach a verdict due to an unguaranteed representativeness.

Since only a certain target public was considered, i.e. people aged between 25 and 65, the other age categories cannot be included in the results of research. As a result, the decision-making process with respect to Christmas shopping is a family one. Moreover, they cannot be valid for people in the rural area since the investigation took place in the urban area.

Another limit of this research pertains to the period in which it took place because it was an unfavourable one due to the bad weather that did not allow any field investigation. Also, since we are speaking about Christmas we have to assume that people are busier and less likely to answer questions. In addition, we had problems establishing meetings with respondents for in-depth interviews that took place before Christmas which should have been conducted in a more relaxed, stress-free environment. Furthermore, we did not have enough time to conduct quantitative research properly and find available respondents, hence the longer time we took to make the investigation.

Another limit which should be considered is the fact that the research was conducted on shopping during Christmas time, a period of strong emotions in which hedonic shopping could be stronger than during any other time of the year. Thus, there is a chance that these results do not apply to regular shopping.

## CONCLUSIONS

Nowadays there are two important phenomena that need to be considered. The former is the financial crisis, less powerful than it used to be. The latter refers to the impact the internet has on certain businesses. In the field of retailing, online shopping grew steadily in the past years and its main benefit is that of saving people's time as they no longer have to go to store to do shopping. More and more people prefer to shop online either because they do not have time to do otherwise or they are simply idle. As a result, marketers are forced to employ various techniques to persuade people not to give up going to stores.

In the case of a shop, there are two types of factors: those that can be controlled and those that cannot. If marketers cannot do anything to change the latter, the former may be manipulated so that they produce the effects desired. Instances of such factors are: goods, price, items on sale, advertisements, sale force, atmospherics, placement and store policy. Our research was conducted on the variables that make up a store's atmospherics. During the past years, it was discovered that certain stimuli were used to awake the senses. A nice song playing silently, an attractive scent or display may get you a step ahead of your competitors. The wide range of products and the existence of several shops with the same scope of activity make the selection of a particular store difficult. Building consumer goodwill is essential for the success of a business.

The most profitable time of the year is definitely Christmas. Most retailers know the importance of this holiday and try to exploit it in a positive manner. Impregnated with rituals and tradition, the emotions accompanying it lead to a change in the buying behaviour. Sensitivity to certain marketing stimuli being higher, it is the right time to employ more ways of attraction to build consumer goodwill.

As a result, the research started from the premise that the buying decision taken in the store also considered sensorial stimuli, along the specifications expected from a product pertaining to quality, price, promotion, packaging, etc. Although it cannot replace product quality, the atmospherics created in a selling point has a certain influence on the buying process.

Further to in-depth interviews, the main features considered in the buying process and implicitly in the choice of a store were revealed. Respondents were asked to mention factors that make up the atmosphere of a store they wish to find during Christmas, ignoring the specific elements they expect from a product. During the winter holidays, the way the store is decorated, the carols playing, the specific scents and the possibility to taste certain products are the aspects considered.

The regression analysis conducted in which the most important variables were introduced in interviews pointed out that in the evaluation of the store's performance and implicitly in taking the buying decision, the most significant factors for the model are display, scent, music and items on sale. As a result, out of the stimuli meant to awake the customers' senses and make up a store's environment, the visual, olfactory and auditory ones are brought into play.

Previous research on the theme of the atmospherics created in stores revealed that any of these variables can be manipulated so as to induce certain states of mind. They require certain features such as the rhythm of the music, the presence or absence of verses. This study did not aim at analysing the tolerance threshold for each of the stimuli, but the extent to which they were considered when the decision to do shopping was made. The results will serve all retailers interested

in improving the way in which the store is perceived by buyers. As a result, during Christmas they may use specific music for the musical background, scent of pine, cinnamon or orange (studies showed that the scent of pine, cinnamon and orange were the most familiar ones during Christmas time, being associated with this holiday) and even invest in decorating the store as attractively as possible. Along the traditional marketing activities, employing these methods involves certain costs that drift the retailers away so they choose not to use them.

With respect to the effects created by a store with sensorial stimuli, they are mostly similar to the ones illustrated by previous research. They are reflected in the desire to spend as much time in the store as possible and come back for other shopping, but also to spend a larger amount of money than the one initially had in mind. Also, buyers consider the respective store to be a good one, hence the positive image of the store and the state of mind during the shopping experience is one of pleasure. In addition, the interviewed ones also mentioned that they were more willing to socialize with the ones around them and were more indulgent to the aspects that did not satisfy them inside the store.

The theoretical framework of in-store stimuli effects is the theory launched by Mehrabian and Russell (1974) who claim that when entering a store, a buyer is invaded by a multitude of stimuli. They will be processed according to their features drawing on the buyers' personality, motivation, state of mind, etc. and will generate a certain behavior, be it of attraction or rejection of the respective stimuli. Based on in-depth interviews, we noticed that very few people had negative attitudes towards in-store sensorial stimuli. This happens when they are bothered by their excessive presence or even do not consider at all the way in which the store is decorated. Thus, the hypothesis according to which in-store stimuli create positive effects that improve the shopping experience and end by satisfying customers' needs is confirmed.

One of the most important components of celebrating Christmas is buying gifts for the ones close to us. Besides the sacred significance, this holiday is an important occasion for consumption that brings solid revenues to retailers. The habit of making gifts is a universal phenomenon which becomes particular according to the cultural aspects of each nation. The way gifts are looked for may differ from women to men, age or other variables. Research points out that men are more likely to take the sellers' advice than women, as well as analyse the general and specific aspects of the store or product. These bear on the selling point's aspect, the way in which it is built to reach the product desired and other elements of the product itself, i.e. tag, packaging and other characteristics such as limiting oneself to one's budget. As far as the buyers' age is concerned, as they grow old, they are more willing to ask for the sellers' help. The hypotheses were confirmed in this study as there was a small, yet significant intensity relation between the age and gender of the interviewed



ones. Thus, marketers will know better the customers' buying habits for a particular shop and train their personnel to give help to men and senior citizens, above all.

An interesting aspect revealed by this study is the fact that the presence of in-store marketing stimuli for Christmas becomes to be noted long before the holiday. In this sense, 3 out of 4 people noticed the marketers' efforts to bring the Christmas spirit in November, but even fewer bought the first gifts at that time (approximately 40%). As a result, the presence of certain marketing stimuli does not lead to immediate shopping which is not an advantage for retailers.

Also, to the question on the time merchandisers start to bring the Christmas spirit in stores, 47.8% of the people interviewed answered that it happened too early. And, since the percentages are so close, no conclusion can be reached for any of the variants. Yet, due to store atmospherics 70% of the respondents spent a larger amount of money than they intended, thus going over budget, leading to a favourable result for retailers whose main purpose was to make a profit.

An aspect revealed by this research is the budget allocated for the Christmas last year which is significantly different from the one mentioned in other studies previously conducted before the holy day came. The difference may stand in the fact that New Year shopping was not considered, which would have increased the value.

## **FUTURE DIRECTIONS OF RESEARCH**

One of the results of the present research shows that when a buying decision is made, of the factors that make up a shop atmospherics, music, scent and display are considered. Therefore, future research could have as theme the identification of particular aspects of each stimulus and the buyers' preferences for in-store stimuli, respectively. Even if studies on the intensity and characteristics of a stimulus have previously been carried out, they do not hold true for the Romanian buyer. This is because they have been conducted in other countries with different cultural values (Čábyová et al., 2014). Moreover, not much research has been conducted on the theme of Christmas shopping and in-store stimuli (Kusá et al., 2014) hence a thorough investigation of this subject is recommended since Christmas time brings substantial profits to retailers (Nedelcu, 2013).

Moreover, the research has been conducted with respect to Christmas shopping and future studies could approach the issue of in-store stimuli that make up the atmospherics for another time of the year, as well. A new direction of research could be the understanding of the way a gift is bought according to gender, age or any other variable considered to be important, more thoroughly than in this research.



Furthermore, new research could be conducted to insist on the period in which retailers bring Christmas to stores, on the moment the first gifts are bought. There is the possibility for too insistent marketing efforts meant to bring us Christmas earlier and earlier to bother us or even not be noticed by buyers (Solík et al., 2013). Since winter holidays are the most profitable time of the year, several pieces of research could be conducted on the theme so as to account for buyers' preferences – the nucleus of any successful business.

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# TRENDS IN THE EVOLUTION OF WORLDWIDE FOREIGN DIRECT INVESTMENTS

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**Abstract:** *The flows of foreign direct investments constitutes a major component of the phenomena that manifest themselves in the world economy, these representing financial resources geared toward a particular investment area that allow those who invest to develop operations over which they have the control and the decision-making power. Given the fact that the world economy is characterized by the increasing interconnectedness of national states as a result of spreading the links in the spheres of economic, political, social and cultural life, following starting with 2008 a period of unusual developments, the purpose of the paper is to analyze the evolution of worldwide foreign direct investment (FDI) inflows, before and after the onset of the global economic crisis.*

**Keywords:** foreign direct investment; FDI inflows; financial crisis.

**JEL Classification:** F210.

## INTRODUCTION

The year 2008 marked the beginning of a new period in the evolution of the global economy, which for many people meant the beginning of a period of crisis, called first - financial, then economico-financial, initially world-wide crisis and then, after a few years, actually a crisis of the old world order, a crisis that has not actually affected all world economies and that, certainly, rewrote the world hierarchies.

A special emphasis is put on the idea of dynamic, of continuous change of the relative position of the countries and economic entities in some hierarchies who depend so much upon the criteria according to which they are made.

As economic phenomenon the FDI have long been characterized by a pronounced dynamism. Thus, these have increased in the period from 1982 to 2000, about 22.4 times, i.e. from 58 billion dollars to 1,400 billion dollars.

This dynamic meant for the mentioned period annual growth over 30% in the case of more than 65 countries. Even though nowadays, especially during the economic crisis, there can no longer register such rhythms, yet the mentioned period should not be forgotten because it coincided with the ending and consolidation of the contemporary globalization done just through foreign direct investment.

Under the economic crisis persistence in many countries of the world, or of some small signs of recovery, the trends in the field of FDI policies continued to be characterized by accents on the

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liberalization and promotion. Over two thirds of the measures taken, in 2010, in the field of FDI policies, were of this nature (Bonciu, 2012).

The aim of this paper is to analyze the evolution of worldwide FDI inflows, before and after the onset of the global economic crisis.

The analysis of the internal flows is important because it offers an indication regarding the level of integration of the reception countries in the world economy, and in the same time, it indicates also the countries or regions that benefit by the advantages determined by these flows.

On the other hand, the understanding of the flows distribution of FDI and of the dynamics is very important for the formulation and implementation of strategies and policy of the attraction of direct foreign investments (Bonciu, 2003).

## **1. LESSONS FROM EUROPE'S LONG RECESSION AND THE IMPLICATIONS OF THE ECONOMIC CRISES STARTED IN 2008**

An important lesson concerns the fact that a low level of inflation is not a sufficient condition for ensuring long-term financial stability. The previous experiences seemed to confirm the vision that inflation is the main source of financial instability. The current world financial crisis emerged after nearly two decades of relatively low and stable inflation. A number of factors have made low inflation to coexist with abundant liquidity.

The financial crisis was triggered by the U.S.A. subprime crisis, which has arisen due to the fact that the Fed has been forced to increase the interest rates to defend the inflation. But with the new texture, the raising interest rates has led to the financial crisis (Isărescu, 2009, p. 2).

Another lesson, briefly stated by Isărescu in his Speech at the Romanian Academy, during the debate "What can we learn from the current economic crisis?", concerns the fact that in the EU we are missing some institutions and this aspect is highlighted very clearly in the Larosiere Report. In the chapter dedicated to the remedial measures in the field of financial supervision in the EU it is proposed a structural reform that takes into account two areas: macro-prudential supervision and micro-prudential supervision. The report considers justified the establishment of the European Council of Systemic Risk (ECSR). This should collect information about the risks and macro-prudential vulnerabilities of all financial sectors in the EU. The Council will issue alerts about risks and will adopt the economic policy guidelines. Another institution proposed by the Report of European System of the Financial Supervision, where the level 3 committees (CEBS, CEIOPS, CESR) will be transferred to the three new European authorities: the European Banking Authority,

the European Securities Authority and the European Insurance Authority, that will have greater powers in relation to the supervision and approval of specific EU institutions (Isarescu, 2009, p. 5).

In the context of the beginning of the economic crisis in 2008, the European Union has to solve a number of difficult issues, such as (Bonciu, 2012, p.137):

1. Solving problems related to efficiency of the common agricultural policy which were manifested in the formula of 15 members. The situation became more complicated after the 2004-2007 period due to the fact that some of the countries that have acceded to the European Union have a high share of agriculture in GDP, which may threaten the community balance (and so delicately) this sector;

2. The problem of the growing technological difference of the European Union, in particular from the USA and Japan;

3. The loss of competitiveness and great competition represented by China and India;

4. Solving of some problems related to the use of the labor force, in order to reduce unemployment;

5. Identification of some solutions for the correlation of the common monetary policy with the national budgetary policies. By enacting the Euro, the national Governments have less possibilities to maneuver, for example, they can no longer resort to devaluation of currency or issue additional currency for addressing imbalances in the balance of payments;

6. The acceptance of a more important role in global power, fact which involves additional costs whose funding is uncertain;

7. The EU enlargement in 2004 and 2007 with 10 plus 2 new members has put unprecedented problems both by the scale (no other enlargement has involved 10 plus 2 states), as well as the existence of some development gaps. The new members have a low level of development of community media than they had, for example, Greece or Portugal at the time of accession.

But beyond all this, the main problem is if it will be able to propose a new European model to determine a substantial support on the part of the citizens' that manifests an attitude increasingly marked by Euroscepticism. In this context it will have a special importance and will react the way that the Member States and their citizens to propose the setting up of the United States of Europe, in other words the proposed federalization of Europe.

## 2. TRENDS IN THE EVOLUTION OF WORLDWIDE FOREIGN DIRECT INVESTMENTS

The period 2004-2010 can be divided in terms of the characteristics of the global flows of foreign direct investment in two distinct periods (Bonciu, 2012, p.189):

### *Period 2004 - 2007: rising period*

After three years of successive cuts (2001-2003) the global flows of foreign direct investment have increased in 2004 and 2005, and in 2006 to exceed once again the symbolic barrier of 1,000 billion US dollars, or a trillion dollars. This barrier was crossed for the first time in 2000, it was followed by a steep fall in 2001, with about 37 percent as a result of the climate of instability and risk of armed conflict which had thus far followed the moment of September 11, 2001.

Thus, in 2004 the global foreign investment flows have increased by 22% compared to 2003 to a level of 802 billion dollars. Then, in 2005, followed a new increase with 19% compared to the prior year up to a level of 955 billion dollars, because in 2006 the world level to reach 1160 billion dollars.

The year 2007 has seen a new historical maximum, respectively, 1,900 billion dollars, but is also the end of a period of growth which began in 2004.

