

The nomination of the market

“Compared to the form of economy, whichever this may be after the failure of the alterity of the plan, the market remains invariably a mechanism for the intersubjective certification of efficiency through the transaction of utility, a rational regulator of resource appropriation and of the propensity for prosperity.”

The integrative perspectives contain intermediate situations in the perception of certain concepts within which the form is often mistaken for the essence, the method for the object and where taking the trans-forming path is seen as a de-formation of the content. The case of the single European market is the most significant example.

The integration of the national economies is unavoidably a complex process, without precedent in societal practice. Its completion is the consequence of the instrumentation of evolutionary processes, of the pacing of transformations according to sustainability criteria, of the adjustment of goals according to consensual objectives, of the institutionalization of mechanisms according to the internalization of good practices. It is the construction of a type of economy in a manner which is coordinated by all the agents involved, having rational targets specific to a project for the readaptation to the societal structures which have been radically changed by the cycle of globalization.

Generally, we find ourselves facing the crossing into another paradigm in the evolution of consciousness, when the vertical dependency becomes horizontal, with man dependent on himself as a node in the cooperative human network, leading to him as the true measure of all things, with all things coming from him and everything happening through the force of his consciousness. Secularization through reason ends, while humanization through consciousness emerges. But the very radicalism of the innovative movement constitutes the reason for the adverse, sometimes fierce reactions, which are anyhow being felt in the neurotic dialogue

between theories in an inquisitorial manner, which intends to reject at any price whatever is being perceived as the danger of the maculation of the mainstream class conceptual habitudes.

The delicate part is that the European whole, approximated by the integration of national states and economies, confers its component parts roles and functions dimensioned according to the transfer of sovereignty. There is an interval, until the completion of the whole, where the overlaps fuse. The significance of the forward-backward sense is thus the result of partisan positioning. The separation of water from land holds the signification of the beginning of a new world through the lamentations of the old one. There is no doubting the resilience of the upturned vision, the deconstruction of the model of economy structured around the idea of the sovereignty of the national state being a very tense process, even if still functional.

In such conditions, we face the linguistic atavism of the habit of identifying everything and its component parts only according to the place of execution or the particularities of context. And this takes place in a feudal, fragmented reality, which was shaped into the most persistent form of fragmentarism by the incipient capitalist option, by inventing the national state and the national economy. As a consequence, the spontaneous logic had naturally attributed the market with the name of the national state and the national economy, to later – as a reflex – use the various appellatives attributed by ideologies to the societal frame.

The truth is that starting from the ancient Greeks' household/oekonomia, as the prototype for the idea of economy, and until the economy of corporatist capitalism the market has always held the same meaning, its selfish gene passing from one carrier to the next, their difference being only in form and potential. Otherwise, up to the point of the ideological disputes on the supremacy of the visions for societal construction, and of the heated confrontation between the perspectives of capital and of labour – amplified in full revolutionary process in order to help with the creation of the national state and the industrialist consolidation of national economies, the market wasn't attributed with any credentials. The coryphaei of the 19th century (and initial third of the next's) ideologies have initiated the campaign for reinforcing the arsenal of adversity by conscribing the economic concepts – and the market especially – and culminated with the war of puritanical claims during the experiment of soviet planning.

What we now know as the European experience of the coordinated market is, in reality, the founding method for the functioning of the market within integrative parameters, in accordance with the trends of globalization, and not some variety or another type of market. Genetically, the market does not change – only the experience of its use for the functions of the economy is diversified and amplified. It is, in epistemic terms, a transitional phase in the formation of the new, global context of the internal European market which keeps in its new form the ordinary

essence of the market as a space of economic rationality. In other words, the coordinated market is the method for turning functional the post-national European economy.

The market remains a regulating mechanism of economicity in any other type of economy but the national one. It does not transform itself in anything different from what it already is. The market is a market regardless of the way in which the evolution of the type of economy unfolds, including the socialist one, if we admit the reality of the Asian post-planning economy.

What is being said about the market, that it could be social, coordinated or socialist is nothing but an identification error with the type of economy or the type of society. Things are similar when the concept of free market is being used, when an ideological phalanx lost in the jungle of its own theoretical hypotheses – structured by the tribalism of appropriation – transfers to an instrument of rationality a defining value for the rational constitution of society. However, it is the society itself who needs to be free to found its projects with discernment, while also using the objective and invariable mechanisms of the market.

The path from market functionality centred on the national economy to the state of pre-eminence and prevalence of the single European market does not change the essence of the market at all, but creates its functional context of a different, integrative type – that of the European global social space. Compared to the form of economy, whichever this may be after the failure of the alterity of the plan, the market invariably remains a mechanism for the intersubjective certification of efficiency through the transaction of utility, a rational regulator of resource appropriation and of the propensity for prosperity.

There is no doubt that the performance of the market would suggest a differentiation of typology, by nomination inclusively. But the semantic solution points to theoretical superficiality and inadequate conceptualization, and often even to the escalation of ideological adversities. The naked truth is that the form is mistaken for the essence.

Marin Dinu

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The global crisis: Challenges to the banking system

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Abstract. *After the 2008 crisis, the tasks of economic policies and the institutions' structure underwent many changes both at world economy and European level. The paper focuses on the banking system stability, the effects of the fast pre-crisis leveraging and the fast post-crisis deleveraging, and their impact on the banking system. The most relevant methods used in this field deal with the analysis of banking sector-oriented economic policies adopted during the crisis, on the one hand, and the analysis of indicators assessing the crisis fallout on the banking sector, on the other hand.*

Keywords: banking system; financial and economic crisis; financial stability; monetary policy.

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1. Introduction

The 2007 crisis invalidated some elements in the conventional economic thinking framework. Considering that the crisis erupted in an economic environment characterised by low inflation rates, it goes to show that subdued inflation does not necessarily ensure financial stability. After five crisis-ridden years, removing the crisis fallout on the banking system or correcting the existing imbalances has proved much costlier than the competent authorities could ever think of. Under these circumstances, the question arises as to whether central banks can be exempted from the responsibility of ensuring financial stability and whether they can efficiently run and manage an extended mandate on price stability and financial stability.

Following the onset of the global economic crisis with its roots in the financial area, governments grappled with a double challenge. On the one hand, they had to ensure financial system stability by resorting to the most within-reach tool, i.e. regulation, step which regulators, governments and central banks did, but with a time lag. They embarked on a vigorous communication campaign in an attempt at showing their commitment in this area. On the other hand, these entities had to stabilise the costs associated with systemically important banks. When the crisis broke out, governments counted on its being short-lived, so they did not hesitate to use public funds to mitigate the fallout from the crisis. Several countries employed significant public funds for stabilising the banking sector. The governments had to deal with tremendous pressure, as many considered that they had not only to raise the necessary public funds from the banking sector – seen as the culprit for triggering the global economic crisis – to stabilise it, but also to penalise this sector for its adverse effects on the economy. Prudent opinions were in favour of building a buffer out of all these additional incomes which should help rescue banks in the case where the economy faces a downturn, thereby reducing financial market vulnerability of less advanced countries (ECB, 2010).

The crisis highlighted the need for managing financial stability. The question is how this can be achieved in a globalised banking system in which the home-host relationship between parent institutions and their subsidiaries is regulated differently from one country to another or from one continent to another.

The tasks of economic policies and the institutions' structure underwent many changes both at world economy and European level. Looking at monetary policy – which has a direct impact on the banking system – by 2008 its goal envisaged price stability in nearly all countries, but since 2009 central bank communication has emphasised, alongside price stability, the financial stability and the creation of institutions playing a major role in the macroprudential regulation and supervision of the banking system, as it is common known that

only a sufficiently strong system will be able to resume its specific activities – especially lending –, destitute of which jumpstarting economic growth would be much more sluggish.

This paper focuses on the analysis of banking system stability, the effects of the fast pre-crisis leveraging and the fast post-crisis deleveraging, and their impact on the banking system.

2. Banking crisis

Caprio and Klingebiel (2003) define banking crises as much or all of bank capital being exhausted. Such crises typically comprise large-scale bank failures, depositor runs, the high level of non-performing loans, or certain emergency actions of the (Demirgüç-Kunt et al., 2006).

Reinhart and Rogoff (2011a) distinguish two types of banking crises: banking crisis type I – systemic (severe), and banking crisis type II – financial distress (milder). Reinhart and Rogoff (2011b) mark a banking crisis by two types of events: bank runs that lead to the closure, merging, or takeover by the public sector of one or more financial institutions (e.g. Venezuela in 1993 or Argentina in 2001) and if there are no runs, the closure, merging, take-over or large-scale government assistance of an important financial institution that marks the start of a string of similar outcomes for other financial institutions (e.g. Thailand, from 1996 to 1997).

Resting on the premises that the banking system is the major component of the financial system and financial stability refers to the financial system and financial stability is a public good (Schoenmaker, 2011), the producer cannot exclude anybody from consuming the good and consumption by one does not affect consumption by others. Moreover, a key issue is whether governments can still produce this public good at the national level in today's globalised financial markets.

Goodhart and Schoenmaker (2009) shows that, since financial stability is currently managed at the national level, national governments covered the costs of bank recapitalisation in the wake of the 2007 crisis. The fiscal costs of providing liquidity to banks in distress are large (in the cases where banks conduct cross-border activities). The preferred resolution of a bank failure is a private sector solution. According to Goodhart and Schoenmaker (2009), using public funding should only be considered when social benefits (as a form of preventing a deeper banking crisis) exceed recapitalisation costs at taxpayers' expense.

The banking system crisis occurred amid the build-up of vulnerabilities arising from a combination of a number of encouraging conditions (Goodfriend, 2000): low real interest rates over a relatively long period, extremely favourable lending conditions, low financial market volatility and higher asset prices.

The crisis highlighted the vulnerability of the banks whose business model highly and excessively depends on securitised financial markets which, under the crisis-induced stress conditions, led to an unrealistic assessment of risks, liquidity and position concentration, and to the inability of foreseeing a sharp reduction in collateralised loan affordability to support these assets.

Bank failures differ from non-financial corporation failures, as banks differ from non-financial corporations in terms of the manner of collecting the resources made available to their clients for lending purposes, as well as in terms of the development of securitised bonds, supervision and bankruptcy resolution regulations that are different from those applying to the traditional commercial companies. Many bank characteristics that are different from non-financial corporation characteristics require different failure resolutions. According to Flannery (1994), asset substitution poses more severe problems to banks than to non-financial corporations. Marinč and Vlahu (2012) give their opinion on bank bankruptcy resolution from the standpoint of both assets and liabilities. They point to the fact that, on the assets side, the combination of substitution assets, bank assets opaqueness, and the safety net that governments created via granting subsidies give clear incentives to bank managers to take on excessive risks. On the liabilities side, liquidity injections via liquid deposits may cause coordination problems as to the banks' day-to-day functioning. In addition, banks are interconnected, and a bank failure may spread contagion to the entire financial system, entailing significant negative externalities. Banking system characteristics are related to cash provisioning, banking coordination problems, externalities' effects on the systemic risk (contagion, the public's confidence crunch, the impact on real economy, payment systems), the relevance for ex-ante efficacy of banking operations, the problem of asymmetric information, the asset substitution problem, the opaqueness of banking operations, the prudential regulations on capital requirements (under the Basel II and Basel III Accords), deposit protection schemes, which have an ex-post impact on banking activity efficacy.

Archaya et al. (2011) highlight the presence, on a globalised financial market, of fragmented regulatory and supervisory structures, which lead to coordination problems and may cause the authorities' intervention to be delayed.

The banking crisis entered the international organisations' focus of attention for three reasons at least. Firstly, it affected the financial system as a whole, after banking sector vulnerabilities proved to be systemic in nature, weighing on the other financial system components as well. Secondly, the crisis was a global event, because contagion spread via the financial operations that are steadily and almost barrier-free conducted as a result of the free capital movements. Thirdly, the containment of contagion and the financial sector shake-up contributed to depressing economic growth prospects since they

needed public sector intervention. The intervention was made by resorting to public funds, which entailed not only a decline in household incomes, but also a change in the investment behaviour.

3. Banking crisis stages

BIS (2009) published a comprehensive analysis on financial crisis stages, which are the stages of a banking sector crisis. The banking system crisis had five stages that spanned from June 2007 to mid-2009. During this period, the crisis translated into an overall loss of confidence in the global financial system, although it unevenly hit advanced and emerging economies. BIS (2009) distinguishes five stages of the banking crisis:

3.1. Stage one (up to mid-March 2008)

The banking system crisis officially broke out on 9 August 2007, when tensions emerged on the money market. The largest commercial bank in France, BNP Paribas, announced its decision to freeze redemptions on three of its funds with investments in US subprime mortgage-backed securities. The holders of such securities therefore embarked on a quest for liquidity. In order to prevent money market distortions, both the ECB and the Fed pumped no cost money into banks in need of liquidity. The central banks acted in keeping with their mandate as lenders of last resort in order to avert a systemic crisis.

The actual volume of subprime mortgage-backed securities in banks' portfolios worldwide was unknown at the time. Banks were faced with large losses on their balance sheets following a wave of mounting valuation losses related to subprime loans granted by banks from short-term funding. The first to fall victim to the liquidity shortage was Bear Stearns, which had to publicly acknowledge its distress around mid-March 2008. Events ended up in the Treasury-negotiated takeover of the distressed investment bank by JPMorgan Chase on 16 March 2008. As a result of the loss of confidence among banks, volatility peaked at record highs and credit default swap (CDS) spreads exceeded the long-term averages, soaring almost 200 basis points in this stage of the crisis (BIS, 2009).

3.2. Stage two (mid-March to mid-September 2008)

The second stage of the banking crisis featured the worsening of financial market conditions amid investors' increased fears over bank solvency rather than bank liquidity. Their concerns were warranted, first and foremost, by the performance of the US economy. In particular, the Bear Stearns rescue had failed to usher in the US economic recovery; quite on the contrary,

the recession deepened. Secondly, the ongoing US recession had spilled over to other major economies, triggering a synchronised economic downturn. The resulting outlook for earnings, defaults and associated financial sector losses worsened, and so did bank balance sheets, entailing concerns about banks' ability to implement their recapitalisation plans.

The challenges facing the US private financial sector started to spill over to the public sector. Thus, the financial crisis set in, owing to risk mismanagement in the US real estate sector and it was only a matter of time before the two major US housing finance government-sponsored enterprises (GSE), Fannie Mae and Freddie Mac, were hit by the confidence and credit crunch. Given house price declines, heightened volatility and higher credit cost, their equity prices took a dive, generating valuation losses of 70% from the levels at the end of 2008 Q1. Hence, the US government decided to intervene and to purchase the GSE stock in July 2008. However, the measure failed to restore confidence on the housing market and, amid soaring losses incurred by the two enterprises, the US government formally took control in September 2008. The bail-out of Fannie Mae and Freddie Mac only fuelled concerns about the likely losses and the inability to replenish the capital bases of banks and insurance corporations worldwide.

3.3. Stage three (mid-September to late October 2008)

Stage three marks also the apex of the crisis, with the Lehman Brothers collapse throwing the global banking and financial system into a spiral of mistrust, liquidity shortage and bankruptcies, which eventually called for a global response of central banks, governments and international financial institutions alike.

Banks worldwide opted for hoarding cash, which led to perceptions of counterparty risk spiking and to a credit crunch. Money market rates and volatility were on the rise. The large investment banks (Goldman Sachs and Morgan Stanley) obtained permission from the US authorities to get back their universal bank status.

The contagion effects at global level soon emerged:

- In late September, the UK mortgage lender HBOS was forced into a government-brokered merger with one of its local competitors. Afterwards, the British government moved to nationalise yet another major mortgage lender, Bradford & Bingley.
- The banking and insurance company Fortis received a capital injection from the Belgian, Dutch and French governments.
- Many emerging economies faced speculative attacks, the sudden disappearance of cheap credit and troubles in public debt refinancing. Against this background, a number of emerging market countries had to resort to IMF assistance and adjustment programmes.

3.4. Stage four (late October 2008 to mid-March 2009)

Volatility abated after mid-October, as market worries were soothed by the coordinated cuts in policy rates by six major central banks. Efforts to implement additional, broad-based policy measures continued with simultaneous access to liquidity and concerted action by US and EU authorities to recapitalise a number of banks. This joint approach notwithstanding, the issue of uncertainty and lack of confidence was yet to be dealt with.

At the root of the confidence crunch sweeping through global financial markets lay the dire growth prospects. The US economy had been mired in recession ever since 2007 Q4, while the downturn in advanced European economies deepened, with emerging economies being unable to substitute these countries' consumer demand. The negative economic developments of 2008 caused equity markets to resume the downward path in early 2009. Despite fears of a renewed cycle of mistrust and bankruptcies, the equity market decline actually marked an adjustment to the new reality of lower asset prices and weak economic performance worldwide. German and US governments had to step in again in January 2009 in order to bail out several smaller banks, but these actions had no bearing on global developments whatsoever.

In the absence of any signs of economic recovery, volatility heightened again in March 2009 and money market rates re-embarked on an upward path, although remaining below the highs seen in October 2008. There were two major sources of uncertainty that generated the renewed spike in volatility during the period under review. First, equity prices for the investment banks outperformed those for the broader banking sector, reflecting the recapitalisation efforts in the earlier period, which reignited worries about the banking sector soundness and the likelihood of further bail-out measures. Second, concerns were also fuelled by the large amounts destined to clean up the banking and financial sector, as well as by the potential losses from the delayed economic recovery, which were starting to take a toll on government finances in advanced economies.

3.5. Stage five (from mid-March 2009)

The banking crisis came to an end when vulnerabilities and uncertainty alike shifted from the financial sector to the public sector and economic activity. There were at least two factors that helped exit the financial crisis after March 2009. The first was the confidence boost from announcements by central banks on expanding both the range and the amount of assets they would be prepared to purchase. Such actions were conducive to cleaner balance sheets and regaining confidence on the money market. Secondly, the initiatives launched at the G20 summit in London in April 2009 envisaged large increases

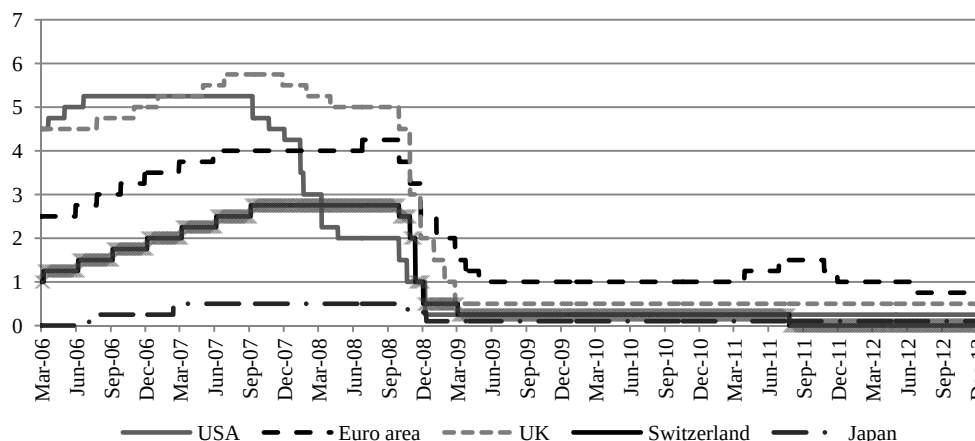
in resources for both the IMF and other international financial institutions with the primary goal of restoring confidence and alleviating uncertainty globally. Markets responded to the good news.

Despite the good news, volatility and money market indicators did not return to the levels seen in the pre-crisis period of 2007, owing to market dysfunctions. Even though unprecedented policy action by national authorities and international bodies alike had succeeded in halting the financial collapse, it was merely the start of structural reforms ensuring resource allocation and bringing prices into line with their long-term trend.

4. The analysis of the policy responses to the crisis with a bearing on the banking sector

The financial crisis and the protracted downturn of the world economy prompted policymakers, i.e. central banks and governments alike, to alter their objectives and instruments by stepping in to halt the financial sector decline in the first place and then to support economic restructuring. Most of these interventions in the economy consisted of extraordinary policy actions, via non-standard instruments, whose swift progress calls for proper explanation and classification in order to better understand them.

Central banks took centre stage, via monetary policy, in addressing the financial crisis from its very onset, yet the efficacy of their policies ran out once the crisis entered stage five. The most acute phase for central banking and monetary policy innovation was the year 2008. At the outbreak of the financial crisis, central banks operated in a relatively stable macroeconomic environment, with economic growth and subdued inflation, yet with external imbalances. The advent of the crisis and the US economy falling into recession at end-2007 triggered a shift in central banks' macroeconomic policy framework. Mid-2008 saw the first challenge posed by slowing growth coupled with inflation rising above targeted or forecasted levels. The Lehman Brothers collapse and the worsening economic outlook prompted central banks to cut policy rates, after having refrained from a similar move in the first part of the year due to persistently high consumer prices. By the end of stage five of the financial crisis, monetary policy interest rates had been brought close to zero in the US, Japan, UK, Canada, Sweden and Switzerland. The monetary policy interest rate in the Euro area was raised by 25 basis points in July 2008 in response to higher consumer prices. Afterwards, from October 2008 until May 2009, the European Central Bank (ECB) gradually lowered the key interest rate to 1%, which remained unchanged until 2011, as illustrated in Figure 1.



Note: The monetary policy rates are the followings: FDTR Index (Federal Funds Target Rate) in the USA, EURR002W Index in the Euro area, UKBRBASE Index in the UK, SZLTTR Index in Switzerland, BOJDTR Index in Japan.

Source: Bloomberg.

Figure 1. The evolution of monetary policy interest rates from March 2006 through December 2012

In the case of emerging economies, which faced the risk of speculative attacks on the exchange rate, monetary policy cuts could not be immediately applied to fight the crisis, as central banks had to wait for the foreign exchange markets to calm down.

The first impulse towards monetary policy innovation was triggered by the monetary policy interest rate reaching its efficacy limit when it came close to the 0% level. In principle, central banks attempted to use their liquidity management operations⁽¹⁾, generally known as the central bank balance sheet, in order to enhance the monetary policy efficacy. BIS (2009) classified these balance sheet operations of the central bank into three broad categories according to how the operations are related to their objectives. Thus, the first category consists of operations aimed to keep money market short-term rate (generally, overnight) anchored to the policy rate. This category of operations is less related to the central banks' balance sheet, yet innovations have also been made on this segment in order to promote the use of central bank reserves. The central banks which made the heaviest use of such operations were the Federal Reserve and the Bank of England, closely followed by the Euro area central banks and the Bank of Japan. The Swiss National Bank was the least reliant on this type of operations. The second category of operations involves initiatives to facilitate the smooth functioning of the interbank market. Most issuing banks resorted extensively to central banks' balance sheet operations. However, mention should be made that it was the Swiss National Bank again which scarcely used this type of operations. The third category consists of operations aimed at influencing lending conditions and the financial market, in general.

In this category which falls under the umbrella of balance sheet policy, the Federal Reserve introduced the largest number of innovations (regarding the source of operation financing, the type of operation as well as the eligible collateral). Nevertheless, the Bank of Japan, which also made a series of innovations, used the largest number of instruments in this category.

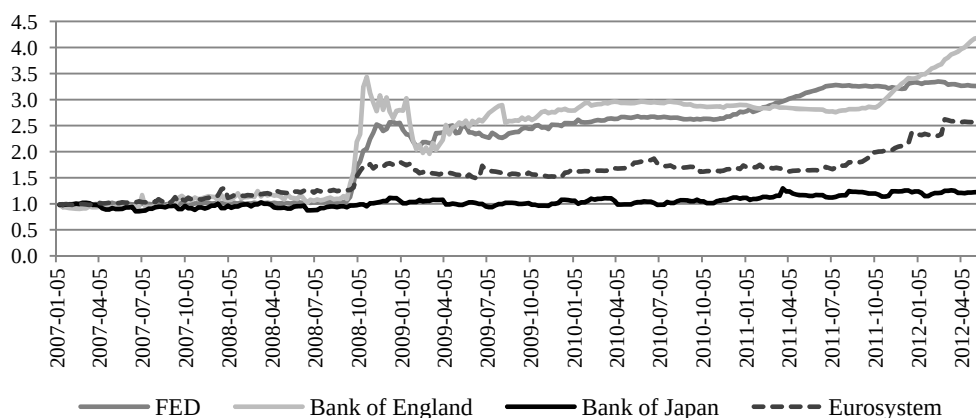
The Bank of England was the most active central bank in terms of the instruments used, closely followed by the Federal Reserve, with the Fed accounting for most of the innovations. The Swiss National Bank was the central bank that used the smallest number of instruments, avoiding balance sheet operations. Consequently, the Swiss National Bank hardly used innovations in its liquidity management operations.