### *Period 2008 - 2009: decline period*

Because of the global financial crisis in 2008, the global flows of foreign direct investment fell by about 16.5% compared to the previous year (up to 1.650 billion dollars level), a phenomenon that continued into 2009, with a significant reduction compared to the previous year (i.e. 40%), while overall level achieved in 2009 was about 1,000 billion dollars (that is, similar to the year 2000).

Unfavorable developments in 2008 and 2009 were manifested differently from one area to another. Thus, in Africa, FDI inflows have been in 2009 a decrease by 19% compared to 2008, mainly due to the reduction in global demand and also to the fall in prices to the consumer.

In the case of South, East and South-East Asia, 2009 brought the first contraction of ISD flows in 2001, respectively, with 17% compared to the prior year. This contraction was due mostly to the reduction of cross-border mergers and acquisitions (with 51% compared to the previous year). A significant reduction was registered in West Asia (24% compared to the previous year), mostly due to the decline of world trade, but also more difficult access to credit.

A significant reduction was held, also in 2009 and in South America (36% compared to the previous year), mostly because of reduction in the volume of mergers and acquisitions.

After eight years of uninterrupted growth, and South-East Europe and Commonwealth of Independent States (CIS) have experienced in 2009 a significant reduction in inputs of ISD (43%). The causes were different, if CIS being especially the contraction of domestic demand, and in the case of South-East Europe, in particular by reducing the volume of mergers and acquisitions.

The most significant decrease in foreign direct investment inflows were recorded by the developed countries (44% compared to the previous year) The U.S. were farmore affected than the European Union, due to the favorable developments in Germany. The main cause of the reduction in ISD flows have been represented by the contraction of international mergers and acquisitions of about 65 percent.

These major decreases in world investment flows were caused by several factors, including:

- slowing economic growth or even recession in most countries of the world;
- major drop in the value of assets as a result of the collapse of capital markets;
- significant reduction in profits;
- credit conditions more difficult;
- a significant reduction in demand.

#### *Period 2010 - 2011: resumption of growth*

In 2010, the global FDI flows have increased moderately comparing with the previous year, with about 5% up to 1,240 billion dollars level, the level is still below the average of 15% the previous years of the crisis.

The significant growth of foreign direct investment flows to developing countries in 2010 was due to the improving of some of those countries' economies, to the significant growth of domestic demand and further intensification of international economic relations South-South.

In 2011 the rise of FDI flows was widespread in all three major groups – developed, developing and transition economies. It is noted that developing economies continued to absorb nearly half of global FDI as their inflows reached a new record high of \$684 billion and transition economies also continued to rise, to \$92 billion, accounting for another 6 per cent of the global total (UNCTAD, 2012).

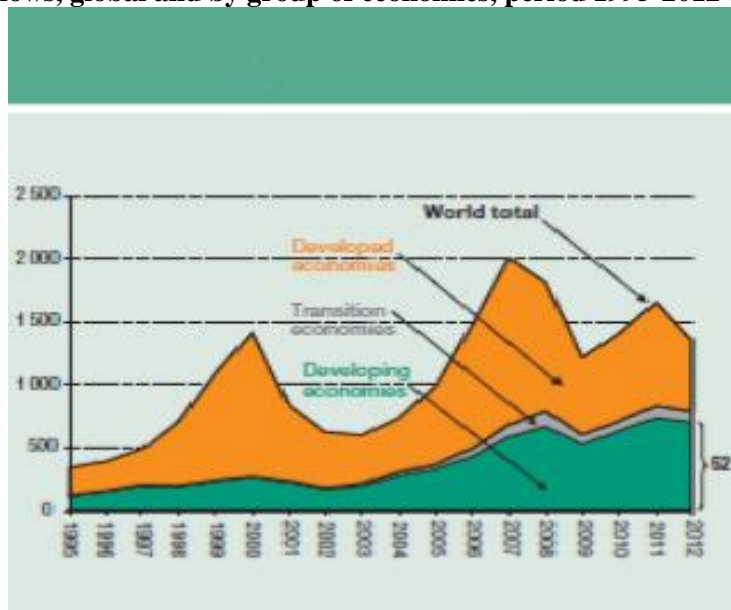
Period 2011-2012 is basically characterized by many elements of uncertain economic and political fragility which has caused investors to be more careful and the road to the recovery of FDI turns out to take longer than expected.

Global foreign direct investment (FDI) fell by 18 per cent to \$1.35 trillion in 2012, flows are expected to reach levels of \$1.6 trillion in 2014 and \$1.8 trillion in 2015. This sharp decline was in stark contrast to other key economic indicators such as GDP, international trade and employment, which all registered positive growth at the global level (UNCTAD, 2013).



In 2012, for the first time ever, developing economies absorbed more FDI than developed countries, accounting for a record share of 52 per cent of FDI inflows as it is shown in Figure 1.

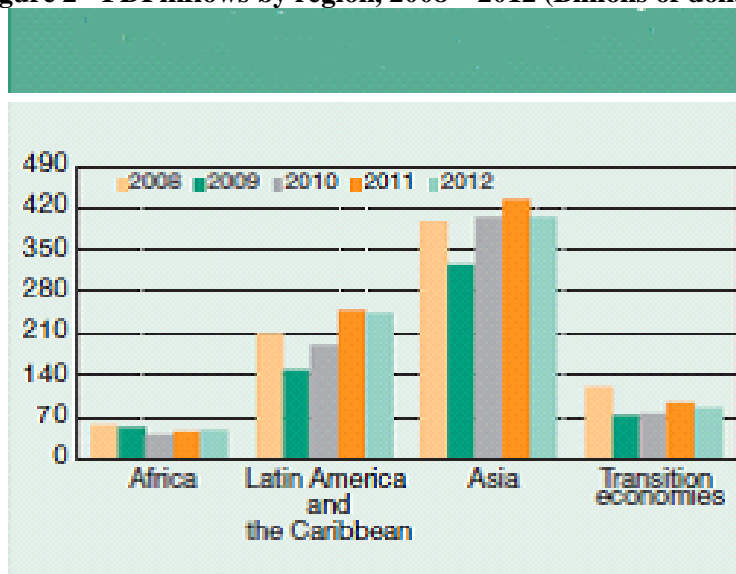
**Figure 1 - FDI inflows, global and by group of economies, period 1995-2012 (Billions of dollars)**



Source: UNCTAD, 2013

FDI flows declined dramatically in *developed countries* in 2012, falling sharply both in Europe and in the United States. In accordance with UNCTAD Report, 2013, Africa was the only region that saw FDI flows risen as it is shown in Figure 2, below.

**Figure 2 - FDI inflows by region, 2008 – 2012 (Billions of dollars)**



Source: UNCTAD, 2013

## CONCLUSIONS

As a result of the global economic crisis an historical phenomenon of ending the trend of several decades in which the developed countries were the main destination of the world's capital has emerged. This is mostly explained by the developed countries' decrease in consumption, induced by the economic crisis, which made the large scale investments no longer sustainable.

Based on the analysis of the evolution of flows of foreign direct investments worldwide in 2010 for the first time ever, developing economies absorbed more FDI than developed countries, they accounted for a record share of 52 per cent of FDI inflows.

On the analysis of FDI flows by region, Africa was the only region that saw FDI flows rise in 2012, while U.S. and European shares fell.

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# A COMPARATIVE ANALYSIS OF REAL AND PREDICTED INFLATION CONVERGENCE IN CEE COUNTRIES DURING THE ECONOMIC CRISIS

Mihaela Simionescu \*

**Abstract:** *The main objective of this study is to make a comparative analysis of inflation convergence in Central-Eastern European countries (CEE countries) during the economic crisis over 2008-2013. For Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia the inflation convergence has decreased in the analyzed period, the coefficient of variation (64.22%) showing strong divergence compared to the slow divergence indirectly predicted by the European Commission. The negative catch-up rates for Bulgaria, Poland and Slovakia explain the large negative consequences of the actual economic crisis for these countries. The Fisher-type test for panel data indicated no convergence for real and predicted inflation convergence. The analysis based on random effects models indicated an inflation convergence rate of 15.47% in CEE economies compared to a predicted convergence rate of 2.04%.*

**Keywords:** convergence; forecasts; accuracy; catch-up rate; panel unit root test.

**JEL Classification:** C53; E37; E52.

## INTRODUCTION

The main purpose of this study is to make a comparative analysis between the registered convergence during the economic crisis and the predicted convergence based on European Commission forecasts for Central-Eastern European countries. Therefore, the degree of convergence was assessed using classical indicators like coefficient of variation. The catch-up rates were also computed and panel unit root tests were employed to check the convergence hypothesis. In this research the convergence in inflation rate was analyzed.

The paper is structured in several sections. In the second section there is a description of main findings in literature and the methodological framework is presented. The next section consists in a presentation of the convergence process in CEE countries and the differences with the anticipations based on European Commission forecasts for these countries. All the approaches conduct us to the conclusion that the convergence process was wrongly predicted during the crisis, the real data indicating an increase in divergence over 2008-2013. In the end some conclusions are drawn.

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## 1. LITERATURE REVIEW AND METHODOLOGICAL FRAMEWORK

There are few studies interested in analyzing the achievement of inflation convergence mainly in European Union, but there are not researches that assess the predicted degree of convergence starting from the forecasts provided by different forecasters. Only OECD provided some scenarios for OECD countries and showed that each country converges to its own steady-state for GDP per capita. The cause of this convergence is represented by specific structural conditions and policies correlated to the technological developments. This prediction of convergence refers to 2011-2050 when poor economies will experience a stronger convergence. However, an ex-post evaluation of convergence has not been made. For 1996-2006, Bouis, Duval and Murtin (2011) have anticipated a convergence speed of 6% between OECD and non-OECD countries.

The financial and economic crisis started in 2008 has affected the economic convergence in the European Union. Halmai and Vásáry (2012) assessed the real convergence, the catch-up processes and the economic growth trends during the recent crisis. The countries have been affected differently by the recession. The Member States were classified into four groups: ‘Developed’ countries, ‘Mediterranean’ countries, ‘Catch-up’ countries and ‘Vulnerable’ countries, the last three groups being convergence countries.

Archibugi and Filippetti (2011) detected convergence in EU states in the innovative potential before the crisis (2004-2008), but the actual crisis have increased the disparities in innovative capabilities. Some policies are proposed by the authors in order to facilitate the cohesion.

A monetary policy framework has been proposed by Orłowski (2008) that targeted a relative inflation prediction for the economies that converge to euro. The author applied several empirical tests are conducted to assess the feasibility of adopting an instrument rule for some CEE countries like Czech Republic, Hungary and Poland, showing it is possible to adopt the targeting framework.

Strauch (2004) analyzed the performance of the growth and budgetary predictions made in the context of stability and convergence programmes of the European Union countries.

Kočenda and Papell (1996) studied the inflation convergence in European Union and they tested if the Exchange Rate Mechanism accelerated the inflation. Holmes (2002) checked the inflation convergence in most of the European Union countries utilizing unit root and co-integration tests. Using monthly data the author obtained a strong evidence of convergence, the macro-economic independence being explained by the ERM from 90s years.

Dupor, Han and Tsai (2009) showed that the differential response of inflation to the technological shocks and monetary policy is difficult to eliminate without information about rigidities.

Middeldorp (2011) showed that the predictability is influenced by the banks' transparency, observing that a higher transparency brings an improvement in interest rate predictions and diminishes the volatility.

The neoclassical model of Solow influenced a lot the new models by diminishing the gap between the real conditions of the economy and the various variants. The economic growth is supported by investments which bring positive externalities in accordance with the human capital development. The convergence achievement might also be determined by human and physical capital and the technologic process.

The variation is determined for more units (regions, countries) by utilizing simple indicators (range, deviation) and synthetic indicators (coefficient of variation, average linear deviation, dispersion or variance, standard deviation). Synthetic indicators show the distance between the values of a variable for each element and mean. The convergence at a certain time is measured with a variation indicator that shows how far the elements of the entire are from the average towards the values of the indicator converges.

In the dynamic approach, if the variation decreases there are enough evidence to conclude that we have a convergence process. The coefficient of variation is used in convergence analysis, because it is used in making comparisons. The variance is determined as:

$$\sigma^2 = \frac{1}{n} \sum_{i=1}^n (y_i - \bar{y})^2 \quad (1)$$

$y_i$ - the analyzed variable

$i$ -index for units (regions, countries)

$\bar{y}$ - arithmetic mean ( $\bar{y} = \frac{1}{n} \sum_{i=1}^n y_i$ )

The variance or dispersion indicates the values' degree of variation with respect to the average, being influenced by outliers and by the unit of measurement. In case of small samples the denominator is  $(n-1)$ . The variance is utilized to determine the standard deviation ( $\sigma = \sqrt{\sigma^2}$ ) and the coefficient of variation ( $CV = \frac{\sigma}{\bar{y}}$ ). (Villaverde Castro, 2004) argued that the coefficient of variation is used in convergence analysis because it is independent of the unit of measurement and the order of indicators.

A decrease in time of the standard deviation shows the achievement of convergence for the variable  $y$ , this being known as  $\sigma$  convergence. It is useful to employ the coefficient of variation based on the population weight:

$$CV' = \frac{\sqrt{\sigma^2}}{\bar{y}} \quad (2)$$

$$\sigma^2 = \frac{1}{n} \sum_{i=1}^n (y_i - \bar{y})^2 (p_i - 1)$$

$p_i$ - population weight

For measuring the convergence different analytical tools are employed and it is observed the decrease of differences with respect to the mean or of differences between two or more time series:

$$\lim_{t \rightarrow \infty} (x - y) = c \quad (3)$$

The sigma convergence characterizes the convergence level by assessing the dispersion of GDP per capita for one year. The cross-section data are employed for those regions or countries. The sigma convergence is useful in case of comparisons. For analyzing the trend of convergence, the time series are utilized on a discrete interval  $[t; t+T]$ . At a certain moment when the variable variance decreases, the convergence was achieved:  $\sigma_{t+T} < \sigma_t$ . When the variance increases the divergence was achieved:  $\sigma_{t+T} > \sigma_t$ .

The theoretical hypothesis that should be tested using a representative sample is:

$$\frac{1}{T} \log \left( \frac{y_{i,t_0+T}}{y_{i,t_0}} \right) = c - \left( \frac{1-e^{-\beta T}}{T} \right) \log(y_{i,t_0}) + \varepsilon_{i,t_0,t_0+T} \quad (4)$$

The catch up of the rich economies is confirmed by the decrease of the GDP/capita degree of variation between countries, but also by the negative sign of the annual convergence rate of the GDP/capita of countries in the sample, these countries arriving at the same time in the steady state.

The catch-up rate is used to measure the pace of catching-up more developed regions. Some authors, like Cuaresma, Havettová and Lábaj (2013), have shown that convergence and catch-up do not express the same concept. The dynamics of the two variables are different, because the convergence shows the degree of progress, while the catch-up indicates the distance to be achieved towards convergence. For GDP growth it is useful to extend the catch-up for narrower residual difference and the convergence will be lower. The catch-up rate is defined as:

$$CR = 100 \cdot \frac{\Delta(y_{i,t} - y_t^*)}{(y_{i,t-1} - y_{t-1}^*)} \quad (5)$$

$y_{i,t}$  – GDP per capita in purchasing power standard (PPS) at moment t for country i

$y_t^*$  – mean of GDP

$\Delta y_t$ - difference between GDP at time t and GDP at time t-1

The indicator is usually computed for historical actual rates, being used for ex-post analysis of dynamics of catch-up rates.