The second impulse for innovation in the central bank activity was determined by the vulnerability contagion from the financial sector and the need for concerted moves by major central banks whose currencies are international reserve assets. This innovation category comprised two types of measures jointly adopted by central banks:

- Liquidity operations consisting of swap lines;
- Measures to facilitate lending through the concurrent monetary policy rate cut.

Five central banks whose currencies were international reserve assets used liquidity operations during the crisis peak (stage three) in September and October 2008. The policy rate was concurrently cut also in October 2008 (stage three of the crisis), thus providing the banking system with the necessary liquidity.

In parallel, starting with September 2008, central banks' assets rose significantly on the back of the aforementioned measures. Figure 2 presents the growth rate of central banks' assets.



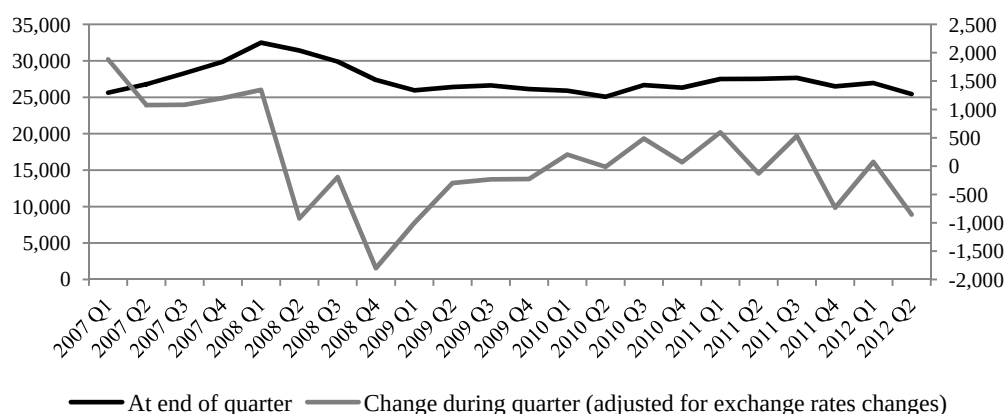
Note: In order to remove the effect of exchange rate movements, the percentage changes of bank deposits are calculated based on data expressed in domestic currency.

Source: Datastream.

Figure 2. The growth rate of central banks' assets (05.01.2007=100%)

Asset multiplication has an impact on the banking system and will further influence the banking system recovery. The growth rate of central banks' assets in this period is supportive of the loose monetary policy, the so-called non-standard policy providing banks with easy money.

Short-term indebtedness is indicative of the international aspects of the banking crisis. The BIS statistics on banking and international securities (shares and bonds) markets can be used to estimate the size of the drop in short-term international indebtedness. According to the methodology presented by Moessner and Allen (2011), the short-term international indebtedness is the sum of total international bank deposits and international debt securities outstanding with maturity up to one year. The following figure shows the quarterly evolution of short-term international indebtedness and its quarterly changes during 2007 Q1-2012 Q2.



Source: own calculations based on BIS data.

Figure 3. *The evolution of the international short-term indebtedness, 2007-2012 Q2 (in USD billions)*

As shown in the previous chart, the most severe decline in the international short-term indebtedness was seen in 2008-2009. According to Moessner and Allen (2011) the percentage contraction was much less severe in 2008-2009 than in 1931.

The international banking, measured by the international short-term indebtedness, is only part of the totality of banking. Total bank deposits therefore provide another indicator of the scale of the crises. In this period, deposits with banks in most important states posted mixed developments on a country basis, as revealed by the table below. In order to remove the effect of exchange rate movements, the percentage changes of bank deposits are calculated based on data expressed in domestic currency.

Table 1

Changes in bank deposits during and around the 2008-2009 financial crisis

Country	Total deposits at end 2007 (billion USD)	Percentage change in bank deposits Sept 2007-Aug 2008	Percentage change in bank deposits Sept 2008-Aug 2009
USA	6,714	+7.8 (a)	+9.3 (b)
Euro area	13,209	+0.5	-0.6
UK	11,063	+3.2	-6.5
Switzerland	1,155	-9.7	-1.1
Japan	4,956	+2.0	+1.6

Notes: (a) 29 August 2007 to 27 August 2008; (b) 27 August 2008 to 26 August 2009.

Source: Moessner, Allen (2011).

As shown in the table above, bank deposits fell during September 2007-August 2008 in Switzerland and during September 2008-August 2009 in the Euro area, the United Kingdom and Switzerland. In the United States, deposits increased after the Lehman Brothers failure at a faster pace than a year earlier.

During the fourth stage of the banking system crisis, it became increasingly clearer that monetary policy measures alone are not enough to stop the decline in economic activity and support the economic rebound. Moreover, the governments had already intervened to rescue the banking and financial system, in general, but even so there was a lack of confidence in the economic growth returning to positive territory. In this context, at the end of the fifth stage of the financial crisis, nearly all OECD member states had announced the adoption of fiscal packages to foster the resumption of economic growth. The United States were the first economy (except Japan) which took such fiscal measures by also preparing the largest fiscal package (2% of GDP for 2009 and 2010).

By resorting to such fiscal measures to support economic growth, the national authorities made a fiscal policy innovation, as they implicitly accepted a budget deficit by far wider than it might have been possible to finance under normal functioning conditions of the economy and the financial markets. Moreover, this decision has also a medium-term impact, due to the implicit rise in public debt.

The interventions aimed at saving and then restoring confidence in the financial sector were made in the first three stages of the crisis. In the first two stages, central banks had a major contribution to saving the confidence and preventing the discontinuation in the activity of the financial and, particularly, the banking sector. In the third stage of the crisis, governments had to intervene by injecting funds in the form of capitalisation in order to restore the confidence in the banking and financial system's capacity to contribute by and large to resource allocation in the economy.

In September and October 2008, governments implemented a new global strategy for the banking and financial sector and shifted from the case-by-case

rescue of systemically important entities (the evidence used in the US is highly relevant in this case) to rescue packages aiming the whole financial sector in a country. Such sets of measures focused on fighting the major risks to the financial system:

- Governments restricted the short selling of the shares held by banks and financial undertakings in order to stop liquidity crunches turning into solvency issues;
- Governments opted for bank capital injections in order to prevent solvency issues;
- To solve issues related to doubtful assets in the balance sheets of banks, governments proceeded to purchase such assets and/or provide guarantees and insurance for large losses arising from the portfolios of some institutions;
- To avoid contagion, government resorted to deposit insurance and the nationalisation of some banks incurring losses.

BIS (2009) classified the measures to restore the confidence in the banking sector adopted by governments into seven categories (deposit insurance, restriction on short selling, capital injections, debt guarantees, asset insurance, asset purchases, nationalisation). The governments of the nine countries whose banks held the largest share of the world banking system when the crisis broke out (Australia, Switzerland, Germany, France, the United Kingdom, Italy, Japan, the Netherlands, and the USA) used three of these measures, namely the restriction on short selling, capital injections and debt guarantees. The other measures frequently resorted to were deposit insurance and asset purchases. It is worth noting that Japan chose not to resort to deposit insurance, while Switzerland used only three of the seven measures (Table 2).

Table 2

Measures to restore confidence in the financial system

	Australia	Switzerland	Germany	France	UK	Italy	Japan	The Netherlands	USA
Deposit insurance	√	√	√	√	√	√		√	√
Restriction on short selling	√		√	√	√	√	√	√	√
Capital injections		√	√	√	√	√	√	√	√
Debt guarantees	√		√	√	√	√	√	√	√
Asset insurance					√			√	√
Asset purchases	√	√	√		√		√		√
Nationalisation			√		√			√	√

Note: Data available by end-April 2009.

Source: BIS (2009), p. 103.

The financial crisis revealed that the prolonged period featuring risk-free macroeconomic conditions contributed to the creation of a business model in the financial sector much less competitive than similar models in other

economic sectors. The analysis conducted by the BIS (2010) is based on three elements relevant to the competitiveness among sectors:

- The performance in terms of profitability;
- The relevance to economic stability, in terms of the share in total GDP;
- The global resource allocation in terms of the activity expanding internationally.

The key function of the financial system is the allocation of financing resources, and the limits of its scope are defined by the capability to manage risk and indebtedness. The BIS (2010) analysis based on the global financial data provided by all economic sectors for the 1995-2009 period shows that the financial sector recorded a performance defined as profitability, comparable with that reported by the other economic sectors. Table 3 illustrates the evolution of ROE (return on equity) in various economic sectors worldwide.

Table 3

ROE in various economic sectors worldwide

	1995-2009	1995-2000	2001-2007	2008-2009
Banks	12.2	13.3	12.8	3.2
Non-bank financial institutions	11.2	12.3	11.4	5.4
Non-financial sector	11.7	10.9	12.8	9.8
Energy	14.2	10.8	18.6	10.1
Industry	10.4	8.3	11.5	11.0
IT	12.8	15.1	12.8	10.3
Utilities	10.8	9.3	11.6	11.9

Source: BIS (2010), p. 75.

However, there are two issues. On the one hand, the performance of the financial sector was as good as that reported by the other economic sectors only during the boom period and in an environment featuring low interest rates and subdued inflation and, on the other hand, the financial sector managed to obtain these results solely by contracting a 5-6 times larger debt compared with the other economic sectors and for the entire period under review. Under the circumstances, it is clear that the current business model in the financial sector uses too many resources that could be more efficiently resorted to by other sectors. Moreover, the use of resources by the other sectors appears to induce also a lower level of risk compared with that in the financial and banking system.

A large share of the heightened risk associated with the financial and banking sector, and thus of the vulnerability it induces across the entire economy, comes from the concentration of this sector, at least after the 1990s, on funding from short-term financial resources (excessive use of money market instruments.) This development was partly encouraged by the changes in the activity of the central banks that had opted for liquidity management as the key monetary policy instrument. But instead of central banks accommodating

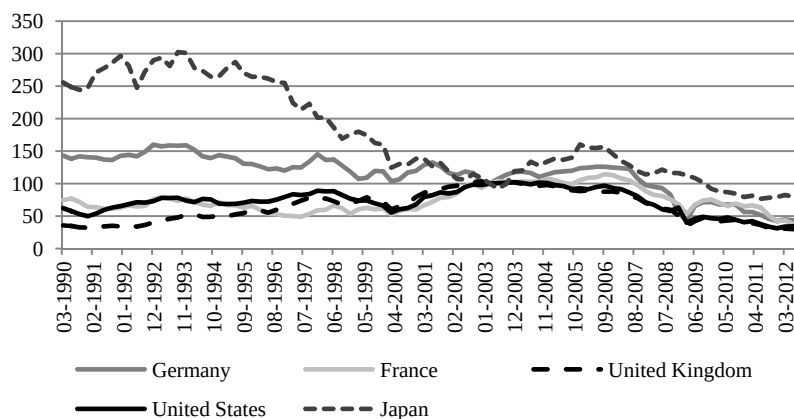
money market needs that actually represented the demand from the real economy conveyed via the commercial banks, central banks found themselves captive to the liquidity needs of the money market, given that banks have been seeking additional profits by way of arbitrage at global level on the money market in other economies.

World economy saw a fast-paced growth after 1989. This growth was partly the result of certain structural changes underwent by the financial sector. Thus, the free movement of capital and the continuous functioning of stock exchanges worldwide had an overwhelming importance. These changes would not have been possible in the absence of technological advances in the IT&C.

According to BIS (2010), the share of value added in the financial sector compared with total value added in the USA or the EU founding Member States saw a twofold increase between 1980 and 2009. Therefore, in the USA, the share of value added in the financial sector went up from 5% in 1980 to 8% in 2009. Concurrently, in Australia, the share rose from 3% to 9%. The increased relevance of the financial sector in the total of national economies also implied the reallocation of certain financial resources from other economic sectors towards the financial sector following a development trend. Under these conditions, the share of the capitalisation of the financial sector in terms of total capitalisation rose even higher. This increase was more noticeable in the economies featuring a higher financial innovation rate. Hence, the share of the capitalisation of the financial sector in Germany grew from 20% in the 1970s to over 30% in the 1990s, while in the USA the share of the capitalisation during the same period moved up from 5% to 20%. An explanation is required regarding the larger share of capitalisation in Germany compared with the USA. The main reason relates to the differences regarding the attraction of resources for financing economic activity. While in the USA the model of capital market financing prevailed, in continental Europe, especially in Germany, the prevalent model consists in the cooperation with the commercial banks employing resources from household savings.

5. The post-crisis evolution of the banking sector

In 2012, the developments in the bank share prices on the world markets (Figure 4) show that the markets still fear that the banking sector and the financial sector in general may have not yet eradicated the problems they have been facing and that the persistent uncertainty is still reflected by the rise in volatility and CDS.