If we have negative value for catch-up rates, then we can state that the disparities between countries have decreased.

The inflation rate for each country at time t is determined using the harmonized index of consumer prices:

$$ir_t = \ln \frac{HICP_t}{HICP_{t-1}} \cdot 100 \quad (6)$$

An autoregressive model of order 1 is proposed for the inflation rate:

$$ir_{i,t} = \alpha + \beta \cdot ir_{i,t-1} + \varepsilon_{i,t} \quad (7)$$

The average inflation corresponding to the group of countries in a certain time period t is computed as:

$$\overline{ir}_t = \alpha + \beta \cdot \overline{ir}_{t-1} + \varepsilon_t \quad (8)$$

where the average inflation is calculated as:  $\overline{ir}_t = \frac{1}{n} \sum_{i=1}^n ir_{i,t}$

n- number of countries

For convergence analysis we have to work with inflation differential, which is the difference between the inflation in each country and the average inflation in the entire group at time t. the average of inflation differentials is zero for all countries and time periods.

After subtracting the last equation from the previous one, we will obtain:

$$ir_{i,t} - \overline{ir}_t = \beta \cdot (ir_{i,t-1} - \overline{ir}_{t-1}) + \varepsilon_{i,t} \quad (9)$$

The convergence condition implies a decrease in time of the inflation differentials. Therefore, the estimate of the parameter  $\beta$  should be less than 1. A value higher than 1 for this estimate implies divergence. Actually,  $\beta$  is in this case the convergence coefficient.

The estimate of  $\beta$  is used to compute the actual convergence rate within a certain group of countries. If the difference  $ir_{i,t} - \overline{ir}_t$  is denoted by  $d_{i,t}$ , we assume that the inflation differentials diminish in time as:

$$d_{i,t} = d_0 \cdot e^{-rt} \quad (10)$$

where r- convergence rate

The convergence rate can be determined taking into account the convergence coefficient:

$$r = -\ln(\beta) \quad (11)$$



The Dickey-Fuller (DF) test is used to calculate the convergence coefficient for a group of countries. The Augmented-Dickey-Fuller (ADF) test deletes the eventual auto-correlation in data. The difference of inflation differential is  $\Delta d_{i,t} = d_{i,t} - d_{i,t-1}$  and the equation corresponding to ADF test is:

$$\Delta d_{i,t} = (\beta - 1) \cdot d_{i,t-1} - \sum_{j=1}^k \gamma_j \Delta d_{i,t-j} + \varepsilon_{i,t} \quad (12)$$

where  $i=1,2,\dots,k$  is the index for countries in a certain group.

This equation checks the presence of unit root in the panel. If the convergence coefficient is different from 1, then the null hypothesis of unit root is rejected.

A parametric method is utilized to compute the number of lagged differences ( $k$ ). A maximum value of  $k$  is a start value for the procedure. After the regression estimation, the significance of the parameter  $\gamma_j$  is tested. In case of non-significance, the value of  $k$  decreases with one unit and the regression (7) is estimated again till we get a  $k$  for which the parameter is significant. If we did not find a significant parameter, then  $k$  will take the value 0 and the standard Dickey-Fuller test is applied.

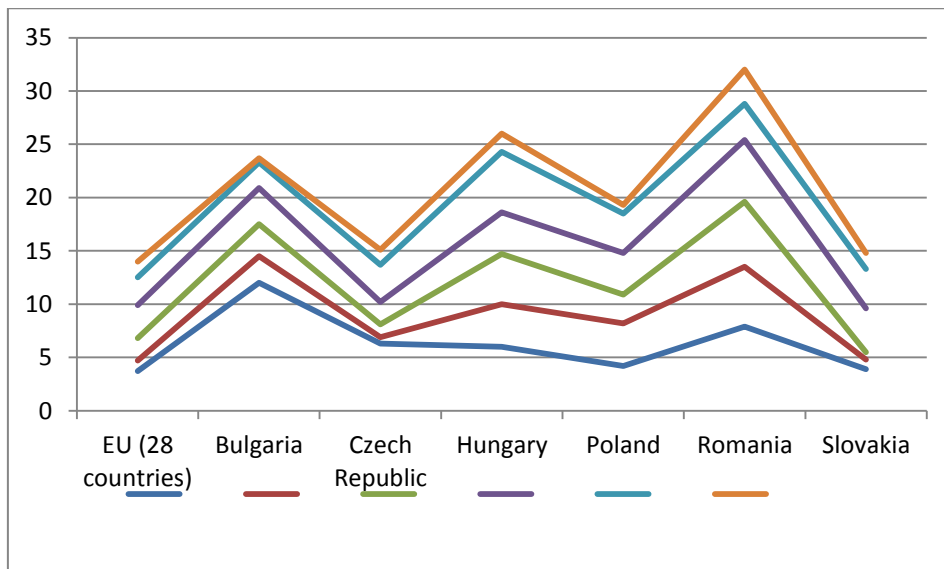
In panel data analysis the most used critical values are those proposed by Levin, Lin and Chu (2002), but these critical values do not take into account the errors' auto-correlation, not being suitable for small samples. Therefore, Kočenda and Papell (1996) proposed higher critical values using Monte Carlo simulations in order to take into account the errors' serial correlation.

The critical values were determined using Monte Carlo method. Autoregressive (AR) models were estimated and the best AR model was chosen using Schwarz criterion. These models actually represent the errors' data generating process for each panel. The pseudo-samples are built using the best AR models that are independent and identically distributed with the null average and variance equaled to  $\sigma^2$ . Then, t test is applied in order to check the significance of  $(1 - \beta)$  with a lag length equaled to  $k$ .

## 2. THE IMPACT OF ECONOMIC CRISIS ON FORECASTS ACCURACY

In this study the inflation rate evolution in CEE countries (Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia) is analyzed in parallel with the forecasts made by European Commission. The trends tend to keep the same for all the countries, even if there are different inflation levels for the various countries. For the entire European Union (EU-28), there are higher inflation rates during 2008-2013 compared to the CEE economies.

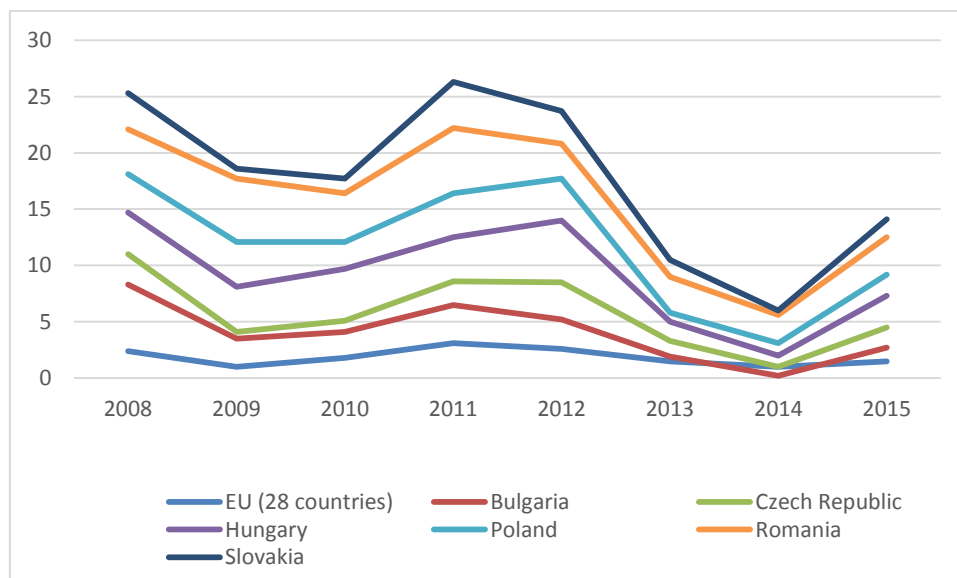
**Figure 1 - The evolution of the actual inflation rate in CEE economics and EU-28 during 2008-2013**



Source: author's compilation

The predictions made for the entire European Union (EU-28) are lower than those made for CEE countries, excepting some values for Bulgaria. At the beginning and at the end of the horizon (2008-2013), the predictions tend to decrease for all countries, but another increase is anticipated for 2014-2015.

**Figure 2 - The evolution of the predicted inflation rate in CEE economics and EU-28 during 2008-2013**



Source: author's compilation

The values of the coefficient of variation show an evident divergence in 2008 for CEE countries, in 2013 the divergence being higher. In predictions for 2008 indicate a slow convergence in inflation while for 2013 a slow divergence is predicted.

**Table 1 - The coefficient of variation for actual and predicted values during the economic crisis (2008-2013)**

Indicator	Value in 2008	Value in 2013
CV actual values	44.30%	64.22%
CV predicted values	29.14%	37.62%

Source: author's computations

The catch-up rate measures the absolute disparity. The negative catch-up rates for Bulgaria, Poland and Slovakia explain the large negative consequences of the actual economic crisis for these countries. Higher catch-up rates were predicted for these states and for Hungary, while for Czech Republic and Romania the EC predicted lower rates when actually the disparities are larger.

**Table 2 - Average catch-up rates (%) in CEE countries in 2008-2013**

Country	Catch-up rate actual values	Catch-up rate predicted values
Bulgaria	-6.33	-5.45
Czech Republic	13.21	10.2
Hungary	2.1	2.28
Poland	-6.59	-3.27
Romania	10.1	9.21
Slovakia	-11.6	-7.33

Source: author's computations

The values of all the statistics indicate that we do not enough evidence to reject the null hypothesis. So, at 5% level of significance we can state that all the panels contain unit root and consequently there is no convergence between CEE countries.

**Table 3 - The results of Fisher-type unit root test for inflation rate in CEE countries based on augmented Dickey-fuller tests**

Statistic	Statistic's value	p-value
Inverse chi-squared	13.2686	0.3498
Inverse normal	-0.1072	0.4573
Inverse logit t	-0.1480	0.4416
Modified inverse chi-squared	0.2590	0.3978

Source: own computations

The same test is applied for checking the stationary that is implied by the EC's predictions for CEE countries.

**Table 4 - The results of Fisher-type unit root test for inflation rate predictions in CEE countries based on augmented Dickey-fuller tests**

Statistic	Statistic's value	p-value
Inverse chi-squared	16.2531	0.1799
Inverse normal	-0.3459	0.3647
Inverse logit t	-0.4904	0.3135
Modified inverse chi-squared	0.8682	0.1927

Source: own computations

According to Fisher-type test there is no evidence of convergence for the forecasts made by EC for CEE countries.

The convergence rate was calculated by running some panel data regression models. The fixed-effects model was not valid for actual and predicted data, the Hausman test indicating that the random effects GLS regression model is more suitable. The results of estimations are described in Appendix 2. The average divergence rate for the registered inflation in CEE countries was about 15.47%. However, according to predictions analysis, the forecasted average convergence rate is 2.04%. Actually, the convergence was wrongly predicted.

## CONCLUSIONS

The inflation convergence is an important criterion of the European Union. In this study we were interested to assess the degree of convergence in countries located in Central-Eastern Europe. These are post-communist countries with similar evolutions and trends of the inflation rate. The convergence was analyzed during the economic crisis period and it was compared to predicted convergence based on European Union anticipations of inflation rates in CEE states.

Even if the European Union anticipated a decrease in convergence, the results indicate that there are evidence of large convergence during the crisis, the shocks in the economic could not be clearly identified.

## APPENDIX 1

### FISHER-TYPE UNIT ROOT TESTS

Fisher-type unit-root test for inflation

Based on augmented Dickey-Fuller tests

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Ho: All panels contain unit roots                      Number of panels =            6  
Ha: At least one panel is stationary                  Number of periods =         6

AR parameter: Panel-specific                              Asymptotics: T -> Infinity  
Panel means: Included  
Time trend: Not included  
Drift term: Not included                                    ADF regressions: 1 lag

---

		Statistic	p-value
Inverse chi-squared(12)	P	13.2686	0.3498
Inverse normal	Z	-0.1072	0.4573
Inverse logit t(34)	L*	-0.1480	0.4416
Modified inv. chi-squared	Pm	0.2590	0.3978

---

P statistic requires number of panels to be finite.  
Other statistics are suitable for finite or infinite number of panels.

---

Fisher-type unit-root test for inflationp

Based on augmented Dickey-Fuller tests

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Ho: All panels contain unit roots                      Number of panels =            6  
Ha: At least one panel is stationary                  Number of periods =         6

AR parameter: Panel-specific                              Asymptotics: T -> Infinity  
Panel means: Included  
Time trend: Not included  
Drift term: Not included                                    ADF regressions: 1 lag

---

		Statistic	p-value
Inverse chi-squared(12)	P	16.2531	0.1799
Inverse normal	Z	-0.3459	0.3647
Inverse logit t(34)	L*	-0.4904	0.3135
Modified inv. chi-squared	Pm	0.8682	0.1927

---

P statistic requires number of panels to be finite.  
Other statistics are suitable for finite or infinite number of panels.

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## APPENDIX 2

### FIXED-EFFECTS AND RANDOM EFFECTS MODELS

Fixed-effects (within) regression  
 Group variable: country

Number of obs = 30  
 Number of groups = 6

R-sq: within = 0.0259  
 between = 0.1617  
 overall = 0.0181

Obs per group: min = 5  
 avg = 5.0  
 max = 5

corr(u\_i, Xb) = -0.0936

F(1,23) = 0.61  
 Prob > F = 0.4424

dd	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	.1827919	.2338337	0.78	0.442	-.3009299	.6665137
_cons	-.8863837	.9603642	-0.92	0.366	-2.873048	1.100281
sigma_u	.54742435					
sigma_e	2.0966941					
rho	.06381734	(fraction of variance due to u_i)				

F test that all u\_i=0: F(5, 23) = 0.34 Prob > F = 0.8847

Fixed-effects (within) regression  
 Group variable: country

Number of obs = 30  
 Number of groups = 6

R-sq: within = 0.0005  
 between = 0.0002  
 overall = 0.0004

Obs per group: min = 5  
 avg = 5.0  
 max = 5

corr(u\_i, Xb) = -0.0060

F(1,23) = 0.01  
 Prob > F = 0.9158

ddp	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	-.0219173	.2049487	-0.11	0.916	-.4458859	.4020513
_cons	.3418841	.8417323	0.41	0.688	-1.399372	2.08314
sigma_u	.46159111					
sigma_e	1.8376935					
rho	.05934692	(fraction of variance due to u_i)				

F test that all u\_i=0: F(5, 23) = 0.32 Prob > F = 0.8986

Random-effects GLS regression  
 Group variable: country

Number of obs = 30  
 Number of groups = 6

R-sq: within = 0.0005  
 between = 0.0002  
 overall = 0.0004

Obs per group: min = 5  
 avg = 5.0  
 max = 5

corr(u\_i, X) = 0 (assumed)

Wald chi2(1) = 0.01  
 Prob > chi2 = 0.9139

ddp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
t	-.0203984	.1885664	-0.11	0.914	-.3899817	.3491849
_cons	.3361628	.7767165	0.43	0.665	-1.186174	1.858499
sigma_u	0					
sigma_e	1.8376935					
rho	0	(fraction of variance due to u_i)				



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# INTERNATIONAL TRADE DURING THE CRISIS. DETERMINANTS

Cristian Spiridon\*

**Abstract:** *This article aims to analyze how the financial crisis that bursted in the mid-2008 led to a global and regional drop in trade flows. It starts from a comparison of the Great Depression shock to what happened during the Great Recession. Based on the similarities and differences found in the literature we take a simple econometric analysis to study the relationship between income, private lending and imports of goods by different countries from the financial meltdown starting point. The main findings consist of the magnitude heterogeneity of the decrease in income and credit at the regional level and on country groups according to the degree of development and the uttering of new factors influencing world trade (risk shock, increasing uncertainty, escalating non-tariff protectionist measures).*

**Keywords:** international trade; financial crisis; Great Depression; Great Recession.

**JEL Classification:** F01; F13; F14; F17; F23.

## INTRODUCTION

In the last two decades, unprecedented growth of world gross domestic product was associated with a rapid increase in economic global interdependence. International trade was the glue that strengthened business and political relationships between countries. Since the 1990's exchange transactions between states have gained increasing importance in the economic activities of more and more regions. The trend of these exchanges was disrupted by the financial crisis that bursted in 2008 having a critical impact on the link international trade - growth. As well as during the Great Depression in the years 1929-1933, the question being asked has been what factors caused the trade decline. According to conventional trade theory in modern general equilibrium situation, the two main factors that determine international bilateral trade are terms of production and income of both partners and international trade barriers (tariffs, international transport, insurance costs, volatility exchange rates, the availability of trade credit) (Anderson and van Wincoop, 2004). Responses variates between two alternatives: international trade global collapse can be attributed to one of the two factors listed above or a vicious cycle occurred, with causality running from income to trade, from trade to trade barriers and from trade barriers to trade and trade back to income.

Recent contributions to the literature on the synchronization of business cycles suggest that a doubling of bilateral trade correlation intensity would increase production movements by about 0.06 relative to a normal average correlation of about 0.3 (Frankel and Rose, 1998). Empirical evidence indicates that greater trade integration in the 1930s would have increased exposure to economic shocks from outside. However, during the Great Depression, focusing on the U.S. situation, it can

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be observed that although exports fell by around 60% during 1929 and 1933 cannot be explained by a general reduction of income of 30% by the business cycles synchronization theory (even a commercial multiplier of 3 could not decrease aggregate income by more than 9%). If we take into account that the United States recorded a share of trade as a ratio of gross domestic product by about 5% in 1929, the existence of additional factors as determinants of trade decline to those related to business cycles becomes obvious. Using general equilibrium models of intermediate goods essential to the final production of the United States, Irwin (1998) concluded that when the U.S. raised tariffs on intermediate goods for inputs of the utmost importance, the production factors marginal productivity as well as revenues decreased. On the same topic, Crucini and Kahn (1996) argue that the decline in production due to raising tariffs during the Great Depression was very small compared to the aggregate gross domestic product decrease of 30% (estimating a 2% decrease in output due to rising tariffs). On the other hand, Eichengreen (1989) considers that the charges have been beneficial to have had a reflationary impact (a domestic price level decrease), in such case tariffs caused the avoidance of real wage escalation due to their rigidities and limited real growth in the debt value. Impairments (devaluations) is another measure of protection and restoration by stimulating output and exports. Devaluations have had a number of adverse effects as follows: they changed the party that bears the costs (beggar - thy - neighbor reactions), stimulated the economy through monetary easing policies or output across borders through a contagion of international low interest rates. The effects of devaluations and monetary expansion would have been higher if all countries had taken these measures simultaneously during Great Depression. There are important lessons to be learned from the Great Depression such that empirical findings prevailed the following: large economically closed countries recording declining revenues and rising tariffs encountered a trade decline while in small and opened economies trade barriers had a stronger role than income and declining trade played an important role in the collapse of revenues. Turning to the monetary policy during the Great Recession, monetary policies were less coordinated between countries (the only exception is the European Monetary Union). Major advancements in economic structure and policies have changed the ground compared to the 1930 field. Countercyclical fiscal policies and government spending accounted for by large national governments and the services sectors are generally used. The comovement is still a problem, but would have been higher in the absence of counter-cyclical fiscal policy that came into effect in 2008 and 2009. Two other important factors that have helped to prevent a case like that of the Great Depression are: fluctuating exchange rates - the gold standard contributed to the rigidity of tariff escalation - (allowing adjustments and monetary policy makers to release constraints permitting them to adopt expansionary policies – no longer being the case for tariffs) and the World Trade

Organisation that was able to impose sanctions on protectionism and assiduously promoted multilateralism with good results in a significant number of trading blocks.

Overall, comparing the Great Depression to the Great Recession, has to be pointed out that the output and consumption configuration changed radically. The collapse bursted in 2008 is considered by the most of the research literature to have been caused by the uncertainty and changes in trade costs in interaction with distribution channels. During the Great Depression, on the other hand, income losses, tariffs and other policy issues were most important in explaining the decline in trade. Although olicy makers learned to avoid successive rounds of escalating trade tariffs and maintain revenue growth, today's Great Recession has produced the same decline in trade in the first year after the outburst as during the Great Depression. The fact that trade returned on growth trend after the first year is a sign of optimism and some lessons have been learned (though some challenges still remain).

In the next section the focus will be on the econometric analysis of the factors that are considered to have had an impact on international trade during the Great Recession. Determinants such as income, tariff barriers, trade in intermediate goods, trade credit availability and volatility in foreign direct investment (FDI) will be considered in the study undertaken.

## **1. DETERMINANTS OF INTERNATIONAL TRADE DURING THE GREAT DEPRESSION**

The analysis was conducted on a sample of 116 countries, of which three countries from North America, 19 located in the Central America region, 36 in Europe, 10 independent countries CIS, 15 African countries, 12 from Middle East region and 21 from Asia and Oceania. Countries were selected because of statistical data availabilty on several years and by reason that they represent more than 0.02 % of international trade. The period under review is that of the interval 2001 to 2013 (using estimates for 2012 and 2013 respectively). Also we used aggregated data on an annual basis.

$$Y = \alpha + \beta_1 \times X_{1t} + \beta_2 \times X_{2t} + \beta_3 \times X_{3t} + \beta_4 \times X_{4t} + \beta_5 \times X_{5t} + \beta_6 \times X_{6t} + \beta_7 \times X_{7t} + \varepsilon$$

where

Y - annual growth of imports of a country (%)

and independent variables are:

- $X_{1t}$  – annual growth of GDP per capita change (%);
- $X_{2t}$  – domestic credit to the private sector as a percentage of GDP change (%);
- $X_{3t}$  – change in a country's export growth (%);
- $X_{4t}$  – average tariffs applied to imports increase (%)

- $X_{5t}$  – the share of imports of intermediate goods in GDP change (%);
- $X_{6t}$  – net FDI flows change (%)
- $\varepsilon$  – random error;
- $\alpha, \beta_i$ , with  $i = \overline{1,6}$  regression coefficients.

**Table 1 - Linear regression of imports volatility on several independent variables**

IMPR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
MODPIB	1.635659	.2054916	7.96	0.000	1.230523 2.040796
EXPMOD	.4329822	.0852206	5.08	0.000	.2649658 .6009985
ISDMOD	.0024996	.0014413	1.73	0.084	-.0003421 .0053413
CREDDOMMOD	.0509377	.0451247	1.13	0.260	-.0380278
.1399032					
MODINTFIN	-.0283622	.0988209	-0.29	0.774	-.2231921
.1664678					
TAR	1.540791	1.440452	1.07	0.286	-1.299127
4.380708					
RS	.3291177	.1691553	1.95	0.053	-.0043799
.6626154					
_cons	-7.481301	3.308804	-2.26	0.025	-14.00476 -
.9578396					
<b>sigma_u   2.9827031</b>					
<b>sigma_e   6.5372726</b>					
<b>rho   .17230477 (fraction of variance due to u_i)</b>					

Source: Own calculations

Regressing the dependent variable (annual growth of imports of a country (%)) on the six explanatory variables we observed that only two of them are statistically significant so that partly explain the variation of the latter. We validate the fact that tariffs on imported goods during the economic crisis bursted in 2008 did not have a significant impact on trade. Moreover, there was a downward trend in both the period before the financial meltdown and the interval after 2008. Increasing unemployment in many countries of the world along with the outbreak of the financial collapse can explain the decrease of imports. This can be attributed to the heterogeneity recorded among countries as well as a low elasticity of consumption of imported goods relative to domestic incomes. Consequently, statistically insignificant independent variables are dropped (because of lack of explanatory power) and we run back panel data regression.

**Table 2 - Linear regression of imports volatility on significant independent variables**

IMPR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
MODPIB	1.688645	.1004177	16.82	0.000	1.491581 1.885708
EXPMOD	.2271334	.0392443	5.79	0.000	.1501188 .3041479
CREDDOMMOD	.0671876	.0216389	3.10	0.002	.0247226 .1096526
_cons	-1.978794	.4685007	-4.22	0.000	-2.898197 -1.05939
sigma_u   5.5253022					

sigma\_e | 9.7094747

rho | .2446175 (fraction of variance due to u\_i)

Source: Own calculations

Given that the value of P is  $< 0.05$  for all three independent variables (GDP growth change, export volume growth change, domestic credit to private sector as a percentage of GDP change), we can state, at a significance level of 5%, that  $\beta_i < 0$ . This suggests that independent variables have significant explanatory power on country imports variation in the selected sample.  $R^2 = 0.40$  indicates a good regression model adequacy (40% of the variation of good imports can be explained by the cumulative variation of three variables: changes in gross domestic product per capita, exports change and domestic credit to the private sector as percentage of GDP change. The remaining 60% may be attributed to other factors (exchange rate volatility, non-tariff protectionist measures, transportation costs, uncertainty hanging over the actors involved in international trade and so on).

One notable issue is the influence of GDP change from previous years on imports of the current year. Thus, an increase by one percentage of the change in GDP per capita in year t-1 leads to imports decrease of 0.23% in year t. Period t-2 also plays an impact on imports and domestic output growth (a decrease of 0.34 %). The paradox is that the immediate influence of GDP growth on imports is positive while the impact of previous periods is negative.

Regional or local heterogeneity among different categories of countries (developed, developing, least developed) regarding imports change due to influence of key factors calls for a more detailed analysis of the crisis indicators affecting international trade.

**Table 3 - Imports and its determinants by countries and geografic location**

	Variable	Coef.	R <sup>2</sup>	P-values	Lower Interval	Upper Interval
<b>Developed countries</b>	MODPIB	1,52	60,01%	0	1,26	1,77
	EXP MOD	0,40		0	0,29	0,51
	RS	0,25		0,21	0,03	0,47
<b>Developing countries</b>	MODPIB	1,91	33%	0	1,63	2,19
	EXP MOD	0,16		0,002	0,05	0,26
	CREDDOMMOD	0,06		0,045	0,001	0,132
<b>Least developed countries</b>	MODPIB	insignificant	-	-	-	-
	EXP MOD	insignificant		-	-	-
	CREDDOMMOD	insignificant		-	-	-
European Union	MODPIB	1,39	76,34%	0	1,15	1,62
	EXP MOD	0,56		0	0,45	0,66
	CREDDOMMOD	insignificant		-	-	-
NAFTA	MODPIB	2,10	91,12%	0	1,07	3,13
	EXP MOD	0,58		0,001	0,25	0,9
	CREDDOMMOD	insignificant		-	-	-
MERCOSUR	MODPIB	3,65	66,93	0	2,86	4,44
	EXP MOD	-		-	-	-
	CREDDOMMOD	-		-	-	-
ASEAN	MODPIB	1,03	27%	0,029	0,107	1,96



	Variable	Coef.	R <sup>2</sup>	P-values	Lower Interval	Upper Interval
GCC	EXP MOD	0,64	-	0	0,34	0,94
	CREDDOMMOD	insignificant		-	-	-
	MODPIB	insignificant		-	-	-
	EXP MOD	insignificant		-	-	-
	CREDDOMMOD	insignificant		-	-	-
North America	MODPIB	2,10	91,12%	0	1,07	3,13
	EXP MOD	0,58		0,001	0,25	0,9
	CREDDOMMOD	insignificant		-	-	-
South and Central America	MODPIB	3,24	50,83%	0	2,76	3,72
	EXP MOD	-		-	-	-
	CREDDOMMOD	insignificant		-	-	-
Europe	MODPIB	1,67	60,4%	0	1,39	1,95
	EXP MOD	0,41		0	0,29	0,53
	CREDDOMMOD	Insignificant		-	-	-
CIS States	MODPIB	0,98	28,91%	0,003	0,35	1,60
	EXP MOD	Insignificant		-	-	-
	CREDDOMMOD	Insignificant		-	-	-
Africa	MODPIB	2,14	23,40%	0	1,44	2,84
	EXP MOD	Insignificant		-	-	-
	CREDDOMMOD	0,21		0,009	0,05	0,37
Middle East	MODPIB	0,76	23,61%	0,021	0,11	1,41
	EXP MOD	insignificant		-	-	-
	CREDDOMMOD	0,13		0,042	0,004	0,257
Asia and Oceania	MODPIB	1,18	44,55%	0	0,69	1,66
	EXP MOD	0,60		0	0,46	0,74
	CREDDOMMOD	insignificant		-	-	-

Source: Own calculations using data from World Development Indicators (World Bank Database), World Development Indicators (World Bank Database), Laborsta – Database of labour statistics, Ilostat – New Database of labour statistics, World Economic Outlook Database (IMF Database), Unctad Handbook of statistics 2012, Global Trade Alert (<http://www.globaltradealert.org/>)

When the analysis is done on clusters of countries according to the degree of development, it can be seen that the industrialized countries of the world tend to have suffered from the decline in the GDP per capita and domestic credit to the private sector at a higher rate compared to developing countries. Factors other than those listed above have influenced the decline in imports in the latter category of countries. A determinant that is not included in the model may be a so-called *risk shock*, according to which investors would have become cautious about investment projects. Thus, investments in developing countries (especially in emerging economies) would have fallen under this reasoning, as well as investment in export sectors of trading partner countries. The impact of such a shock on a country depends on its international financial connections (those with large net external debt where the external portfolio was exposed to liquidity risk), macroeconomic conditions (those that have experienced a credit financed boom where domestic growth and fiscal prospects worsened) and their dependence on world trade (countries dependent on exports, especially exports of goods and cyclical investment and durable goods). The decrease in imports from developed and developing countries could be caused by restrained cross-border lending in international banking

sector. Finally, the proliferation of non-tariff protection measures can join the other factors impacting on trade decline. Effects were propagated among many countries throughout international trade and financial links. Response was provided in the form of direct funding grants, especially loans and guarantees to save a number of financial institutions in industrialized countries of the world (Baldwin and Evenett, 2010). These emergency measures were associated with public policy objectives considered necessary to stop the spread of systemic disaster and assist the restoration of normal functioning of financial markets, a critical element for both consumers and producers worldwide. Several countries have also introduced subsidies to encourage consumers to purchase specific products such as funding a certain part of the purchasing price. Such subsidy schemes available to consumers implemented in a number of advanced economies like Germany, France and Britain were used as measures to stimulate domestic demand (considered ways to achieve public policy objectives) . Moreover, these measures have been considered non-discriminatory by international institutions (World Trade Organization Report (WTO), 2012).