Note: Ratio to broad equity index; quarterly averages, 2003 average = 100.

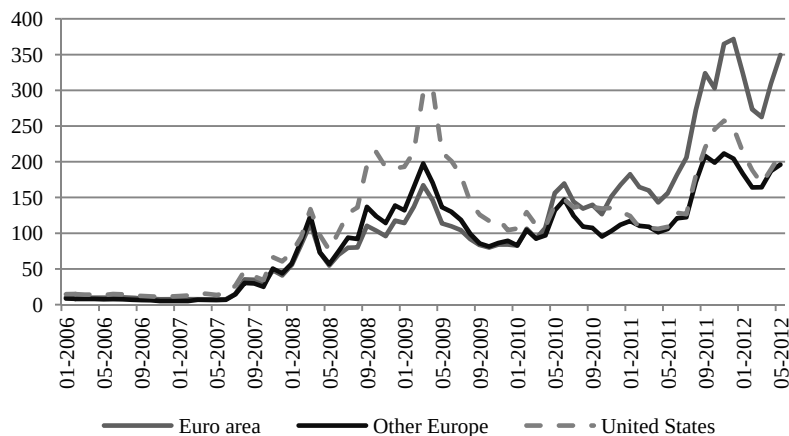
Source: BIS (2012), p. 65.

Figure 4. Banks: relative equity prices (in bp)

In terms of the international organisations involved in redesigning the regulatory framework for the activity conducted by banks and the financial sector (G20, IMF, BIS, Financial Stability Board) there are two pending issues that the regulatory and supervisory agencies need to tackle both at a national and international level. The first issue consists in restoring the soundness of the banking system, which should be viewed as a short-/medium-term objective. It needs to be fulfilled by way of recapitalisation which must also cover the potential debts and losses unrecognised previously. Second, in the long run, the regulatory framework must be altered so that the new business model of the banks should meet three conditions:

- To generate a sustainable profit flow;
- To reduce banks' reliance on the authorities' support;
- To mitigate the contagion risk worldwide.

Based on the BIS (2012) analysis, from the standpoint of investors and stock exchanges, the banking sector crisis was still ongoing in 2012. This conclusion stems from the fact that the price of bank shares did not go up from end-2008. Moreover, the level of CDS for this sector started to rise again in 2012, especially in the Euro area, as illustrated in Figure 5.



Source: BIS (2012), p. 65.

Figure 5. CDS spread developments

The banking system crisis would not have had the known consequences if commercial banks had enjoyed better capitalisation and had had liquidity reserves. It is obvious that the insufficient liquidity was partly responsible for the solvency issues faced by certain banks. Yet it is equally true that the liquidity risk is inherent to banking activity⁽²⁾. In terms of adjusting banks' liquidity position in the aftermath of the financial crisis, the situation did not improve significantly. According to BIS (2012), the Euro area banks find themselves in the most delicate situation across the developed economies, as they keep financing their activity from resources that are unsafe in times of crisis, as it already happened in the previous period. Thus, the ratio of loans (with very low liquidity level) to deposits (that are stable) stood in 2012 in the vicinity of 130%, a level attained at the onset of the crisis which has remained broadly unchanged ever since. On the other hand, the experience in the USA, the emerging economies and Japan is different as the commercial banks in these countries have diversified their liquidity sources, so that 2009 through 2012 the loan-to-deposit ratio dropped from 90% to 70% in the USA.

The relatively fragile position of Euro area banks regarding liquidity is even more illustrative if the access to a stable funding ratio (defined as a percentage of long-term funding in total funds) is taken into consideration. From this standpoint, the European banks witnessed a decline in this ratio during 2009-2012 from 60% to 55%. During the same period, this ratio stood at around 75% in the USA, after having reported 2008 through 2010 a marked rise from 60% to 75%. Commercial banks will have to significantly improve their

liquidity access by reducing the maturity mismatch via increasing the volume of liquid assets and long-term financing.

The efforts aimed at bank recapitalisation were by far more productive than those focusing on improving their liquidity conditions. Therefore, common equity to total assets ratio rose by 20% in the major European banks during 2008-2011, while in the USA and in Japan it increased by 33% and 15%, respectively. The method to improve this ratio was different. Thus, according to BIS (2012), the banks in Japan changed both terms of the relation as even though their capital went up 60%, their balance sheets expanded. In the USA, the rise in equity was accompanied by a smaller increase in assets, which led to a 33% ratio, while in the case of European banks the rather modest capitalisation was made amid the drop in assets, which resulted in a fairly substantial improvement of the ratio.

The recapitalisation of all the major banks over the same period is a significant challenge for the world economy, as it may have adverse effects on the other sectors due to the reallocation of capital and the decline in profit. In order to avoid the blockages to capital investments, the BCBS recommended the use of recapitalisation instruments that do not affect depositors and tax payers in the event of the bank failure (because they allow the absorption of the loss) or that can be converted into shares in the case of a troubled bank.

Conclusions

Bank recapitalisation is a medium- and long-term measure, but international supervisory authorities demand that actions be initiated in order to immediately contribute to restoring confidence in the banking system. Looking at interbank confidence on the money market, banks appear to have lost trust especially in their Euro area peers.

Restoring both confidence in the banking sector and interbank confidence on the money market is contingent on at least four factors (BIS, 2012):

- Banks need to mitigate their on-balance-sheet credit risk. Given that governments in advanced countries are currently over-indebted, sovereign bond holdings of banks are a source of higher credit risk. Thus, by reducing their holdings of such assets, banks may contribute to people's regaining their trust in the soundness of the banking sector.
- Banks' internal credit ratings models are opaque and do not contribute to lessening interbank market suspicions over the quality of bank assets. However, in the event of any vulnerability across the banking sector, by perpetuating the opaqueness of these models, there is a danger that a new liquidity crisis may arise, entailing solvency problems.

- Banks need to recognise all losses in their balance sheets so as to ensure the efficacy of public authorities' support. As illustrated by the successful resolution of the Nordic crisis in the 1990s, such efficiency implies the use of the available fiscal space to absorb financial sector losses and support balance sheet repair.
- Last but not least, bank customers also associate bank credibility with stakeholders assuming responsibility for the activity conducted by these institutions. Specifically, lower uncertainties surrounding the banking sector correlate with bank stakeholders bearing the burden of losses in this sector.

In the aftermath of the banking system crisis, the global financial environment underwent changes, considering the introduction of new regulations only. According to BIS (2012), over the long run commercial banks will face at least three challenges: the withdrawal of official support, the need to cut operating costs and the rescaling of international banking.

The withdrawal of the official support to the banking sector will primarily prompt commercial banks to find new methods to augment their capital. During the financial crisis, capital requirements were changed twice, so that banks will have to raise additional capital, in line with the new capital requirements under Basel III.

The withdrawal of the official support and the need to make capital increases will force banks to cut their operating costs. Normally, the financial crisis should have immediately compelled them to lower such costs, but that was not the case, as illustrated by the information released by the BIS (2012).

Facing recapitalisation needs and taking into account the difficulties related to the lack of confidence on money markets, large banks have scaled back both domestic and foreign activities. As a result, during 2008-2011, the share of credit granted by these banks to foreign borrowers narrowed by 10 percentage points (BIS, 2012), eliciting two responses from markets and national regulatory authorities. Thus, banks in the major Euro area countries, as well as in Switzerland and the United Kingdom, scaled down their foreign activities to a larger extent, whereas banks in the United States, Japan and Spain (up to 2012) strengthened their foreign positions, in an attempt to take advantage of other banks' withdrawal. Secondly, supervisory and regulatory authorities in the countries having faced reductions or evaporations of cross-border credit demanded that local subsidiaries be established in order to raise new funds. However, such action means a renewed involvement of central banks aimed at meeting new liquidity needs, postponing the moment when commercial banks should manage without official support.

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- (1) Including the operational framework for open market operations, referring to the maturity of operations, the price and the collateral requirements.
- (2) By definition, banks take household savings in the form of short-/medium-term deposits that are next used to grant medium-/long-term loans, which is referred to as maturity transformation.

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Contributions to assessing the relative dimension of agglomeration theories

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Abstract. *The aim of this paper is to structure, from a historical and spatial point of view, the existing specialists' concerns in developing theories about agglomeration. The complete and complex evaluation of agglomeration economies allows us to make important contributions to assessing the relative dimension of agglomeration theories, placing them within the research area of spatial economy and identifying them with the science of location and currently with the new economic geography (NEG).*

Keywords: agglomeration; spatial economics; location theories; regional science; new economic geography.

JEL Codes: B29, N 01, R10.

REL Codes: 16D, 16H.

1. Introduction

The scientific literature on agglomeration economies is based on the early studies in the field of spatial economy. A possible starting point for this field of study can be found in the papers which deal with differences in local productivity, D. Ricardo (1821) being a pioneer of this approach by developing a theory regarding the use of lands based on their relative fertility. His theory was later generalised to also refer to the exogenous technological differences for all types of goods. The second branch of the trade theory is founded on the differences regarding factorial endowments of trading regions, approach which is also known as the Heckscher-Ohlin theory of international trade. These two authors' contributions led to the development of theories on location and commerce, based on the existence of exogenous comparative advantages between several locations. Although these approaches were essential for its sister-discipline – international trade –, they played a less important role in the development of the spatial economics.

Nevertheless, spatial economics has dealt with the existence of non-convexities regarding transportation costs, while stating that, although comparative advantages are an attractive explanation for the understanding of international trade fluxes, they provide, at best, a partial explanation for the industrial location models within countries, and they cannot explain the driving force behind the concentration of people in metropolitan areas (Duranton, 2008). On the other hand, the non-convexities in production or consume seem to provide more convincing answers for the fundamental issues of spatial economy. The simplest way of modelling these non-convexities is to assume some indivisibilities in a spatial equilibrium framework (Duranton, 2008).

2. Contact points and areas of interference between theories on location and agglomeration

This type of model was pioneered by J.H. von Thünen (1826), who, in the paper *The Isolated State*, aimed at finding an optimal localisation for agricultural lands according to the distance between production sites and commercial markets.

Within his model, the author hypothesized the existence of a competitive farmland with complete physical homogeneity, whose production needs to be sold in the central city market. Having high transportation costs, the farmers are willing to bid for the lands up until the rent for a land situated at a given distance from the central city market is equal to the gross profit of production minus the cost of unused land minus transportation costs. On a competitive

market, the farmland is sold to the bidder who places the highest bid and, thus, this balance develops a pattern of concentric rings around the central city market.

Although there are critics who refer to its lack of realism and to its failure to also take into consideration the importance of industrial location apart from the one concentrated in the central city, von Thünen's model has generated a new perspective in the analysis of space and its influence on literature.

The term *agglomeration* was introduced through A. Weber's location theory, in 1909, in the study entitled *Theory of the Location of Industries*. Weber dealt with the issues regarding the optimal location of an indivisible and competitive manufacturing plant, taking into consideration transportation costs, with the purpose of directing the input of suppliers and the generated output towards markets. With the help of linear programming techniques, the optimal location can be obtained, by minimising the total cost of transportation. Just like Alonso's mono-centric model, Weber's theory was further expanded by taking into consideration, among others, several flexible production functions and the optimal location of public facilities.

Although Weber is mainly known for his industrial location theory, his main concern was explaining the formation process of industrial clusters. Weber's paper is a turning point in location theory, because it tries to optimise, through mathematical modelling, the location of enterprises regardless of their economic profile, passing from a microeconomic framework limited to a sole enterprise towards a mesoeconomic framework which offered clues regarding some specific areas of activity (branches of economics).

H. Hotelling (1929) also studied the location problems encountered by producers, but from a different perspective. His fundamental idea is that, because of indivisibilities, there will not be an infinite number of producers for every economic location, meaning that Weber's theory is no longer sustainable. With a small number of producers, the decision to locate somewhere implies more than just the reduction of transportation costs, since location affects competition as well. Therefore, starting from a fault of Weber's model, Hotelling deals with the issue of spatial competition.

A. Marshall, in his paper *Principles of Economics*, published in 1890, identifies three sources of profit for localised industries: labour market, producer services location and knowledge spillovers, also known in literature as the *Marshall's trinity* regarding the sources of agglomeration economies. Actually, the proximity between suppliers and clients leads to savings in transaction costs, facilitating input-output connections. A bigger market labour may allow a better division of labour and stimulates workers to invest in their skills. The diffusion of knowledge and human capital appears thanks to the

possibility of spatially-concentrated firms and workers to learn more easily from each other than they would by being dispersed in space (Marshall, [1890], 1920).

W. Christaller (1933), another important theoretician, tried to determine the size, number and distribution pattern of cities in a certain area, based on a series of elementary assumptions about consumer behaviour. He developed a structure based on marginal returns and urban agglomeration, refining a concept taken from Launhardt – the concept of hexagonal shape, which is the optimal boundary shape for complementary markets. His theory changed the way cities were viewed and analysed, from simple hierarchies or individual entities, as they were considered until then, to systems of cities.

A. Lösch (1940) is a researcher who generated a true school of thought around his theory, through his contributions to this field of study, but also through his great ideas which were later pursued and developed by other theoreticians. Lösch demonstrates that the existence of a large number of producers in a certain market area decreases total transportation costs and normalises their profits. The conclusion of this analysis is that the optimal market area, where transportation costs are minimised, has a hexagonal shape, thus ensuring an even use of a given domain. The overlapping of several hexagonal regions which have a common economic centre and a maximum number of intersections with other production centres, with the purpose of minimising total transportation costs, results in a certain hierarchy of industrial zones, which leads to the formation of *central places*, as Lösch names them.

Another pioneer of spatial economics, who introduced the agglomeration theory, was W. Alonso (1964). In his model, presented in the paper *Location and Land Use*, he hypothesizes, just like von Thünen, the existence of a physically homogeneous land, but replaces the market with a business centre where residents have to commute in order to find a workplace.

In developing his theory, also known as the *spatial equilibrium theory*, Alonso started from the idea that, in addition to its residential function, the city is home to many industrial, commercial and administrative activities. The equation expected to determine the spatial equilibrium is:

$$y = P_z \times Z + P_t \times q + Kt$$

where:

P_z – price of goods and services per unit;

Z – quantity of goods and services;

P_t – price of a land unit depending on the t distance from the city centre;

q – quantity of land;

Kt – transportation costs depending on the t distance from the city centre.

Alonso's theory ignores some elements belonging to both the city and suburbs, and its application to some real cases gave no results. This microeconomic model succeeded in replicating reality in what concerns land use and land costs in urban areas, generating a vast literature which continued developing this initial model towards the theory of multi-centric cities (Fujita, 1989).

A valuable contribution to the panoply of location theories was brought by the prominent scientist of Romanian origin, N. Georgescu-Roegen. He addresses the village and its optimal size in a socio-economic manner, also taking into account some historical insights. Thus, the village houses are arranged compactly in a place that is the centre of the village and is based on a primitive instinct, which has to do with the individuality and cohesion of the rural community.

Resorting to physical and biological approaches on this coagulation, Georgescu-Roegen seeks to establish the factors that have enabled rural communities to not exceed those dimensions that would jeopardize their cohesion. As for location, it must meet certain restrictive conditions, also taking into account the role of transportation in this decision: "Whereas by the end of the last century transportation was not a very easy job, various resources were being placed conveniently around the site which was suitable for becoming the heart of the village" (Georgescu-Roegen, 1997).

The Romanian scientist who demonstrated many different approaches accepts that the first inhabitants who grouped in a certain place were determined by their gregarious instinct, and that the optimal size of a village cannot exceed certain limits. N. Georgescu-Roegen summarizes that what matters to any rural community is its optimal size, because the village territory is seen as a material basis, and that the cause of human concentration in a single socio-economic entity is the determined, invariable structure of this material basis, which must be able to meet the vital needs of its residents.

Although very important in empirical developments, location theories failed to impose themselves in mainstream economics and were absorbed by the so-called "regional science" (Blaug, 1992). Now, a special attention is given to the study of economic behaviour in certain locations, which proved the tendency of industrial activities to group in clusters such as industrial parks, smaller or larger cities etc.

The establishment of regional science as a distinct field was based on the incorporation, from a spatial perspective, of some of the concepts and methods of economics, geography, econometrics, mathematics, sociology, political science, which gave it a strong, consciously assumed, interdisciplinary character. This qualitative leap was based on adopted rigorous and systematic methods and techniques, used in the analysis of phenomena and processes in which space, distance and location play an important role.

At the same time, there has been a continuous expansion of its area of investigation. Therein, a range of disciplines has appeared and developed, disciplines that shape, along with regional economics, the complex profile of this science: regional planning, regional forecasting, urban economics, urban planning, rural economics, land use planning, infrastructure economics, sustainable spatial development etc.

3. Agglomeration theories and the new economic geography

For the past two decades, there has been an increased interest on location in the economic literature. Developments made in modelling market structures and transportation costs, combined with the increasing processing power of computers, have led to the discovery of congestion-control mechanisms. The data source which provides basic understanding of the economy based on industrial clusters is the *new economic geography*. The development of this field is due to P. Krugman's works which, since 1990, have been oriented towards economic geography and location problems. One of the tasks of economics, the author said, is to understand why economic activities emerge and develop in one place rather than another. He also shows that a region can become, as a result of a cumulative effect and with an almost arbitrary start, more competitive than another, due to increasing returns allowed by the spatial concentration of activities.

The new economic geography is based on a series of prior contributions, such as the Dixit-Stiglitz monopolistic competition model (1977), which opened new perspectives in economic research; Samuelson's "iceberg" model of transportation costs (1952); research on imperfect market structures and origins of international trade (Helpman, Krugman, 1985). These major theoretical contributions have enabled researchers to operate with a range of keywords: the general equilibrium model of a spatial economy, different from the approach derived from the traditional location theory and economic geography; increasing outputs or indivisibilities at the level of the individual producer; imperfect competition, as a result of increasing outputs; transportation costs, giving an increasing importance to location; change of location for production factors and consumer input, which is a prerequisite for agglomeration (Fujita, Krugman, 2004).

Paul Krugman's *core-periphery model* (1991), based on the dualism of work, operates with three fundamental parameters: the costs of industrial goods, the appreciation of variety in consumption and commercial or transportation costs between different regions. Conducting simulations with different commercial costs, he observed important alterations of the model in terms of equilibrium and system stability. His theory generated a mainstream in

economics of agglomeration, which has developed exponentially in the 1990s, culminating in the work of Fujita, Krugman and Venables, *The Spatial Economy: Cities, Regions and International Trade*, published in 1999.

Subsequently, the economic literature has been enriched by the contributions of Baldwin, Forslid, Martin, Ottaviano and Robert-Nicoud (2003), Fujita and Thisse (2003), and also of other researchers who have tried to answer the pragmatic aspects of contemporary real economy such as: globalization, integration, reunification of Germany, agglomeration, trade policy making etc. The main conclusions on location drawn from the study of the new economic geography are: concentration of economic activities depends on the dispersion and concentration forces; when transaction costs are high, industries will see the need to develop locally; when transaction costs are very small, necessary inputs can be distributed in areas which record maximum production costs; industrial agglomerations strengthen the relative attraction force of regional economies.

4. Conclusions

The issues regarding the economies of agglomeration fall within the scope of investigation of spatial economy, which addresses a number of aspects found between micro and macroeconomics, while asking for an integrated view of the two approaches. It is about regional issues, including settlements, i.e. approaching the economy at a spatial scale.

Although very important in empirical developments, location theories failed to impose themselves in mainstream economics and were absorbed by the so-called “regional science”. Now, a special attention is given to the study of economic behaviour in certain locations, which proved the tendency of industrial activities to group in clusters such as industrial parks, smaller or larger cities etc.

The data source which provides basic understanding of the economy based on industrial clusters is the *new economic geography*. The study of this borderline area, found between economics and geography, between micro and macroeconomics, allows us to answer the question of why business and individuals locate in a place rather than in another.

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Hysteresis in unemployment: an empirical research for three member states of the European Union

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Abstract. *This empirical paper investigates the hysteresis in unemployment in the case of three European countries namely Greece, Ireland and Portugal for the period 1984-2010. This study uses three classical unit-root tests, and a number of panel unit root tests, which are known to overcome specification problems, to check the existence of hysteresis in unemployment data from three European Union countries. The empirical results do not reject a unit root in the unemployment rates. This suggests that the unemployment hysteresis hypothesis exists in all three countries.*

Keywords: hysteresis; unemployment rate; panel unit root test.

JEL Codes: C22, C23.

REL Code: 8G.

Introduction

The issue of unemployment has clearly become the most pressing problem for the governments of the majority of countries over the past but also the current decade. In the case of European countries, the average unemployment rate has increased from less than 4% in the 1960s to over 9% in the 1990s as well as over 10% in the 2000s. The European countries with the highest unemployment rate are those which recently joined the International Monetary Fund (IMF) supervision (ie Greece, Ireland, Portugal). The dominant feature of unemployment is its high persistence even in times of relative booms. Hysteresis refers to the influence of current market shocks on future market equilibrium conditions. Confirming the validity of the hypothesis of hysteresis in unemployment is critical both for empirical researchers and policymakers. According to Phelps (1972), unemployment hysteresis describes *a sustained unemployment after a transitory shock*. In essence, the shock effect is being built into the natural rate of unemployment resulting in *a change of long run equilibrium*.

There are two theoretical justifications for the existence of hysteresis in unemployment. The first justification is based on market rigidities. In their model, Lindbeck and Snower (1988a) support the view that the existence of hysteresis is due to the power of labour unions that keep the equilibrium wage high, and therefore increase unemployment. The second justification for hysteresis is based on the anticipation of inflation in a Phillips Curve approach, whereby downward pressures on inflation lead to sustained high unemployment (Hall, 1979).

When considering the relationship between hysteresis hypothesis with unemployment, we identify the following cases: If unemployment follows an I (1) process, then the shocks affecting the series will have permanent effects, thus shifting the unemployment equilibrium from one level to another. Should this be the case, from a policy perspective, policy action is, indeed, required to return unemployment to its original level. On the other hand, if unemployment follows an I (0) process, the effects of the shock will merely be transitory, thus rendering the need for policy action less mandatory since unemployment will eventually return to its equilibrium level. The I(0) process has commonly been referred to as the natural rate of unemployment hypothesis (NAIRU), for it characterizes unemployment dynamics as a mean reversion process (Chang et al., 2007).

The question of whether unemployment rates should be treated as stationary or non-stationary processes has received a great deal of attention ever since the publication of the paper by Nelson and Plosser (1982). Indeed, classifying unemployment rates as one or the other has a number of important statistical and economic implications. From a statistical point of view, stationary

series have a finite (non-zero) variance and exhibit temporary memory in the sense that the effect of a perturbation disappears as time passes. In contrast, non-stationary series have an unbounded variance and exhibit a permanent memory. From an economic perspective, a stationary unemployment rate has been commonly associated with the natural rate of unemployment hypothesis (NAIRU), for it may be viewed as a mean reverting process that fluctuates around its long-run equilibrium value, while non-stationarity has been associated with the hysteresis hypothesis, whereby long lasting unemployment effects arise from cyclical fluctuations (Blanchard, Summers, 1986).

Because hysteresis is associated with non-stationary unemployment rates, unit root tests have been widely used to investigate its validity. This study contributes to this line of research by determining whether hysteresis in unemployment is characteristic of the three European countries. In the current paper we test the hysteresis hypothesis in unemployment for three European country data sets using the traditional tests by Dickey-Fuller (ADF) (1979), Phillips and Perron (PP) (1988) and Kwiatkowski, Phillips, Schmidt, and Shin test (KPSS) (1992), as well as the panel-based unit root tests by Levin, Lin, and Chu (LLC) (2002), Breitung (2000), Hadri (2000) Im, Pesaran and Shin (IPS) (2003), Maddala and Wu (1999) and Choi (2001).

The remainder of this empirical note is organized as follows. Section two presents the data used, and in section three different unit root tests are carried out to test for the presence of hysteresis. Section four reports the empirical results, and section five presents some concluding remarks.

Data

This study employs the unemployment rates for three European countries, Greece, Ireland and Portugal. All data that we use derive from IMF (International Monetary Fund) over the period 1984 - 2010. Summary statistics are given in Table 1. Unemployment data indicate that Ireland has the highest average unemployment rates. Jarque-Bera (1987) test results indicate that unemployment data sets for the three countries follow normal distribution. Figure 1, Figure 2 and Figure 3 plot the actual and forecast values of the unemployment rates for Greece, Ireland and Portugal respectively.

Table 1

Summary statistics of unemployment data sets

Country	Mean	Std	Max	Min	Skewness	Kurtosis	J-B
Greece	9.274	1.615	12.50	7.00	0.195	1.972	1.360
Ireland	11.351	5.905	19.00	3.90	-0.084	1.304	3.266
Portugal	6.544	1.829	10.80	3.90	0.270	2.383	0.756

Note: J-B denotes the Jarque-Bera test [1987] for normality.