In times of economic distress, however, high rates of unemployment can push the government to resort to non-tariff measures discriminating between similar inputs produced domestically or imported. In such case becomes difficult to distinguish between measures taken to achieve public policy objectives (although they may have adverse effects on trade) and what is named *hidden protectionism*. This ambiguity regarding the action of economic and policy decision makers is further complicated by the growing importance of trade in intermediate goods in the global supply chains (Koopman et al., 2010). While trade in intermediate goods do not explain aggregate decline in imports, these exchanges were strongly affected by the financial crisis along with aggregate imports. Once the outbreak of the global financial crisis in the early 2008, the escalation of protectionist measures started. In November 2008 - December 2009 period governments around the world have implemented 365 protectionist policy measures hope to improve domestic economy not taking into account the costs that foreign trading partners will bear on consequence. Despite constant exhortations that G20 countries (G20 represents 90% of global GDP, 80 % of global international trade and two-thirds of the world population) have issued towards trade liberalization, in the aforementioned period they have applied 220 protectionist measures and implemented only 11 liberalization policies concerning international trade in goods and services. Thus, two thirds of restrictive trade measures have been taken by industrialized countries of the world in the period immediately following the onset of the financial shock (Evenett, 2010).

From November 2008 to December 2009 China has been the most affected country in terms of protectionist trade measures, being directly involved in 160 of hazardous actions. Only European Union approached China with 152 restrictive measures against member states. These two entities

were followed in order by the United States, Germany, France, Belgium, Japan, UK, Netherlands and Italy (each with over 100 measures against). On the other hand, the European Union countries (EU27) imposed the most numerous restrictions on external trade (123), followed by Russian Federation (42), Argentina (25), Germany (24), United Kingdom (19), Italy (15), China, Hungary, Spain (13), and Brazil (12). Through the actions adopted by EU member states there have been obstructed the trade interests of 149 exchange partners. Countries such as India, China, Russian Federation, Argentina, Indonesia, UK, the US, France and Germany recorded the same quantitative impact of over 100 trading partners affected. We can observe that the main actors of the restrictive trade measures taken after the global economic crisis burst consist mostly of industrialized countries and large emerging economies that have seen considerable growth in the last decade.

Regarding measures taken which have had a discriminatory impact on foreign commercial interests during the period under observation, 36% of these shares were represented by cautionary or government support measures for domestic sectors to overcome the crisis. These were followed by defensive trade policies (anti-dumping, safeguard measures, measures against exports subsidies) - about 17%, tariff measures (13%), measures related to public procurements (6%), export subsidies (4%), other non-tariff measures (3%), hazardous actions against migration (3%), sanitary and phytosanitary measures (3%), taxes and export restrictions (3%), imports prohibitions (3%) and other measures (9%). The most affected sectors were: financial intermediation services and services ancillary thereto, specialized machinery industry, basic metals industry, transport equipment, meat industry, fruit, vegetables, oils and fats, metal products except machinery and equipment, agricultural products, horticulture and gardening, basic chemicals, dairy products, live animals and animal products, furniture, textile, rubber and plastic products.

## CONCLUSIONS

Resuming, it may refer that, compared to the measures taken during the Great Depression to protect domestic industries, security tools have improved during the Great Recession, they had become much less obvious and had strong political support despite their discriminatory impact. The factors behind the economic collapse during the Great Depression differ from those that caused the 2008 financial crisis also. Though the decrease is based on income and restrained lending to private sector (due to reduced banking activity severely hit by the recession), international trade was influenced by several other factors more difficult to grasp in an econometric analysis. Moreover, although the decline in GDP in the first year of the crisis was quasi general, global negative

heterogeneity among states (either classified by the degree of development or by geographical region) was highly visible. North America and Europe trade and trade of developed countries of the world in particular have been more affected by the decline in income and credit compared to countries in other regions.

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# CURRENT ACCOUNT DYNAMICS IN THE EURO AREA

Yannick Timmer\*

**Abstract:** *This paper investigates the current account (CA) dynamics in the Euro Area by addressing three questions. First, are the vast CA deficits of some Euro Area members still sustainable? Second, what has financed them? Third, what is the reaction of an external shock? The aim of this paper is to address these issues by applying an econometric analysis to the most recent data. The main finding is that the CA does not have to be necessarily stationary. This result does not go in line with what most papers assume and conclude. Last, applying a vector error-correction model (VECM), I conclude that the dynamics of the CA deficits in the Euro Area and bank related net inflows seem to be highly associated. It is also found that CA adjustments do not occur contemporaneously to shocks. However, the adjustment of banking capital flows occurs almost immediately.*

**Keywords:** Current Account; Euro Area; Banking Capital Flows.

**JEL Classification:** F30; F32.

## INTRODUCTION

The determination of the CA and its different liquidity sources has been a perennial topic in the Euro Area. The economic differences between countries in the Euro Area are of great relevance to the long-term prospects of the single currency union. Since the outbreak of the financial crisis, there has been an increasing interest in balance of payment imbalances.

The CA and the financial account have to compensate each other to satisfy the balance of payment identity. Thus, CA deficits are creating a net financing need in net debtor countries. These can be covered via a variety of sources; but if countries with high CA deficits face their boundary of debt sustainability financing might dry up. Especially if the CA is financed via short-term rather than long-term liabilities, a sudden stop or even a reversal is more likely, when an external shock occurs. Since the CA is reflected as the difference between the savings rate and the investment rate, net debtor countries facing a sudden stop of capital flows, either have to raise the former or cut investment (Lane and Pels, 2012).

In the following, I attempt to defend the view that CA deficits in the Eurozone can be associated to an increase of foreign bank loans. This econometric analysis is conducted via several technical tools. First, I examine the CA in the Euro Area and determine its order of integration. Second, I try to derive inferences about the relationship between the aforementioned variables, in particular bank-related flows.

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The remainder of the paper is structured as follows. Section 2 provides a brief overview of the existing literature. Section 3 reviews the economic theory, considering the intertemporal budget constraint. Section 4 discusses the data I assembled. Section 5 presents the empirical results. Section 6 concludes.

## **1. LITERATURE REVIEW**

There is a sizable literature that the pre-crisis period in the Euro Area was characterised by high capital inflows (see Lane, 2012), which financed the CA deficits in the Euro Area. Since the beginning of the financial crisis, there occurred a sudden stop of cross-border capital flows. This financing can suddenly dry up when concerns about the public debt sustainability arise (Eichengreen, 2005). As pointed out by Milesi-Feretti and Tille (2011), this stop has been predominantly driven by bank-related debt flows.

However, there is a lack of literature on the interdependencies of the CA and these bank-related flows, especially their causal relationship. It might be the case that both variables share a common trend and are highly correlated, but are not directly linked. In an empirical framework it is required to analyse the properties of the CA first, before determining its sources.

Taylor (2002) established that savings and investment are highly correlated, and therefore the CA reaches an equilibrium, since the long-run CA has to satisfy the intertemporal national long-run budget constraint (LRBC). In this fashion, the CA is assumed to be stationary. Holmes et al. (2009) test if the CA deficits are stationary in the European Union. They only find inconclusive evidence by examining individual countries. For the whole panel of EU countries they infer that the CA is non-stationary, which let them draw conclusions about their debt-sustainability.

Obstfeld and Rogoff (1996) as well as Trehan and Walsh (1991) provide the economic theory for the analysis of the long-term budget constraint. In addition, Greene (2012), Lütkepohl and Krätzig (2004) and Enders (2010) provide an overview of the theory of the econometric tools for the dynamic analysis of the CA. In particular, Levin et al. (2002), Hadri (2000), and Im et al. (2003) introduce procedures for unit root tests in panel samples.

## **2. THEORY AND EMPIRICAL APPROACH**

My intuition is that the expansion in CA imbalances during the mid-2000s may have been driven by the volatility of capital inflows, especially loans from foreign banks. On the one hand,

higher inflows may drive higher investment and lower savings rates and therefore higher CA deficits. On the other hand, a sudden stop of capital flows requires an improvement in the CA.

Assuming a small open economy, the CA identity yields

$$B_{t-1} - B_t = CA_t = r_t B_t + Y_t - (C_t + G_t + I_t) \quad (1)$$

$$CA_t = S_t - I_t \quad (2)$$

where B, r, G, I, and Y refer to borrowing, the real interest rate, government consumption, investment, and income, respectively. Ignoring valuation effects, a CA deficit moves together with a decrease of the net foreign asset positions between time period (t) and (t+1), i.e. net capital inflows. Defining S as savings with  $Y+rB-C-G$ , we can rewrite the CA as savings minus investment (2). However, this two period model is not sufficient for stationarity analysis, if it could be possible that debt can be rolled over perpetually. Iterative substitution yields

$$B_t = \left(\frac{1}{1+r}\right) \sum_{s=t}^{s=\infty} \left(\frac{1}{1+r}\right)^{s-t} (G_s + I_s + C_s - Y_s) \quad (3)$$

assuming

$$\lim_{T \rightarrow \infty} \left(\frac{1}{1+r}\right)^T B_{t+T+1} = 0 \quad (4)$$

Equation (4) is called the transversality condition. If (4) is not satisfied and is instead an inequality smaller than zero, it implies that an economy consumes and invests more than it produces. Hence, an economy is continually raising its debt, whereas, on the other hand, counterparties have to accept this. This so called Ponzi scheme is ruled out by most authors (Obstfeld and Rogoff, 1996).

However, as long as both of these equations (3) and (4) are satisfied, the CA might satisfy stationarity. Bearing in mind that the transversality condition for the Euro Area might not hold empirically for at least some periods of time, implying that discussing the stationarity is not as obvious as it appears to be. In the very long-run, as T goes to infinity, there might be a certain threshold, when creditor countries do not accept debtor countries to perpetually roll over debt anymore. This threshold may vary across countries and country groups, whereas in the currency unions it might be higher than in 'independent' countries.

First, I approach the stationarity of the CA by making use of different versions of the unit root tests. Second, I attempt to establish a relationship between the CA and bank-related loans applying various techniques commonly used for multiequation time-series models.



### 3. DATA

For this paper a dataset covering the quarterly evolution of CA balances and banking statistics, since 1995 is assembled. The panel dataset spans from the fourth quarter in 1995 to the fourth quarter in 2013 for all Euro Area countries plus the Euro Area itself except for Cyprus and Malta.

I collect the CA data from the Organisation for Co-operation and Development (OECD) for all Euro Area countries against the rest of the world from 1995 to 2013<sup>\*</sup>. Only for Finland, France, Germany, Greece, Portugal and Slovenia, the data is available for quarter four in 2013. For the Euro Area I draw the data from 1997 to 2012.

Information on the banking statistics is collected from the Bank for International Settlement (BIS) Locational Banking Statistics. From this dataset, I use external loans and deposits of reporting banks vis-à-vis individual countries (Table 7). Table 7A represents the loans and deposits vis-à-vis all sectors and 7B vis-à-vis non-banks. These statistics reflect claims and liabilities of banking offices resident in BIS reporting countries. In general, loans and deposits reflect financial claims on both banks and non-banks, which are not negotiable (see also BIS, 2013). The change between two periods is referred to as a capital flow from the banks in BIS reporting countries to individual countries. Hence, increases (decreases) in claims (liabilities) reflect capital inflows to the individual countries and vice versa. The change in the difference between the claims and the liabilities is termed net capital (in)flows<sup>†</sup> or bank related (in)flows. These flows reflect a subset of all capital flows and therefore of the financial account<sup>‡</sup>. Since the locational banking statistics is based on the residence and not on the nationality principle, they are consistent with the balance of payment methodology. Henceforth, I refer to all BIS reporting banks as banks<sup>§</sup>.

### 4. RESULTS

In the following, I present the outcomes from the data analysis. I begin with visualizing the summary statistics, continue discussing the properties of the CA and last but not least, I investigate the relationship between the CA and bank related capital inflows.

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<sup>\*</sup> For Portugal the last quarter of 1995 is not available.

<sup>†</sup> Some authors refer net capital outflows as net capital flows.

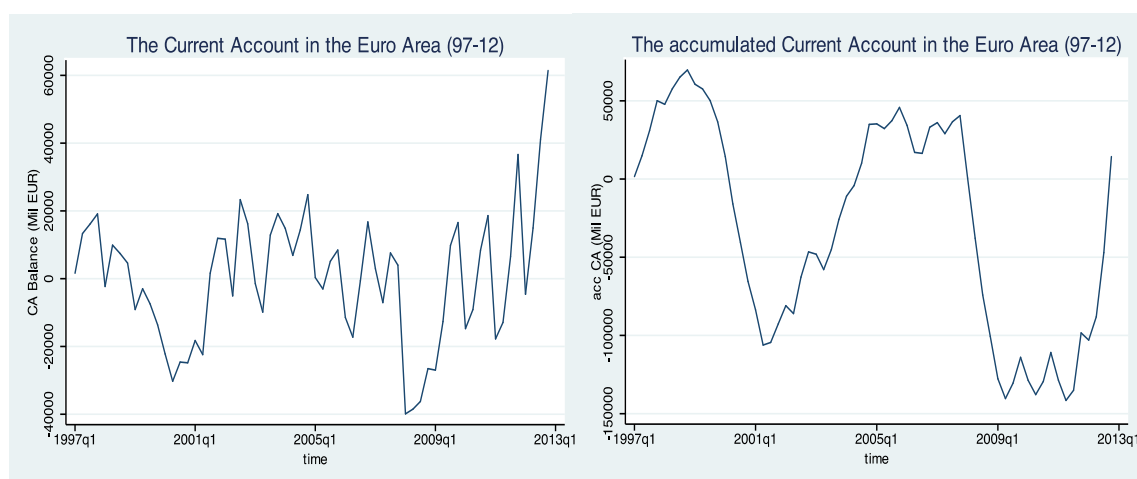
<sup>‡</sup> The financial account is again determined as  $CA = -\text{financial account}$ , assuming capital account and errors and omission are zero.

<sup>§</sup> The latest list of BIS reporting countries is available on the BIS website ([www.bis.org/statistics/rep\\_countries.htm](http://www.bis.org/statistics/rep_countries.htm)).

## 4.1 The Stationarity of the CA

The left panel of Figure 1 plots the CA, whereas the right panel visualizes the accumulated CA of the Euro Area between 1997 and 2012. This figure gives a first impression of outstanding build-up or deterioration phases.