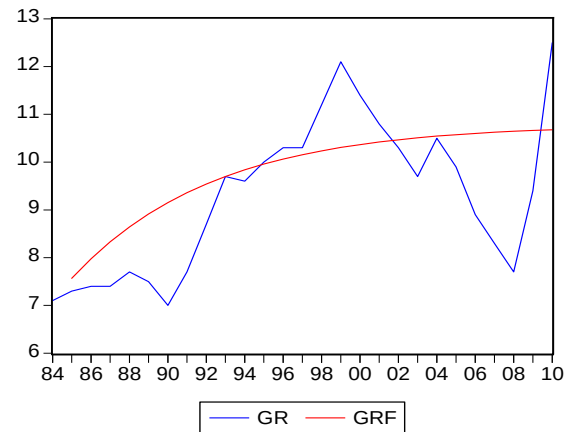


Figure 1. Actual and forecast values of the unemployment rates for Greece



Figure 2. Actual and forecast values of the unemployment rates for Ireland

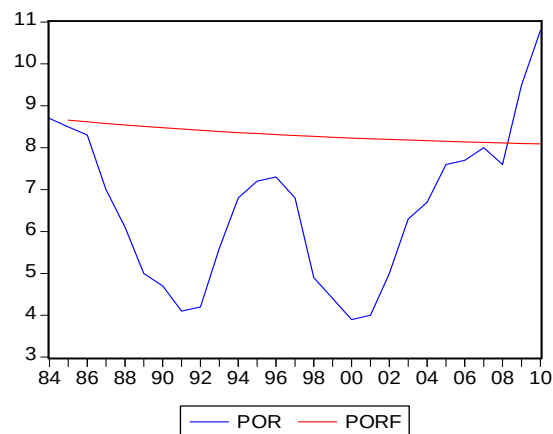


Figure 3. Actual and forecast values of the unemployment rates for Portugal

Testing for hysteresis

Time series unit root tests

For the presence of hysteresis in unemployment rate of three countries European Union we use time series unit root tests and panel unit root tests. The first test which is applied is the augmented Dickey-Fuller test (ADF) (1979). For time series, an AR (1) model can be written as follows:

$$y_t = \alpha + \gamma t + \rho y_{t-1} + \varepsilon_t \quad (1)$$

where y_t is unemployment rate, α , γ and ρ are parameters, ε_t is the error term and $t = 1, \dots, T$. The series y_t has a unit root if $\rho = 1$. Rewriting equation (1) gives:

$$\Delta y_t = \alpha + \gamma t + \delta y_{t-1} + \varepsilon_t \quad (2)$$

where $\delta = \rho - 1$. Under the null hypothesis the series y_t is a random walk, and thus non-stationary if $\delta = 0$. The AR (1) scheme is then replaced by a AR(p) scheme. The appropriate lag length is chosen by using information criteria such as the Akaike information criterion (1973).

The second unit root test which is applied is the Phillips-Perron test (PP) (1988) based on the ADF-test. Phillips and Perron start from the original DF-test equation (2), but they change in a semi-parametric way the DF-statistic such that serial correlation does not affect the asymptotic distribution of it.

The ADF test and the Phillips-Perron test are widely used methods of investigating the presence of a unit root in single time series. Unfortunately, in finite samples these tests suffer from limited power against near unit root alternatives (Maddala, Kim, 1998).

The third unit root test which is applied is the Kwiatkowski, Phillips, Schmidt, and Shin test (KPSS) (1992). Kwiatkowski et al. present a test where the null hypothesis is referred to a stationary time series. KPSS test implements the ADF test considering that the power for both tests can be determined from the comparison of the significance of statistical criteria on both tests. A stationary time series has statistical significant criteria for ADF test and non statistical significant criteria on KPSS test.

Panel unit root tests

In order to address the aforementioned power problem further (Maddala, Kim 1998), the unemployment series are checked for the presence of unit root by applying some panel unit root tests. According to recent literature, panel-based unit root tests are more powerful than those based on individual time series. In this article, we apply six recently developed unit root tests to a panel of unemployment rate. The panel unit root tests applied in this article are those developed by Levin, Lin and Chu (LLC) (2002), Breitung (2000), Hadri (2000),

Im, Pesaran and Shin (IPS) (2003), Maddala and Wu (1999) and Choi (2001). For panel data, an AR (1) model can be written as follows:

$$y_{it} = \rho_i y_{it-1} + x_{it} \delta_i + \varepsilon_{it} \quad (3)$$

where y_{it} is the unemployment rate in region, x_{it} is the exogenous variable including any fixed effects or individual trends, ρ_i is the autoregressive coefficient, ε_{it} is assumed to be mutually independent idiosyncratic error, $i = 1, 2, \dots, N$ cross-sections, and $t = 1, 2, \dots, T_i$ time periods. If $|\rho_i| < 1$, y_{it} is trend-stationary or weakly stationary, and if $|\rho_i| = 1$ y_{it} contains a unit root.

In a test for a unit root, normally, there are two assumptions regarding ρ_i . According to ρ_i same (different) quality of the different assumptions, all tests can be divided into two categories. First, we can assume that one is the assumption that all units of the panel include a common unit root ($\rho_i = \rho$ for all cross-sections), such as LLC test (2002), Breitung test (2000), and Hadri test (2000). Second, we can assume that ρ_i vary freely across cross-sections (test relaxes the assumption of homogeneity), such as IPS test, Fisher-ADF, Fisher-PP test and Choi test.

Tests with common unit root processes

Levin, Lin and Chu (LLC) (2002) test use a version of the basic ADF equation:

$$\Delta y_{it} = \alpha_{0i} + \alpha_i y_{it-1} + \gamma t + \sum_{j=1}^{p_i} \beta_{ij} \Delta y_{it-j} + x_{it} \delta + \varepsilon_{it} \quad (4)$$

where Δ is the first difference operator, y_{it} is the unemployment rate, and $i = 1, 2 \dots N$ indexes across cross section regions, ε_{it} is assumed to be independently distributed across individuals. In this model the deterministic components are an important source of heterogeneity and the coefficient of the lagged dependent variable is restricted to be homogeneous across all units in the panel. LLC tested the null hypothesis of $H_0 : \alpha_1 = \alpha_2 = \dots \alpha_N = \alpha = 0$ against the alternative of $H_1 : \alpha_1 = \alpha_2 = \dots \alpha_N = \alpha < 0$. The test is based on the test statistic

$t_{\alpha_i} = \frac{\hat{\alpha}_i}{se(\hat{\alpha}_i)}$ (where $\hat{\alpha}_i$ is the OLS estimate of α_i in equation (4) and $se(\hat{\alpha}_i)$ is its standard error).

LLC obtain the following modified t -statistic for the estimated α which is normally distributed:

$$t_{\alpha}^* = \frac{t_{\alpha} - (N\tilde{T})\hat{S}_{NT}\hat{\sigma}_{\varepsilon}^{-2}se(\hat{\alpha})\mu_{mT}^*}{\sigma_{mT}^*} \rightarrow N(0,1) \quad (5)$$

where t_a is the standard t-statistic for $\hat{\alpha} = 0$, $se(\hat{\alpha})$ is the standard error of $\hat{\alpha}$, μ_{mT}^* and σ_{mT}^* the mean and the standard deviation adjustment terms which are obtained from Monte Carlo simulation and tabulated in Levin and Lin's paper (1992). $\hat{S}_{NT} = \frac{1}{N} \sum_{i=1}^N \frac{\hat{\sigma}_{yi}}{\hat{\sigma}_{\epsilon i}}$, where $\hat{\sigma}_{yi}$ denotes a kernel estimator of the long-run variance for the individual i .

The Breitung (2000) unit root test differs from the Levin, Lin and Chu (LLC) (2002) method in two ways. First, as opposed to the LLC method, it removes only the auto-regressive component in constructing proxies for Δy_{it} and y_{it} . Second, the proxies for Δy_{it} and y_{it} are transformed and de-trended. Then the persistence parameter, α , is estimated from the following pooled proxy equation (Wickremasinghe, Kim (2008).

$$\Delta y_{it}^* = \alpha y_{it-1}^* + e_{it} \quad (6)$$

where e_{it} is the white noise error term.

The Hadri LM Test (2000) differs from the other tests in that its null hypothesis is that all series in the panel are stationary. The test statistic is distributed as standard normal under the null hypothesis. As in the univariate KPSS test, the series may be stationary around a deterministic level or around a unit-specific deterministic trend. The error process may be assumed to be homoskedastic across the panel, or heteroskedastic across units. Serial dependence in the disturbances may also be taken into account using a Newey–West (1994) estimator of the long-run variance. (Baum, 2003) Using the residuals from OLS regressions for individual series in the panel, we can compute the LM statistic as follows:

$$LM_1 = \frac{1}{\bar{f}_0} \frac{1}{NT^2} \left(\sum_{i=1}^N \sum_{t=1}^T S_{it}^2 \right) \quad (7)$$

where S_{it}^2 are the cumulative sum of residuals and $\bar{f}_0$ is the average of individual estimators of the residual spectrum at frequency zero. Hadri (2000) also provides an alternative Lagrange Multiplier (LM) statistic that allows for heteroskedasticity across cross-sections:

$$LM_2 = \frac{1}{\bar{f}_{0,i}} \frac{1}{NT^2} \left(\sum_{i=1}^N \sum_{t=1}^T S_{it}^2 \right) \quad (8)$$

Hadri [12] proves that under mild assumptions:

$$Z_\mu = \frac{\sqrt{N}(LM - \xi_\mu)}{\zeta_\mu} \rightarrow N(0,1) \quad (9)$$

where $\xi_\mu = \frac{1}{6}$ and $\zeta_\mu = \frac{1}{45}$ when only constants are included in the model, and

$$Z_T = \frac{\sqrt{N}(LM - \xi_T)}{\zeta_T} \rightarrow N(0,1) \quad (10)$$

where $\xi_T = \frac{1}{15}$ and $\zeta_T = \frac{11}{6300}$ if both a constant and a time trend are included in the model.

Tests with individual unit root processes

The Im, Pesaran and Shin (IPS) (2003) test extends the Levin, Lin and Chu (LLC) (2002) framework to allow for heterogeneity in the value of under the alternative hypothesis. Given the equation (4), the null and alternative hypotheses are defined as:

$$H_0 : \alpha_i = 0 \text{ for all } i$$

$$H_1 : \begin{cases} \alpha_i < 0 & \text{for } i = 1, \dots, N_1 \\ \alpha_i = 0 & \text{for } i = N_1 + 1, \dots, N \end{cases} \quad \text{with } 0 < N_1 < N$$

that allows for some (but not all) of individual series to have unit roots.

Im, Pesaran and Shin (IPS) (2003) compute separate unit root tests for the N cross-section units and define their t -bar statistic as a simple average of the individual ADF statistics $\bar{t}_{NT}$. Im, Pesaran and Shin (IPS) provide simulated critical values for different numbers of cross-sections and series lengths when the lag order of the ADF equations is zero. When the lag order for some cross-sections in the panel is non-zero, Im, Pesaran and Shin (IPS) shows that a properly standardised $\bar{t}_{NT}$ follows an asymptotic standard normal distribution.

The new test statistic denoted by $W_{\bar{t}_{NT}}$ is computed as follows:

$$W_{\bar{t}_{NT}} = \frac{\sqrt{N} \left(\bar{t}_{NT} - N^{-1} \sum_{i=1}^N E(\bar{t}_{iT})(P_i) \right)}{\sqrt{N^{-1} \sum_{i=1}^N \text{Var}(\bar{t}_{iT})(P_i)}} \quad (11)$$

where $E(\bar{t}_{iT})$ and $\text{Var}(\bar{t}_{iT})$ are expressions for the mean and variance of the ADF regression t -statistics.

Maddala and Wu (1999) and Choi (2001) suggest a non-parametric approach that Fisher (1932) used which is based on a combination of the p-values of the test-statistics for a unit root in each cross-sectional unit. If the test statistics are continuous, the significance levels p_i ($i = 1, 2, \dots, N$) are independent uniform variables and p_i has a X^2 distribution with two degrees of freedom. If π_i is the p-value for any individual unit root test for cross-section i we get:

$$\lambda = -2 \sum_{i=1}^N \log(\pi_i) \rightarrow \chi_{2N}^2 \quad (12)$$

Choi proves that:

$$Z = \frac{1}{\sqrt{N}} \sum_{i=1}^N \Phi^{-1}(\pi_i) \rightarrow N(0,1) \quad (13)$$

where Φ^{-1} is the inverse of the standard normal cumulative distribution function.

Empirical results

For the presence of hysteresis, we first apply several conventional unit root tests to examine the null of a unit root in the unemployment rate of each country. The results in Table 2 indicate that the tests ADF (of Dickey, Fuller, 1979), and PP (of Phillips, Perron, 1988) fail to reject the null hypothesis of non-stationary unemployment for the three countries. Also, the KPSS (of Kwiatkowski, Phillips, Schmidt, and Shin, 1992) test yields the same results.

Table 2

Univariate unit root tests						
Country	ADF		PP		KPSS	
	Const.	Const. Trend	Const.	Const. Trend	Const.	Const. Trend
Greece	-1.62(1)	-3.115(6)	-1.063[0]	-1.839[1]	0.430[3]*	0.144[3]*
Ireland	-2.14(2)	0.667(0)	-1.179[3]	-0.364[3]	0.563[3]**	0.132[3]*
Portugal	-1.72(1)	1.530(5)	-1.243[2]	-1.204[2]	0.481[3]*	0.148[3]*

Notes:

1. ***, **, * denotes rejection of null hypothesis at the 1%, 5% and 10% level of significance, respectively.
2. The numbers within parentheses for the ADF statistics represents the lag length of the dependent variable used to obtain white noise residuals.
3. The lag lengths for ADF equation were selected using Akaike Information Criterion (AIC) (1973).
4. The numbers within brackets for the PP and KPSS statistics represent the bandwidth selected based on Newey West (1994) method using Bartlett Kernel.

The results in Table 2 clearly indicate that all tests fail to reject the null of nonstationarity unemployment for three countries. Since the single equation ADF test has low power with short time spans (Shiller, Perron, 1985), here we have annual observations spanning a 27-years period) we apply the tests of Breitung, Levin, Lin and Chu (LLC), Im, Perasan and Shin W-test (IPS),

ADF-Fisher Chi-square test (ADF-Fisher), PP Fisher Chi-Square test (PP-Fisher) (Maddala and Wu), Choi and Hadri based on panel data unit root tests and examine the stationarity of unemployment, avoiding the weakness of the single equation ADF test.

Table 3 shows that the panel based unit root test results are also indicative of the nonstationary unemployment rates. It seems reasonable to conclude that the hysteresis hypothesis for the unemployment rates for the three European countries studied cannot be rejected.

Table 3

Panel unit root tests		
Method	Statistics	
	Individual effects	Individual effects and individual linear trends
Null Hypothesis: Unit root (assumes common unit root process)		
LLC (t* - statistics)	-0.947 (0.171)	4.494 (1.000)
Breitung (t - statistics)		5.232 (1.000)
Hadri (Z - statistics)	4.265 (0.000)***	2.886 (0.001)***
Null Hypothesis: Unit root (assumes individual unit root process)		
IPS (W - statistics)	-0.627 (0.265)	3.507 (0.999)
ADF (Fisher X2)	6.286 (0.391)	3.043 (0.803)
PP (Fisher X2)	2.376 (0.882)	1.112 (0.981)

Notes

- (1) Panel data include all countries.
- (2) The numbers in parentheses denote p-values.
- (3) ***, **, * denotes rejection of null hypothesis at the 1%, 5% and 10% level of significance, respectively.
- (4) The null hypothesis of these tests is that the panel series has a unit root (nonstationary series) except with the Hadri test which has no unit root in panel series.
- (5) Probabilities for Fisher tests are computed using an asymptotic X2 distribution. All other tests assume asymptotic normality.
- (6) Selection of lags based on SIC. Newey-West bandwidth selection using Bartlett kernel.

Conclusions

Due to current economic crisis, the number of unemployed people increases in many countries. Blanchard and Summers (1986) defined hysteresis as the tendency of cyclical unemployment and pointed out the possible danger of permanent effects that recessions can have on unemployment. The hysteresis is statistically described as the presence of a unit root. Hence, unit root tests are obvious candidate to test for the presence of hysteresis.

In this study, we adopt not only the traditional but also a number of panel unit root tests to investigate the hysteresis in unemployment for three European countries which currently went into surveillance in the IMF for the period 1984-2010. The results from all unit root tests provide strong evidence in

support of the hysteresis hypothesis given the three European countries' unemployment data.

Our proposal based on the results of the paper is that governments of the three examined countries should apply a fiscal stabilization policy in order to stop the rise of unemployment rate and also to try and reduce this rate in the average levels of unemployment of other European countries by gradually decreasing taxation.

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Economics: the primary lesson to be taught and learned, as update

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Abstract. *This paper below tries rather a courageous approach to the topic of economics, as updated, than an academic formulation. Actually, there are two Parts, for two different approaches through which this “old” and uncomfortable topic for all students and learners reveals as a really dramatic character: a “champion permanently (re)playing its own title”, the one who could lose all he has and get off the scene one day.*

Keywords: (general) conomics; economic thories; economic thinking; economic policies; treaty of economics; alternative economic system; manual of economics; quantitative theory.

JEL Code: E00.

REL Code: 41B.

The historical approach

The historical approach of *economics* will be here below significant at least in two ways. First, this science will be defined, together with its link to the *general economics*, as a component. Second, there is to list the most general issues studied by the *general economics* field.

1. Periods and specific developments and issues

The word economy gathers all *activity*, *science* and *policies*. In other languages than English⁽¹⁾, confusions get even higher between *economy* and *economics*. There is a *common denominator* of these, defined by *using scarce resources in order to satisfy a larger set of needs and utilities*.

In the same time, this text gets interest in *economics*, whereas this is neither describing, nor reflecting the economic activity only. Besides, there is an equal interest in *economic policies*, whereas they are not similar to materializing and experiencing the economic thinking. So, there is about both a common denominator among the most general issues of this field, but, on the other hand, these concepts stay different among each other.

The *economic history*, as activity, is enough different from the history of *economics* (Blaug, 1997) – e.g. there can be both remarked and explained that economics, as economic thinking, is more actively developing in economic crises and disturbing periods. And as for the *economics* formation, there are three essential periods (eras) to talk about: (i) the antique era, (ii) the treaties era and (iii) the economic specialties era.

1.1. The antique era: Aristotle and the value concept (since the ancient Greece's time and the late eighteenth century)

The beginning of this science might be found especially in the European cultural history – see the Greek and Latin eras. There won't be a large or detailed picture of this, but just an example. Aristotle, in his "*Politics*", has one page reflection on an economic concept, which would be taken over much later on by Karl Marx – this is the concept of *value*. There is even a shocking similarity between the expressions of the two theorists, otherwise so separated in time and in their times. As for Aristotle, the *value* was the *labour materialized in the individual good's manufacturing*⁽²⁾.

Karl Marx is much closer to our times and events that we live, than Aristotle, the way that such a thinking was easily conducting to an ideology

sustaining labour, workers and their working social class. On the contrary, despite the high respect and admiration that we keep for the antique philosopher, there is not to omit that he was a man of his times: by the way, Aristotle was considering slavery as equally *bad and necessary* for his type of society. Actually, the value concept, taken over by Karl Marx, in his capital paper, kept genuine Aristotelian roots. The antique idea of the value concept was even passing through the so-called “*Italian writers*” of the fifteenth century of *Renaissance*, up to the *value- labour* of Karl Marx and of his *Marxian* school of thinking.

The same age with Marxism (the second half of the 19th century) and opposite to this theory was the *Marginalist* school of thinking, with its *value-utility*. The first was the “extreme” socialism of all times, the latter was the opposite liberalism, and they were as contemporary as the *Marginalist* school was mentioned when the second volume of the Karl Marx’ “*Capital*” was in way.

Vis-à-vis the Marxian school (Marx, 1958) and its “labour-value” – that besides its strong Aristotelian roots, was then developing a current of thinking with “followers of a master” – let us have some more about the *Marginalist* school and its different view about value, as also differently shaped, as a school of economic thinking. Instead of a master thinker’s work inherited by followers, there were three sub-currents of the same roots in Europe of that time⁽³⁾. As for the value concept, *Marginalism* was for the value, as *scarcity* and *utility* based.

In other words, whereas for the *Marxian* view *value* was formed and located in production and on just one of its factors (exogenous) and that last as differently assessed on its location criterion inside or outside the production process⁽⁴⁾, for *Marginalists*, the same value concept was differently located, in the market space – where the production’s result meets consumption and consumer – and so, closer to the consumer’s environment. Both schools proven the same intellectual courage of approaching a difficult concept, but finally both were wrong: the one for limiting value to just one factor of production, plus considering labour as keeping (by exception) two levels of value (the one, as separately from production, the other as included in the latter’s processing); the other for leaving the same concept to the consumer reference – and this is wrong by the high level of economic irrationality that the consumer proves, as compared to the producer and production, on the other hand.

In such conditions, the 19th century ended with an *equal result* for this “match” of scientific polemics between the two schools of thinking. But the same polemics would not follow the way of archives, as other contradictions in the area. Then, the next following century was reporting this directly to the activity field. The Marxian studies helped the socialist schools and

revolutionary movements and were followed by Vladimir Ilich Lenin, the Russian Revolution of 1917 and the creation of the *alternative economic system* to the market economy. Overall, there was a success of the time: the big economic crisis of 1929-1933 did not strike this system (Rothermund, 1996), and later on, the Russian people proven interested in and succeeded to defend the same system in World War II.

This way, the alternative economic systems coexisting was a several decade reality, as two systems of allowing resources and of economic value. The western world easily hosted both analysts were accepting both systems as equally able to allow resources with the highest operative efficiency and theories like the “two systems’ convergence” (Calhoun, 2002)⁽⁵⁾. 1989 was, so, something which took most economic scholars by very surprise. And the effective fight between the two twentieth century economic systems seems to have been won by the “older” market economy, as against one of its most real alternatives. Older Marginalist concepts came up to their reconsidering, as the immediate result.

In another development, an idea of *alternative economic systems* (Duquesne de la Vinelle, 1989) remains still in place – the scholars admit that such a process might not necessarily imply revolutionary violence, as always needed for.

Finally, the fight around the *value* concept seems to meet one more result: *value* gets no longer present in the current manual and scholars’ view, not an easy concept to focus on today either. Not easy to predict about its scientific future, once more.

1.2. The era of economic treaties: between the late eighteenth century and the twentieth century

This was a period in which the economic thinking – the economics itself – reinforced its identity: instead of paragraphs and chapters inside other writings, it was about entire writings about economics; and these were the *treaties*. Together with treaties, their authors came up previously of economic thinking schools and currents. There were some treaties representative for the period between the late 18th century and the end of the following nineteenth century.

What *treaties* represented at their time could be explained by a biographical detail better than by any academic exposure: the first author has been the British Adam Smith⁽⁶⁾, who wrote his “*Wealth of Nations*” in 1776⁽⁷⁾, when he was 53, then died in 1790. On the one hand, this book remains as the first treaty of economics; on the other one, Adam Smith was the economist

author of a single book during his lifetime. As observed from today, this might be understood at the best through that the same author would have nothing more to say in his profession of faith at that precise time. The treaties of economics were filling the contemporary view of at list one generation of economic thinking. They were the encyclopedia of those times, and this especially for the Smith's writing, fully comprehensive for the knowledge of the time.

Whether a Smith's friend like the philosopher and also economist David Hume thought that the same treaty was a difficult book to be read⁽⁸⁾, he was wrong by that the issues herein stayed much simpler, as compared to what the economic activity and thinking had to face ever since. But for its moment in time, each treaty was a whole fully comprising picture.

Authors like David Ricardo, British as well of the next generation and with a much different biography⁽⁹⁾, Karl Marx later on, a German scholar and ideologist of the turning point of the socialist movement⁽¹⁰⁾, but previously deeply inspired by both Smith and Ricardo, then Alfred Marshall, in the second half of the 19th century, as neoclassical⁽¹¹⁾ and Marginalist representative have also written treaties of economics. And that story went for about one and a half century time.

Nevertheless, as for the same one and a half century period⁽¹²⁾, there were not just a couple of economic treaties gathering the whole economic literature of the time. On the contrary, the old insertion of economic nature reasoning in other writings was continuing, even decreasingly; plus, there were equally shorter writings building the young science, and even longer studies and books that were not treaties – e.g. the double-based *macroeconomics*, as settled in the vicinity of the first treaty by the French Jean Baptiste Say and François Quesnay. But let us have another classic example of a treaty author, like the also British Robert Thomas Malthus. He just succeeded to shock the academic world of his time, then including himself, by the still famous paper named “*Essay on Population*”⁽¹³⁾, the first ever paper foreseeing – not the imminent economic development of the forthcoming decades, as Ricardo did, but – the period of famine coming up about one century later than that. It was a real shock for a time, a world of a less substantial science and range of writings, and a scholar who – like all classics – believed in that the economy was part of the whole nature and neither of these would ever let the people down, unless their given laws would be defied by people⁽¹⁴⁾.