**Figure 1 - The CA**



Both until the burst of the dot-com bubble and the beginning of the Lehman-Crisis, we observe sharp deteriorations of the CA. Whilst in the second quarter of 2000 the change of the CA is still negative it increases until it becomes again positive in the third quarter of 2001. This shock of the “Internet bubble” on the 10<sup>th</sup> March 2000 (Kraay and Ventura, 2007) can be seen as a shock to the system, moving together with a deterioration of the international financial markets. Technically, a large CA reversal is an inevitable reaction; however, from the graphs and the figures as well as intuitively it might be obvious that CA adjustments do not occur instantaneously.

Similarly, a high-accumulated CA deficit in the crisis-period of about 100 billion Euros (from 1997) can be observed from Figure 1. Since some Euro Area countries are partly cut off from the financial markets, the intuition is that they have to reduce their CA deficits by large amounts. However, the recovery from this shock still takes place.

To make the evolvment even more striking it is helpful to separate the Euro Area in two categories, CA deficit and CA surplus countries. At least with respect to the CA there is a remarkable heterogeneity within the single currency union. I make use of Greece, Italy, Ireland, Portugal, and Spain (GIIPS) and Germany as inherent debtor and creditor countries, respectively.

**Figure 2 - The accumulated CA for Germany and the GIIPS countries**

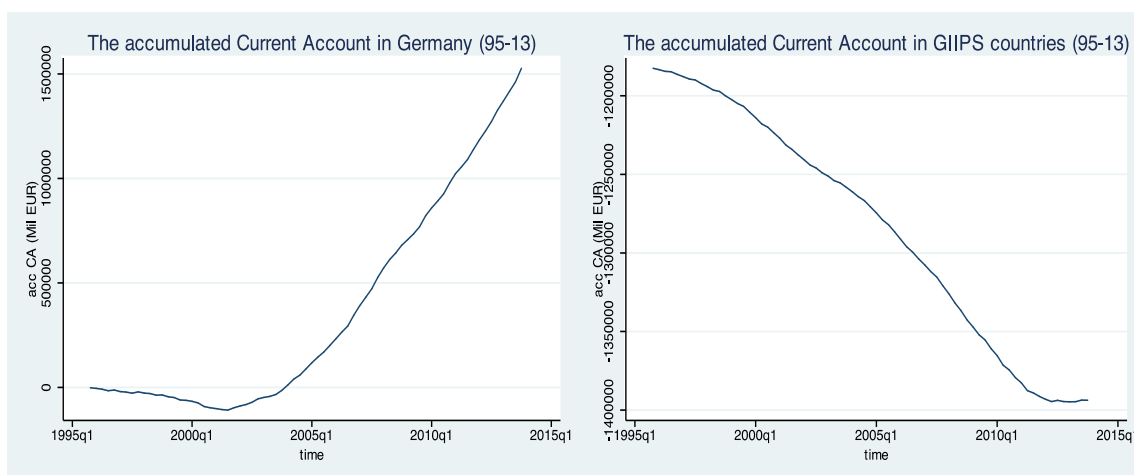


Figure 2 sheds light on the heterogeneity of the CA evolutions in the Euro Area. The left panel shows that Germany accumulated very high CA surpluses until the end of 2013. Whereas Germany ran CA deficits in the beginning of the period, the accumulated CA is even strictly increasing since the third quarter of 2001. Conversely, the CA is strictly decreasing for the GIIPS countries until recently with a slight upwards trend for some countries (right panel).

Bearing in mind that the CA only reflects the difference between savings and investment and hence equals net capital outflows, CA deficits in Euro Area countries, have to be financed through net capital inflows. Additionally, if some countries run CA deficits, others have to run surpluses, such that

$$S_t - I_t = -(S_t^* - I_t^*)(5)$$

where \* reflects all foreign countries.

As apparent from the graphs, the CA of the current period seems to follow the value of the last period quite often. To infer statistical persistence or other properties of a time series, the autocorrelation functions can be helpful.

**Table 1 - Correlogram of the CA**

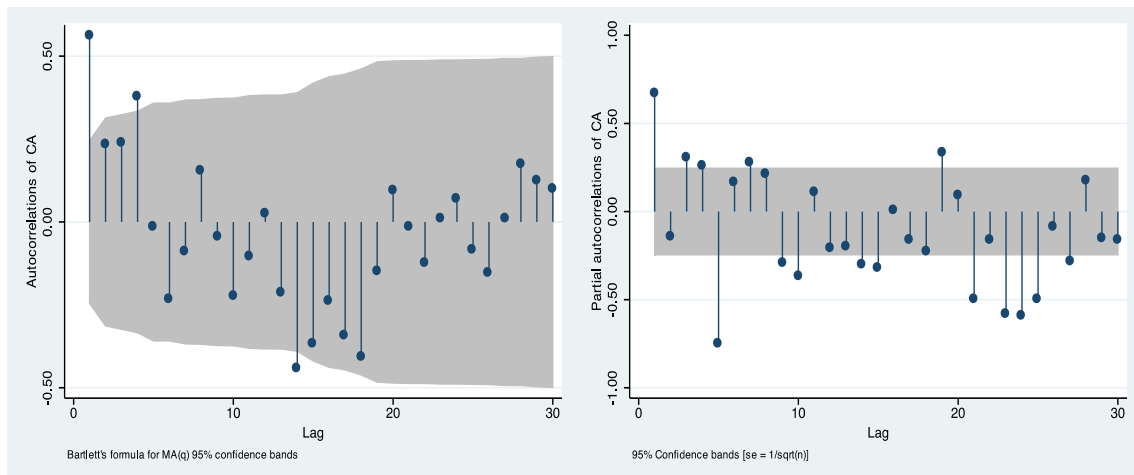
LAG	AC	PAC	Q	Prob>Q
1	0.563	0.6733	21.252	0.0000
2	0.2315	-0.1405	24.903	0.0000
3	0.2393	0.3086	28.869	0.0000
4	0.3761	0.2572	38.827	0.0000
5	-0.0154	-0.7503	38.844	0.0000

6	-0.2312	0.1642	42.737	0.0000
7	-0.0885	0.2761	43.318	0.0000
8	0.1554	0.209	45.139	0.0000
9	-0.0434	-0.2953	45.284	0.0000
10	-0.2252	-0.3655	49.252	0.0000
11	-0.1037	0.1057	50.11	0.0000
12	0.0233	-0.2131	50.154	0.0000
13	-0.2144	-0.204	53.961	0.0000
14	-0.4411	-0.301	70.399	0.0000
15	-0.3694	-0.3246	82.16	0.0000
16	-0.2394	0.0086	87.202	0.0000
17	-0.3442	-0.1603	97.85	0.0000
18	-0.4096	-0.232	113.26	0.0000
19	-0.1506	0.3334	115.39	0.0000
20	0.0936	0.0935	116.23	0.0000

The correlogram (Table 1) shows that the correlation between the current value of the CA and its value two quarters ago (lag 2) is 0.2315 (AC). This coefficient can be helpful determining the order of a moving average process, when the series is stationary (we see that later). The partial autocorrelation (PAC) shows that the correlation between the current value of the CA and its value on the second lag is -0.14, not including the effect of the previous lag (lag 1). To determine the order of an autoregressive process the PAC can give helpful indications.

The Box-Pierce' Q statistic tests the null hypothesis that whether the autocorrelations are equal to zero. Table 1 shows significant autocorrelation between the lags, shown in the Prob>Q values; I can reject the null hypothesis of no autocorrelation for all 20 lags.

**Figure 3 - Autocorrelation functions for the CA**



The graphical view of the AC shows again that the series does not seem to decay to zero geometrically, which should be the case for a stationary series (Figure 3, left panel). The coefficients of the PAC (right panel) are not only mirror images of the first lags because they are adjusted by eliminating the intervening values between the lags. The graphic view of the PAC does still show spikes, for example at lag 5 or at lag 23 and 24, which might be generated from noise or outliers in the series. I cannot reject the null hypothesis for at least these strong outliers and also some additional lags that they are not partially autocorrelated with the current value. The lag at which the PAC cuts to zero often determines which order of integration the autoregressive (AR) function is.

For examining the Euro Area, I start with modelling the CA as an AR process of the first order, AR (1). The PAC cuts to a relatively small value after the first lag, and all values, except for two outliers, lying inside the 95% confidence interval. In an AR process, a high coefficient of the lag indicates a persistent CA and a small coefficient infers a flexible CA. The error term can be seen as real shocks to the economy, for example world interest rates or technology shocks (Taylor, 2002).

**Table 2 - AR(1) of the CA**

	(1)
	CA
ARMA	
L.ar	0.658***
	(6.87)
sigma	
cons	15023.7***
	(11.86)

<i>N</i>	64
<i>ll(model)</i>	-706.607
<i>Df</i>	2
<i>AIC</i>	1417.215
<i>BIC</i>	1421.533

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

For the AR (1) process I can reject the null hypothesis that the first lag of the CA and the intercept does not affect the CA of the current period on a 1% significance level. The model predicts that the CA of the next period is 66% of the last period plus an intercept of 15023 million Euros (Table 2).

The CA could also be explained by a MA (1) process, which indicates that an innovation, the error term, of the current period and its first lag affect the dependent variable (Table 3). Hence, the AC function should have one spike on the first lag, and then cut to zero; the PAC should be characterised by a slow decay to zero.

**Table 3 - MA(1) of the CA**

	(1)
	CA
ARMA	
L.ma	0.535***
	(4.97)
sigma	
_cons	15706.4***
	(12.26)
<i>N</i>	64
<i>ll(model)</i>	-709.3373
<i>Df</i>	2
<i>AIC</i>	1422.675
<i>BIC</i>	1426.992

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The first lag of the MA is also highly significant as well as the constant. As it can hardly be claimed that the AC function drops to zero after the first lag, the AR (1) model should fit the data better. However, since an AR of an infinite order can be written as a MA (1) process, this representation can make sense\*. If both the PAC function and the AC function decay to zero the model might be identified by an ARMA (1,1) process (Table 4).

\* See Cochrane (1997) for the proof.

**Table 4 - ARMA (1,1) for the CA**

	(1)
	CA
CA	
_cons	1361.6
	(0.28)
ARMA	
L.ar	0.492**
	(2.93)
L.ma	0.274
	(1.56)
sigma	
_cons	14785.7***
	(11.81)
N	64
ll(model)	-705.6037
df	4
AIC	1419.207
BIC	1427.843

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

To compare the qualities of the models I use the Akaike's information criteria (AIC) and the Schwarz's Bayesian information criteria (BIC), presented below the regressions respectively. These model selection criteria are taking both the goodness of fit and the principle of parsimony into consideration. Parsimony is a concept of the Box-Jenkins approach and desires explaining a relationship with as few parameters as possible (Enders, 2010)\*. The AIC and BIC can make inferences about which model should be selected. The lower the criteria the higher the quality of the model.

For the AR (1) model both, the AIC and BIC, are smaller than for the MA (1) and the ARMA (1,1). These are only three possible variations to model the CA without any exogenous variables. Adding more lags does neither enhance the model selection criteria nor does its economic intuition make sense.

To find out if the data is independently distributed I first predict the residuals of the AR (1) process. The fact that various lags of the correlogram for the residuals are significant already indicates that the residuals are not uncorrelated and therefore not white noise (Table 5). The

\* Adding more parameter increases the Goodness of fit, but reduces the degrees of freedom.



Portmanteau test for white noise can confirm that this is actually the case, since the null hypothesis can be rejected on all common significant levels (Table 6).

**Table 5 - Correlogram for the predicted residuals of the AR (1) process**

LAG	AC	PAC	Q	Prob>Q
1	0.0899	0.0977	0.5424	0.4614
2	-0.2274	-0.2699	4.0664	0.1309
3	-0.0388	-0.0282	4.1707	0.2436
4	0.5517	0.6799	25.597	0
5	-0.0962	-0.4523	26.26	0.0001
6	-0.3779	-0.3119	36.662	0
7	-0.124	-0.0654	37.801	0
8	0.4164	0.3552	50.881	0
9	0.0126	0.1619	50.893	0
10	-0.3211	-0.3262	58.956	0
11	-0.0213	0.0268	58.992	0
12	0.3201	-0.0559	67.316	0
13	-0.0231	-0.0961	67.36	0
14	-0.3477	-0.1679	77.576	0
15	-0.1161	-0.4171	78.739	0
16	0.1773	-0.1465	81.505	0
17	-0.1144	-0.1588	82.682	0
18	-0.4522	-0.4633	101.46	0
19	-0.0478	0.0405	101.68	0
20	0.27	0.4216	108.67	0
21	-0.0055	-0.1889	108.68	0
22	-0.2515	0.226	115.04	0
23	0.0533	-0.2159	115.33	0
24	0.2152	-0.5304	120.22	0

**Table 6 - Portmanteau test for white noise**

Portmanteau (Q) statistic =	50.8806
Prob > chi2(8) =	0.0000

Nevertheless, the CA might not be any ARMA (p,q) process. If a shock to a system is permanent and does not vanish over time, the process might be a random walk - also called unit root process. If the process tends to walk without mean-reversion and thus is non-stationary, this can be tested via a unit root test.

The (augmented) Dickey-Fuller test is one of the most commonly used tests for stationarity. The null hypothesis is the existence of a unit root. The test statistic shows that the CA series is non-

stationary, since the test statistic is smaller for all common critical values and therefore I cannot reject the existence of a unit root. This test is conducted for five lags (Table 7).

**Table 7 - Augmented Dickey-Fuller test for the CA**

Interpolated Dickey Fuller						
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	N	MacKinnon approximate p-value for Z(t)
Z (t)	-2.556	-3.569	-2.924	-2.597	58	0.1024

The first difference of stochastic trends is one way to deal with non-stationary series. Conversely, deterministic components can be removed by detrending. Running the augmented Dickey Fuller test again for the change in the CA instead of the CA, again for five lags, I can reject the null hypothesis of a unit root (Table 8).

**Table 8 - Augmented Dickey-Fuller test for the change of the CA**

Interpolated Dickey Fuller						
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	N	MacKinnon approximate p-value for Z(t)
Z (t)	-4.266	-3.569	-2.924	-2.597	58	0.0005

The often more precise Dickey Fuller generalized least squares (GLS) test is the same as the augmented Dickey Fuller except that the time series is transformed via a GLS regression (Table 9). The null hypothesis of a unit root of the CA series is only rejected for lag 4, on a 1% level\*.

**Table 9 - Dickey-Fuller GLS test for the CA**

Maxlag = 10 chosen by Schwert criterion					
Number of obs = 53					
Lags	DF-GLS mu Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	
10	-1.708	-2.614	-2.021	-1.723	
9	-2.063	-2.614	-2.041	-1.744	
8	-1.528	-2.614	-2.063	-1.767	
7	-1.177	-2.614	-2.087	-1.792	
6	-1.547	-2.614	-2.112	-1.817	
5	-2.244	-2.614	-2.138	-1.842	
4	-3.044	-2.614	-2.163	-1.866	
3	-1.123	-2.614	-2.188	-1.889	
2	-1.591	-2.614	-2.21	-1.91	
1	-2.821	-2.614	-2.231	-1.929	

\* Since I assume the series not to have a linear time trend, I conduct the test with the 'notrend' option.

Opt Lag (Ng-Perron seq t) = 9 with RMSE 9681.336
Min SC = 19.03828 at lag 4 with RMSE 11292.16
Min MAIC = 18.94692 at lag 7 with RMSE 10480.17

Conducting the Phillips-Perron test for a unit root shows that I cannot reject the null hypothesis of a unit root on the 1% significance level (Table 10). The test is again conducted without the trend option, because the series does not seem to exhibit a trend over time.

**Table 10 - Phillips-Perron test for the CA**

Number of obs = 63				
Newey-West lags = 3				
MacKinnon approximate p-value for Z(t) = 0.0799				
<span style="font-weight: bold;">—————</span> Interpolated Dickey Fuller <span style="font-weight: bold;">—————</span>				
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(rho)	-17.205	-19.134	-13.404	-10.778
Z(t)	-2.667	-3.562	-2.92	-2.595

Since CA deficits have to equal net capital inflows, they are of course economically bounded above by the willingness of foreign countries to give loans unless we do not rule out the Ponzi scheme. In this case, the CA itself should be - in the sense of economic intuition - stationary. If not, one would obtain a violation in the budget constraint, which will lead to government or central bank interventions (Holmes et al 2005). Because of several government transfers and compensation mechanisms, such as TARGET2 (see also Auer 2013), which play a big role since the outbreak of the Euro Crisis, one might take into consideration that the CA in the Euro Area or at least for individual countries might not be stationary. Although the budget constraint might have been violated in some cases this is only a necessary, but not a sufficient condition for a non-stationary CA. Even if the government or central banks intervene, there might be a certain threshold of a CA deficit, which will not be accepted by creditor countries and therefore would lead to a collapse of the Euro Area.

The empirical results of non-stationary CA stem from a default Dickey Fuller test (Table 11), with a constant and no further option. Implementing a non-constant option for the CA and the net inflows from banks I can reject the null hypothesis for the CA.

**Table 11 - Augmented Dickey-Fuller with no constant option for the CA**

Interpolated Dickey Fuller					
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	N
Z (t)	-3.000	-2.615	-1.950	-1.950	63

Until now, I have conducted all stationary tests with the aggregate series for the Euro Area CA. In this case the determination of a unit root is quite inconclusive. However, because of the vast heterogeneity in the Euro Area in terms of the CA imbalances, it might be interesting conducting a unit root test for the whole sample. A unit root test in a panel framework can be obtained by the Hadri Lagrange multiplier (LM) test, the Im, Pesaran, and Shin (IPS) test or the Levin-Lin-Chu test. They all use the augmented Dickey-Fuller statistics across the cross-sectional units of the panel (Greene 2012). Whereas the Levin, Lin and Chu test makes the simplifying assumption that all panels share the same autoregressive parameters (2002), the IPS test uses some variation within the panel (Im et al. 2003). The advantage of the Hadri (LM) test is that it tests for at least one single unit root in the panel and not only a certain fraction like the IPS or the Levin-Lin test so that the null hypothesis is mostly accepted unless there is very strong evidence for a unit root (Hadri 2000).

As expected, the Hadri LM (Table 12) test rejects the null hypothesis that all panels are stationary. I also control for serial correlation and the demean option to remove cross-sectional means\*.

**Table 12 - Hadri LM test for the CA**

Ho: All panels are stationary Number of panels = 14	
Ha: Some panels contain unit roots Number of periods = 64	
Time trend: Not included Asymptotics: T, N -> Infinity	
Heteroskedasticity: Robust sequentially	
LR variance: Bartlett kernel, 5 lags Cross-sectional means removed	
	Statistic
z	22.6535
	p-value
	0.0000

**Table 13 - Levin-Lin-Chu test for the CA**

Ho: Panels contain unit roots	Number of panels = 14
Ha: Panels are stationary	Number of periods = 64
AR parameter: Common Asymptotics: N/T -> 0	
Panel means: Included	

\* Malta and Cyprus are not included in the analysis.

Time trend: Not included		
ADF regressions: 6.00 lags average (chosen by AIC)		
LR variance: Bartlett kernel, 13.00 lags average (chosen by LLC)		
	Statistic	p-value
Unadjusted t	-3.9826	
Adjusted t*	3.1035	0.9990

Second, I run a Levin-Lin-Chu unit root test for the CA taking into account a weaker criterion\* (Table 13). I cannot reject the null hypothesis of a unit root. This test is one of the weakest criteria, so considering a test with removing cross-sectional means by using the demean option I cannot reject the null hypothesis either (Table 14).

**Table 14 - Levin-Lin-Chu test for the CA with subtracting the cross-sectional means**

Ho: Panels contain unit roots	Number of panels = 14	
Ha: Panels are stationary	Number of periods = 64	
AR parameter: Common	Asymptotics: N/T -> 0	
Panel means: Included		
Time trend: Not included		
ADF regressions: 5.29 lags average (chosen by AIC)		
LR variance: Bartlett kernel, 13.00 lags average (chosen by LLC)		
	Statistic	p-value
Unadjusted t	-3.8894	
Adjusted t*	2.8175	0.9976

Both random walks with drift and random walks as well as trend stationary processes are characterized by a unit root (Greene 2012). As mentioned above, to overcome the problem of both, non-stationary variables and therefore spurious regression, it has been proven useful to detrend the variables or take the difference of the variables until they are both stationary. Taking the first difference of a random walk with drift leads to a white noise series, but the same procedure for a trend stationary process will not necessarily overcome the problem of non-stationarity. On the other hand, detrending random walks and random walks with drifts does not seem to be the right approach.

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\* I do not include the trend option and let the AIC criteria choose how many lags should be used, restricted by a maximum of 10.

## 4.2 Is the CA driven by bank-related capital flows?

Until the outbreak of the financial crisis the large CA deficits of some Euro Area members, especially the GIIPS countries were financed by private capital inflows and especially banking inflows (Auer, 2013). Hence, the accumulated CA should equal the net international investment position minus net valuation effects, again assuming both the capital account and the errors and omissions are zero\*. The net international investment positions combine foreign direct investment (FDIs), portfolio equity, portfolio debt, bank debt and others (Bluedorn et al., 2013).

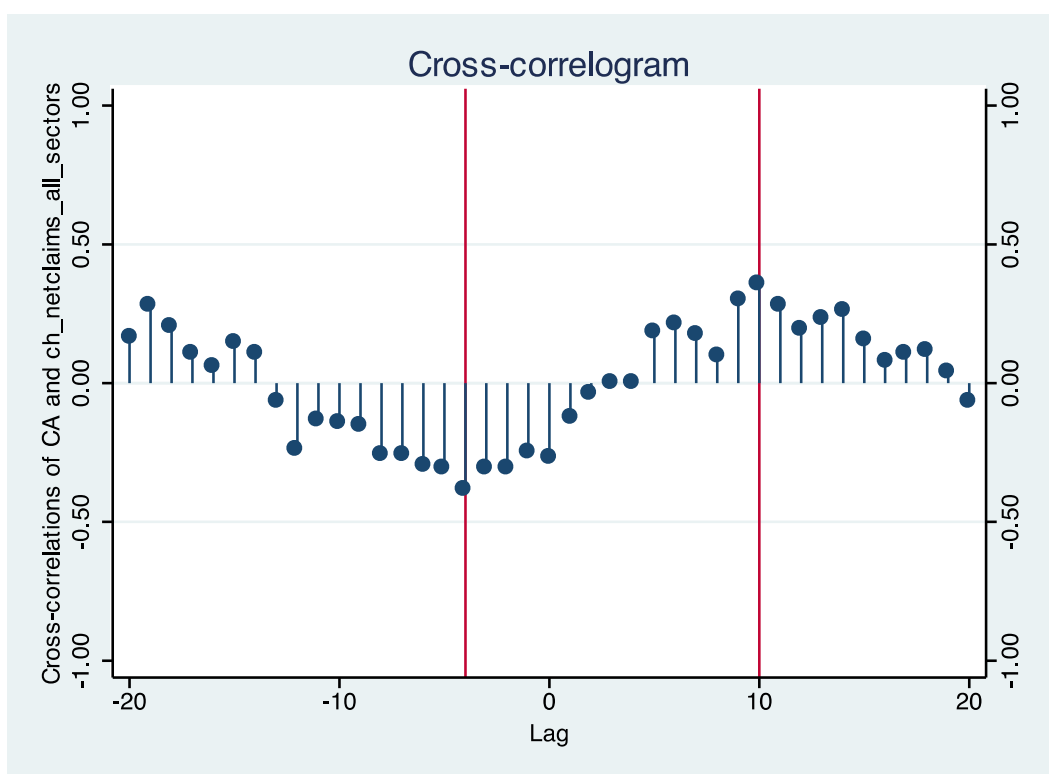
Which of these components drives the CA is an interesting question to explore. FDI's for example are more stable than short-term loans like loans and deposit on the interbank market (Bluedorn et al. 2013). Hence, withdrawing liquidity from loans is easier than withdrawing the FDI's, as they reflect long-term investment. If inter-banking loans and other loans from banks to Euro Area countries mainly drive the CA, it might jeopardize these countries if they are confronted with liquidity withdraws.

Figure 4 shows a cross-correlogram for the bivariate time series of the CA and the change of the net claims of all banks against Euro Area banks. The fact that the correlations are first positive at negative lags and are oscillating after indicates that for example at lag 0, there is a negative immediate correlation between the variables. This means that a drop in the CA is associated with an immediate increase in the change in the net claims of other banks against the Euro Area.

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\* They are both empirically very small, so they can be neglected.

**Figure 4 - Cross-correlogram CA and bank related net capital inflows**



There is a negative peak at lag minus four and a positive at lag 10. This means that the change in net claims lags the CA positively by 10 periods and the CA negatively lags the change in the net claims by 5 periods (peaks are marked with a line). The negative values between the current period and the 13<sup>th</sup> negative lag show that a positive change in the net loans in the current period is associated with a higher CA deficit in this period.

Regressing two non-stationary series, which share a common stochastic drift and are integrated of the same order, is not economically meaningful and is called a spurious regression.

For example, assume that the CA deficits and the net increase of banks related loans against the Euro Area are integrated of the same order. It is possible that both share a common trend and are thus cointegrated. To test if this relationship exists, I run an Engle-Granger test. As shown above, the CA has a unit root conducting with a constant option and referring to the Dickey-Fuller FGLS, but the change in the CA does not have one. The Dickey-Fuller indicates that the net inflows from all banks to the Euro Area are non-stationary (Table 15).



**Table 15 - Dickey-Fuller test for bank related net capital flows**

Interpolated Dickey Fuller						
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	N	MacKinnon approximate p-value for Z(t)	
Z (t)	-1.351	-3.559	-2.918	-2.594	65	0.6057

**Table 16 - Dickey-Fuller test for the change of bank related net capital flows**

Interpolated Dickey Fuller						
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	N	MacKinnon approximate p-value for Z(t)	
Z (t)	-4.683	-3.560	-2.919	-2.594	64	0.0000

The second difference of the net claims of all banks against the Euro Area, the change of capital flows, does not have a unit root as shown by the Dickey-Fuller test\* (Table 16). Since some of the technical unit root tests indicate that both variables the bank-related net capital inflows and the CA are integrated of order one, I test if the variables are cointegrated. The second step of the Engle-Granger methodology is running an Ordinary Least Squares (OLS) regression (Table 17).

**Table 17 - Regression CA on bank related net flows**

	(1)
	CA
ch_netclaims_all_sectors	-0.0638*
	(-2.24)
N	64
Adjusted R-Squared	0.0589

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

It is not surprising that the regression is significant, because the variables follow a common trend. I cannot establish any causality here; as mentioned above, this is referred to as a spurious regression, which produces seemingly a high explanatory power of the regression, the R square, but a very high autocorrelation as can be seen from the Breusch-Godfrey test (Table 18). This might be the case if both of the variables behave individually as non-stationary random walks. Typically, we can reject the null hypothesis of no serial correlation, like in this example.

\* Different variations of this test give the same conclusion.

**Table 18 - Breusch-Godfrey test for serial correlation**

Lags(p)	Chi2	Df	Prob>chi2
1	20.037	1	0.0000
HO: no serial correlation			

The estimated error terms of this regression show the deviation of the long-run relationship of the two variables. If these estimated error terms are stationary, I obtain a cointegrated relationship of order (1,1). The Dickey-Fuller shows that the series of the estimated error is stationary.

**Table 19 - Dickey-Fuller test for stationary of the residuals**

Interpolated Dickey Fuller					
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	N
Z (t)	-3.549	-2.615	-1.950	-1.610	63

Due to the fact that the estimated error is a residual, I do not have to consider a constant in the Dickey-Fuller test (Table 19). However, I can reject the null hypothesis, that the variables are not cointegrated, because the null hypothesis of a unit root can be rejected at all common significance levels.

Similarly, I can test for cointegration by the Johansen test, to estimate the cointegration rank of a VECM. Before, I implement the VECM I have to specify the lag length. Since Table 20 reports that the likelihood-ratio test selected a model with three lags I henceforth include three lags.

**Table 20 - Selection-order criteria**

Sample: 1998q1 - 2012q4		Number of obs = 60						
lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
1	-1421.97	.	4	.	1.5e+18*	47.5324*	47.587*	47.672*
2	-1419.5	4.9526	4	0.292	1.60E+18	47.5832	47.6924	47.8624
3	-1414.7	9.5891*	4	0.048	1.50E+18	47.5567	47.7205	47.9756
4	-1410.06	9.2841	4	0.054	1.50E+18	47.5353	47.7537	48.0938
Endogenous: CA, ch_netclaims_all_sectors								

The trace statistics, which is calculated by the eigenvalues, shows that I can reject the null hypothesis that the variables are not cointegrated of the first order when I use a model with three lags (Table 21). Economically it makes sense that the two variables are cointegrated, because CA

deficits are at least partly financed by banks located in foreign countries. In this context an error-correction model is the logical consequence (Taylor 2002).

**Table 21 - Johansen test for cointegration**

Trend: constant			Number of obs = 61		
Sample: 1997q4 - 2012q4			Lags = 3		
maximum rank	parms	LL	eigenvalue	trace statistic	1% critical value
0	10	-1448.0303	.	20.4068	20.04
1	13	-1439.4097	0.24621	3.1656*	6.65
2	14	-1437.8269	0.05057		

I can reject the null hypothesis of no cointegration on the one percent level and fail to reject the null hypothesis of at most one cointegrating equation. Thus, there might be one cointegrating equation.

Table 22 regresses the difference (D) of both variables on the lagged (L) differences of both variables, the error correction term (ce), and a constant. The short-term relationship is reflected by the lagged error correction terms (the adjustment parameters), which reflect the speed of adjustment to their long-run equilibrium. Since they are both negative and significant, it represents the negative feedback necessary in the bank related net inflows to bring the CA back to equilibrium and vice versa. The residual from the OLS estimate of the cointegration equation is close to unity for the banking capital flows, indicating an almost immediate adjustment of banking capital flows when there are misalignments in the relationship between banking capital flows and the CA. The error correction term of the CA is also significant but much smaller, implying a half-life of the misalignment of 5 to 6 quarters.

On the opposite, the bank-related net inflows and the second lag of the CA are individually significant on a 5% level to explain the CA (column 1), which is not the case for the banking capital flows. Although I cannot interpret the coefficients causally, this might indicate that the CA reacts rather to the capital flows in the long-run and banking capital flows adjust in the short-run to misalignments. In addition, the F-tests reflect that I can neither reject the null hypothesis that the lags of bank related inflows are jointly zero to explain the CA nor the other way around. For example, if the residual is negative, the CA is lower than its long-term equilibrium; the additional net financing need is first compensated by banking inflows to bring the relationship to its long-run value.

**Table 22 - Estimates of the VECM and F-test**

(1)		(2)	
D_CA		D_ch_netclaims_all_sectors	
L._ce1	-0.178** (-2.59)	L._ce1	-0.971** (-2.59)
LD.CA	-0.0755 (-0.63)	LD.CA	0.345 (0.53)
L2D.CA	-0.386** (-3.20)	L2D.CA	0.242 (0.37)
LD.ch_netclaims_all_sectors	0.0651* (2.06)	LD.ch_netclaims_all_sectors	-0.0941 (-0.54)
L2D.ch_netclaims_all_sectors	0.0252 (0.97)	L2D.ch_netclaims_all_sectors	-0.229 (-1.61)
_cons	1669.2 (0.87)	_cons	-305.1 (-0.03)
(1)[D_CA]LD.ch_netclaims_all_sectors= 0		chi2( 2) = 4.34	
(2) [D_CA]L2D.ch_netclaims_all_sectors=0		Prob > chi2 = 0.1143	
(1) [D_ch_netclaims_all_sectors]LD.CA =0		chi2( 2) = 0.37	
(2) [D_ch_netclaims_all_sectors]L2D.CA=0		Prob > chi2 = 0.8304	
Number of obs = 61			

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 23 shows the cointegrating equation and the estimated cointegrating vector with a unity restriction imposed on the CA\*. There seems to be an equilibrium relationship between the bank related inflows and the CA. Both the significance of the lagged error correction term (Table 22) and the significant coefficient on the bank related net inflows (Table 23) indicates that a vector autoregression in first differences of these variables would yield inconsistent estimates because of misspecification.

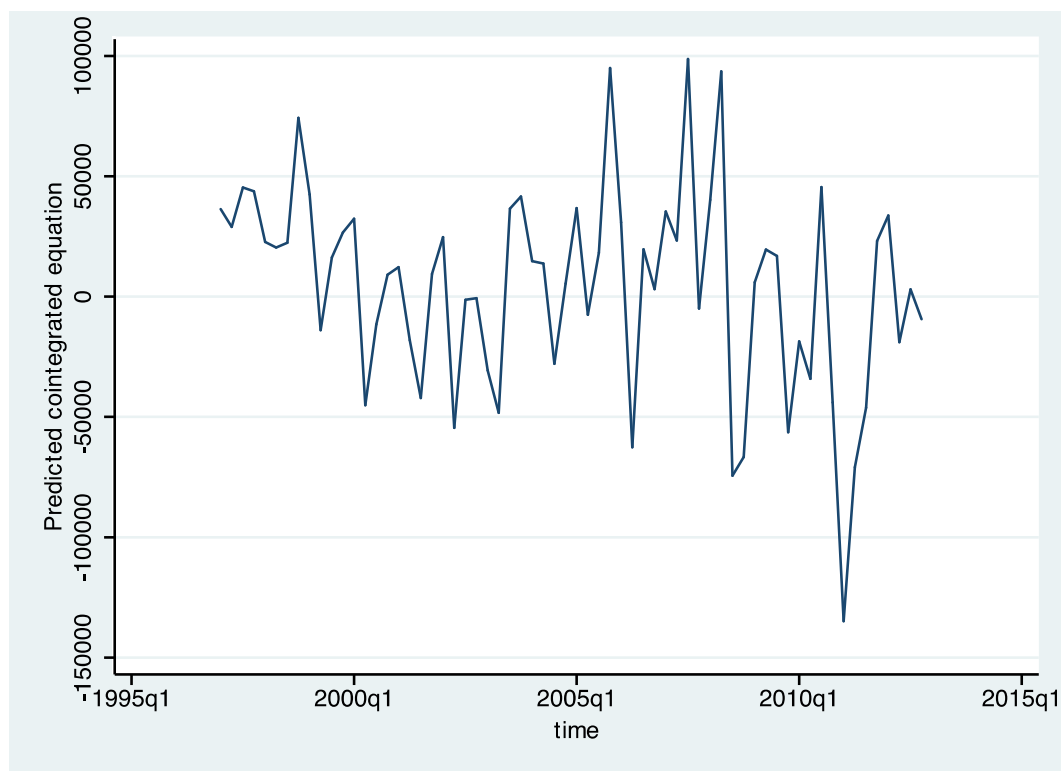
\* The estimation of a cointegrating vector from a error-correction model is equivalent to that from an autoregressive distributed lag model.

**Table 23 - Estimated parameters of the cointegrating vector**

Cointegrating equations						
Equation	Parms	chi2	P>chi2			
_ce1	1	19.489	0			
Identification: beta is exactly identified						
Johansen normalization restriction imposed						
beta	Coef.	Std. Err	z	P> z	95% Conf. Interval	
_ce1						
CA	1	.	.	.	.	.
ch_netclai~s	0.5427054	0.1229333	4.41	0.000	0.3017606	0.7836501
_cons	295.7297	.	.	.	.	.

Figure 5 shows the graphical view of the cointegration equation. The relationship appears to be stationary, although there is large shock in 2011. This might be due to the case that bank related inflows stopped abruptly and could not finance the CA deficit more\*. Next, I check whether the VECM model is stable (Table 24). I can establish that one of the moduli is equal to unity.

**Figure 5 - Cointegration equation**



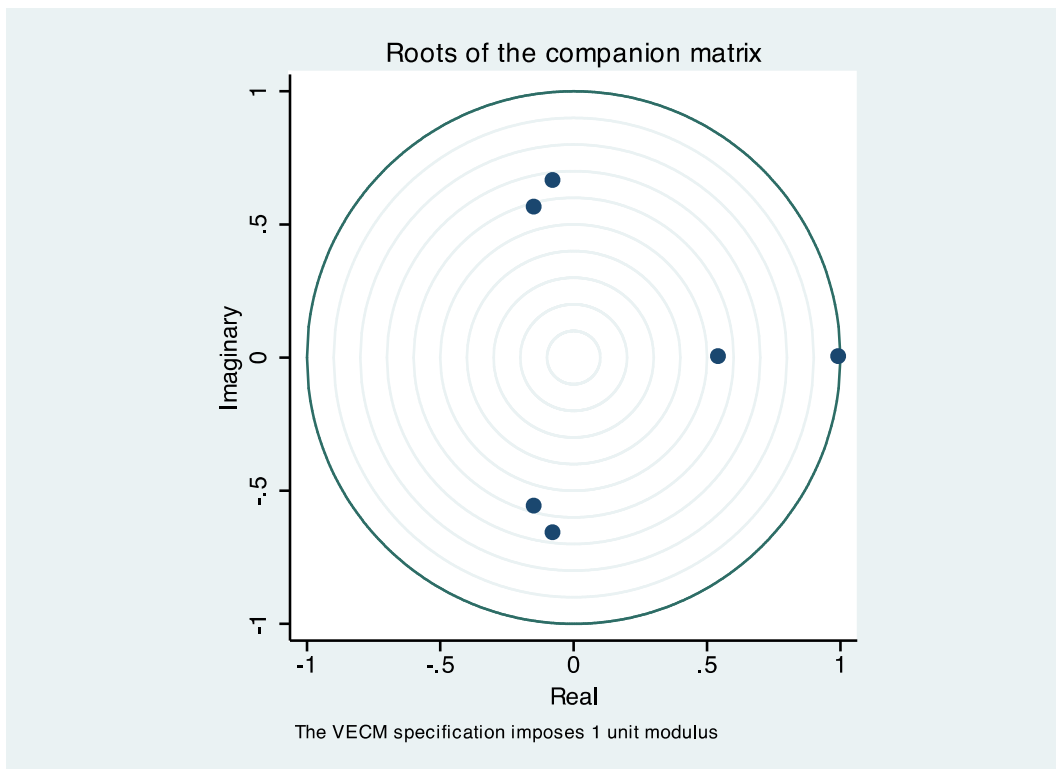
\* This period is also characterised by a massive increase in TARGET2 balances, which substituted net private capital inflows.

**Table 24 - Eigenvalues of the companion matrix**

Eigenvalue	Modulus
1	
-0.0695383 + .6600406i	0.663694
-0.0695383- .6600406i	0.663694
-0.1437328 + .5636676i	0.581705
-0.1437328- .5636676i	0.581705
0.5523206	0.552321
The VECM specification imposes a unit modulus.	

The graph shows the real Eigenvalues on the horizontal axis and the complex components on the vertical axis. This graph (Figure 6) also shows that all eigenvalues of the companion matrix, except for only one, lie inside the unit circle. This indicates that I have specified the model correctly and the eigenvalues meet the stability condition.

**Figure 6 - Eigenvalues of the companion matrix**



Now, it ought to be tested for for serial correlation of the residuals. Table 25 shows that I cannot reject the null hypothesis of no autocorrelation on a 1%, so that I continue with this assumption.

**Table 25 - Lagrange- multiplier test**

lag	chi2	df	Prob > chi2
1	9.611	4	0.04752
2	7.901	4	0.09527

H0: no autocorrelation at lag order

**Table 26 - Normality, Skewness, and Kurtosis test**

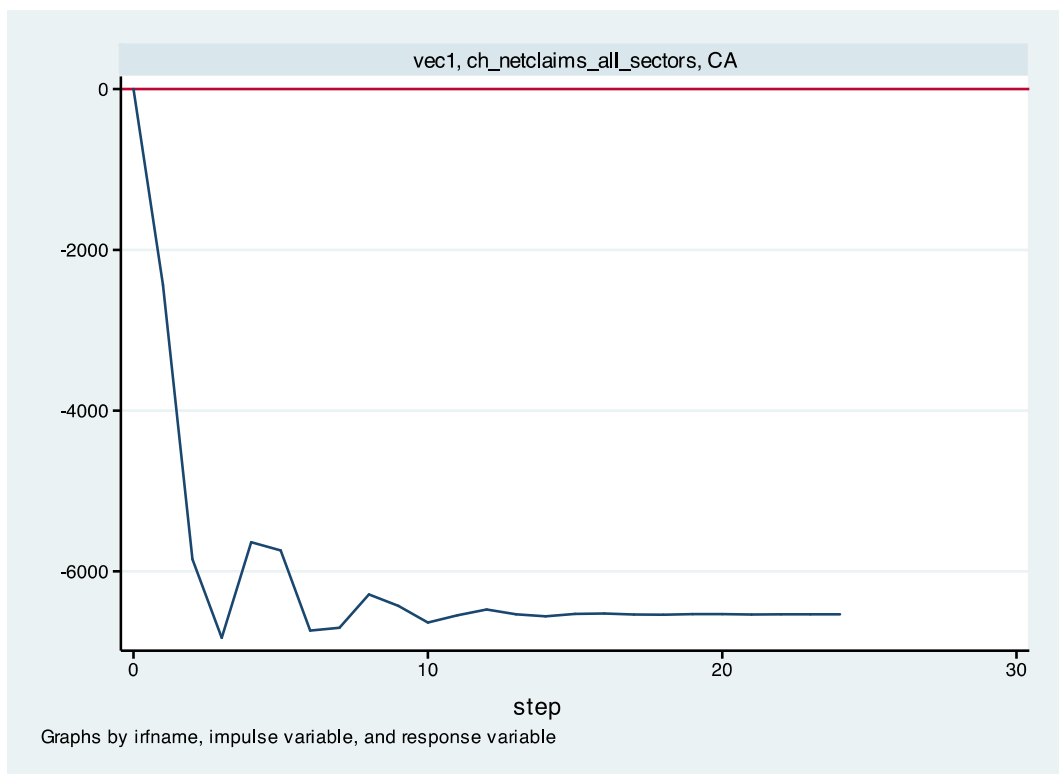
Jarque-Bera test				
Equation		chi2	df	Prob > chi2
D_CA		0.217	2	0.89727
D_ch_netclaims_all_sectors		0.356	2	0.8369
ALL		0.573	4	0.96603
Skewness test				
Equation	Skewness	chi2	df	Prob > chi2
D_CA	-.13983	0.199	1	0.65571
D_ch_netclaims_all_sectors	-.18671	0.354	1	0.55162
ALL		0.553	2	0.75835
Kurtosis test				
Equation	Kurtosis	chi2	df	Prob > chi2
D_CA	2.9158	0.018	1	0.89320
D_ch_netclaims_all_sectors	2.9743	0.002	1	0.96729
ALL		0.020	2	0.99020

The Jarque-Bera test (Table 26) indicates whether the residuals are normally distributed as well as if the skewness and kurtosis matches a normal distribution. I can neither reject the null hypothesis that they are normal nor that their skewness and kurtosis match a normal distribution.

Since I am dealing with non-stationary variables in this case, the impulse response functions (IRF) of a VECM do not have to die out geometrically, because the variables are not mean reverting. In general, the IRF (Figure 7) shows the effect of a standard deviation increase in net inflows of banks on the CA.



**Figure 7 - IRF of the VECM**



According to the model, the shock remains in the system and does not phase out. First, the CA drops sharply on the first lag and then is oscillating around the long-run mean. Second, after about three years (12 quarters) the effect on the CA converges to its long-run equilibrium. Thus, positive shocks to the bank related capital inflows to the Euro Area, are even in the long-run associated with high CA deficits.

As I mentioned in the beginning, the introduction of the Euro and therefore the financial globalisation of many member countries might have led to massive bank-related capital inflows (see among others Lane 2012; Milesi-Ferretti, Tille 2011). According to the model and assuming it as an exogenous shock, this shock is associated with a permanent deficit in the CA\*. Conversely, a negative orthogonal shock of the bank related inflows, for example, the retrenchment of the interbank market since the beginning of the financial crisis implies a long-term improvement in the CA.

\* A possible caveat of this conclusion is of course the assumption that these shocks are assumed to be exogenous.

## CONCLUSION

This paper aims to provide an applied econometric analysis of the CA in the Euro Area. The stylized facts following from the technical analysis of the dynamics of the CA illustrate an inconclusiveness of the stationarity of the CA during the time of a single currency union. However, I have illustrated most of the classic and all panel unit root tests that I considered are in favour of not rejecting the null hypothesis of a unit root.

Continuing with a non-stationary CA for the Euro Area for the observed time span, I investigate the relationship between the CA and the bank related net capital inflows. First, I find out that that the CA and the bank related inflows are negatively correlated. Making use of their common integration level of the first order, I apply a VECM. This leads to the conclusion that a shock of vast bank related capital inflows are associated with permanent CA deficits. Misalignments in the long-term relationship are almost immediately adjusted by banking capital flows and much slower by the CA.

I leave it to the reader to apply this result to different scenarios that have occurred in some Euro Area countries since the introduction of the Euro and that might have partly led to the debt crisis in the Euro Area.

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