1.3. The era of economic specialties and topics: the twentieth century and up to present

This broadly began together with the 20th century⁽¹⁵⁾. The identity of economic thinking through writings overpasses individual paper about economics – recall that the book of Adam Smith had gathered all imaginable economic issues to approach at his time: resources and needs, market and competition, some calculations on firms' efficiency and profitability and even taxation and fiscal dimension of the State. So, now, in the early 20th century economics have got enough able to break down into autonomous components, like some of following.

First, the *scale* criterion splits up *microeconomics* – as studying the economic entities, like firms, banks, insurance companies, financial and non-financial companies, units of production and business, and even individuals – from *macroeconomics* – studying large groups of economic entities and their acting together within and forming an autonomous economic environment; actually, a macroeconomic *system* works around a distinct *market* (as for classics and neoclassic) or *flow* (as for the thinking around the Keynes' writings), as national, federal or resulted from economic integration – and *international economics* – studying the economic flow area developing across national boundaries, as another specific.

Second, the macroeconomic area would be approached by studying the specific of individual *industries*, over firms of similar activities and product resulted – sometimes called *mezzo-economics* (Kozuharov, 2011) – as for a scale economy between micro and macro entities. As for individual industries, the supply and demand, final goods, profitability, efficiency and accounting get different specifics from one another. In such a view, *industrial* activities stay different from *agriculture*, *transport*, *trade* and *services*, despite that these are not economic (autonomous) entities themselves, as the cases of firms and macro system.

Third, economics as a whole might break down into individual *specialties* (*topics*), as well as *micro-*, *mezzo-* and *macro-*studies had arisen rather from a scale of economic activities. This way, *money*, *finance* and *accounting* could be seen as deepening the economic thinking.

The *money and banking* topic regards both the monetary economy and money functions and the banking activity, as autonomous. *Finance* is studying financial sources and their flows and functioning for real economy activities and investment in – there are, on the one hand, economic entities disposing of resources, on the other one, entities specialized in putting the same resources into value. Finally, *finance* breaks down into *private* and *public finance*, as specifics.

Accounting has another interesting story, in context. It is an economic specialty, as today admitted, but originally, meaning historically and basically, its story had started about three centuries earlier than the treaties era. Equally differently than economics, the master of accounting was the Italian Luca Pacioli, who was a kind of equivalent for a modern and today scholar in his Renaissance time and place⁽¹⁶⁾. This man was ordered by a businessman to bring order in his firm stuff. As the response, Pacioli has got the idea of accounting all assets not only as individual values, but equally complying with the criterion that each component would be considered as both existent and coming from an identified source of providing. So, accounting was going to develop on individual micro entities by considering *assets* of material and money forms, *liabilities*, versus assets, and the *owner's equity*, as a distinct asset providing source. Then, there results the so called basic accounting equation, as the *basic principle* of accounting:

$$\text{ASSETS} = \text{LIABILITIES} + \text{OWNER'S EQUITY}$$

In which, *assets* identify all that the entity disposes of, *liabilities* identifies sources attracted from thirds (more or less temporarily) and the *owner's equity* is the investment involvement of owners in their own enterprise.

Irrespective of all activities developed by and inside a firm, as an individual economic entity, this equation comes to be remade and bases the *balance sheet* at the end of each significant accounting period. Equally basing on this, each of the equation items comes to be broken down into components; the activity developing by the firm or company, from one balance sheet issued to the next one, comes to be accounted, as a parallel activity, between individual items according to other principles and rules developed ever since. Or, a whole science here arisen from the above defined *basic principle* and it deepen its knowledge and helped microeconomics and management on both theory and practice developed. On the contrary, as well, the same scientific development of accounting is also due to that the basic principle was not enough to solving all aspects, issues and problems of the same nature inside economic entities.

But what made master Bacioli (Pacioli) really immortal for this topic? There are two reasons, in our view. The one is naturally its managerial capacity induced to individual firms and other economic entities, despite that plenty of further problems to be solved might arise ever-since. The second one gets even more connected to the modern economic times that followed the Bacioli's time on the firm developing side: this is identifying and separating (splitting) the firm's assets from the owner's fortune that paved the way to the modern business partnerships, joint ventures, corporations and multinationals. At the

Luca Bacioli's time, there was only the "*one man business*" structure of economic entities⁽¹⁷⁾.

Another criterion of reaching economic topics was the one splitting the "purely" economic discourse from the "frontier" topics – as between economics and other topics, of different natures. There are the practice and practical needs which put pressure in such a way. On the other hand, economics is already known from above as a topic very open to other sciences, as for assimilating researching methodologies. Or, there is a scientific "frontier" of economics with goods and services' production and trading technologies – and this is called *ware knowledge*. Another frontier makes economics (and the economy) be seen and meat by decisions of all kind and level, see *management*.

Besides, there are at least two frontier topics between economics and mathematics: *statistics* and *econometrics*. The first limits to a synthesis of specific economic *indicators* that result from gathering data off a conceptual zone, and from complex formulas elaborated, as representative for the same zone – note that *statistics* is ready to fill frontier topics together with several other sciences and technical domains. *Econometrics* (Jula, 2003) work together with statistics and economics, and their work so relate to data provided by statistics and reasoning provided by economics. Econometrics is a practical topic of building models – it founds the *empirical* observation of facts, face to the fundamental research which belongs to economics and its other topics.

1.4. What about (general) economics today?

The treaties era left the stage for a long time already and treaties have been replaced by both limited economic topic areas and the *manual of economics*. Scholars still write treaties today, but mostly on these newly opened areas, and not on the economics area, that became too large in the above order. The question here raised comes to be that wheather *general economics* were still existent or it might be out, together with treaties. And, if yes, what exactly does this topic become?

Our answer is yes, economics still exist, and this for a couple of reasons. The didactical aspect here is the one, but far from being the most important. The genuine aspects keep on the scientific side, for which economics rather give up some old and improper aspects to the other topics and so "purify" its object and method substance. One of the reasons that keep economics (like general economics) alive might be the yet incapacity of the other topics to take over and control all about economics, as economic thinking, and even about *economy*, as a comprehensive system.

Another reason might be linked to its modest manual definition as "*some connections between phenomena and processes of an economic nature*"⁽¹⁸⁾

(Hardwick, 1992) – meaning a selective focus on issues and events of the historical and economic present. There occurs this way that the current attention stays on some topics – as for instance the business cycle, inflation, unemployment, economic growth, money stability, open economy, as well as production, costs, demand, utility, supply and welfare, the last as more stable in the generations' preoccupation, whereas issues like *value* exceeds the update focus of this topic area. It is true, once more, that this last concept both seems far from being finished as against appropriate studies on, and its future stays unclear. The economic activity bears important changes at least during a decade or so; so economics is expected to move as correspondingly.

What economics, as general economics, do become ? In our opinion, once more, it is about another “frontier” topic – now, the one within the economics topic areas, in the larger sense.

Economics, versus exact sciences

What is Economics? More precisely, what is Economics, *as compared to other sciences*? The appropriate answer can be given in both the above way of general presentations, and as here below, through a direct comparison to the exact sciences. Moreover, our task might be here alleviated as much as economics proves so open to scientifically borrowing from methodologies of other sciences, all the most from the exact sciences (mathematics, physics, biology and so on).

There is even something more to mention about this kind of approach. The topics will be deepened down to the detail of individual postulates, on both sides: an *exact science*, versus *economics*. Actually, there will be structurally analyzed an individual postulate from *physics* and another one from *economics* and compared to each other for results regarding the condition of economics.

Lastly, the postulates here below analyzed are well known and simple to be described through mathematics, so accessible enough to anyone. These postulates will be:

(A) *the universal attraction law*, of *physics* (Table 1);

(B) *the quantity theory of money*, of *economics* (Table 2),

and they will be structurally arranged on two columns, so priory achieving a surprising structural similarity of this double approach, as later necessary on to the expected differences to be made throughout the end of analysis.

A. Physics: the *universal attraction (gravity) law*

So, let us see Table 1, below.

Table 1

Physics

Order	Chapter	Explanations
1	Title	the universal attraction law
2	Author(s)	Isaac Newton
3	Enunciation	<i>Any corps in space (the attracted) is attracted by another corps (the attractor), as proportionally with its (the attracted's) individual mass.</i>
4	mathematical explaining	$G(m) = mg$ in which: G = attraction force exerted by the attractor on the attracted corps (gravity force); m = mass of the attracted corps; g = gravity acceleration, as component of the gravity force.
5	Perequisites and restrictions	(1) This is for non microscopical (under-atomic) masses of both (attractor and attracted) corps; (2) But also for the important differences between the two corps' masses – the attractor is much heavier than the attracted. (...)

As for final details, more descriptions and comments:

- This is a universally accepted physical law, laboratory and experimentally proven.
- So, all of the above entitle it with a place in the universal scientific inventory of postulates.
- Mathematically, this law reaches the simplest formula: a linear function without free coefficient, of $y(x) = ax$ type.
- Moreover, mathematically as well, there can be accepted that the right hand side of the equality contains m , as belonging to the *attracted* and exogenous of the function of gravity, and g , as belonging to the *attractor*, and so the coefficient of the linear equation.

B. Economics: the *quantity theory of money*

In the same way, see Table 2 below.

Table 2

Economics

Order	Chapter	Explanations
1	Title	the quantity theory of money
2	Author(s)	(...), Alfred Marshall, Irving Fisher, Albert Aftalion, J.M. Keynes, Don Patinkin(...) ⁽¹⁹⁾
3	Enunciation	<i>The price level is directly dependent on the money issued (money supply) in the economy.</i>
4	Mathematical explaining	$MV = PT$ or $P(M) = M \times V/T$ in which: M = the money issued (money supply); V = velocity of money; P = price level, as general; T = volume of transactions closed and operational.
5	Prerequisites & restrictions	Brought in by diverse approach developments (see below in the text).

As for final details, more descriptions and comments, there is a little more to develop:

I. This is not a real postulate, but a *theory* – this is one of the greatest and highly important theories in economics, but it remains just a theory. A theory is not a discovery or finding, in the exact science proper sense – whereas the other above described postulate is an essential discovery of all physics and of all times. And that is because there are rather no discoveries in economics, except for very concrete and casual circumstances – not for general judgments.

On the other hand, theories are not to be disgraced. Important scientific issues, as operative in astronomy, like the “black holes” or “big-bang” are just theories either; the Charles Darwin’s “evolutionism”, versus “creationism”, on a religious base, in biology, are both theories as well. And this is while a science like astronomy is half formed by theories and the rest by postulates and discoveries. Not even physics, that is here above involved in this approach and its postulates’ substance would never be denied, on the contrary it is typical and representative, misses its theories’ part of the issue⁽²⁰⁾. At the other end of the field, economics is the typical case of a science mostly built on theories. Several circumstances *cause* this, among which:

- Missing specific measure units, laboratory and experiment;
- A different perception of the time and much more changes during shorter periods;
- Larger numbers of exogenous for the economic environment etc.

But more important than causes, on the one hand, are the *consequences* of this, on the other one:

- Theories – instead of postulates – imply debates with *supporters* and *adversaries*, so the role of different schools of thinking comes up as essential.
- Then, the *unique scientific truth*, as a basic criterion qualifying each science domain, is here settled in a more complicate way;
- Even mathematics, here involved, shifts its condition, as from the exact sciences.

The debate on these above will continue, plus other conclusions will be drawn below. Here, there remains to conclude just that, unlike the above described postulate of physics, this one of economics stays far from the universal scientific inventory – its story does not end here, but, on the contrary, it just begins.

II. But this story won’t be told here, in historical details. What is preferred is just figuring out what such a scientific issue encounters on the ground. Let us

have both expressions in Table 2 on the quantitative theory's mathematical model:

(a) the *implicit* form:

$$MV = PT$$

(b) the *explicit* form:

$$P(M) = M \times V/T$$

the one in which the endogenous (general price level /P) and exogenous (money supply/M) get identified, distinguished and split from each other.

(1) First, there is to reconsider the left hand side of the implicit form, as for a *financially developed economy*, e.g. in which *money* extends from their initial and primitive *effective* state to: *accounts*, diverse kinds and time *bank deposits*, *cards*, *bonds* and *securities* and so on – they will be differently functioning on each of these and they require to be considered as such:

$$M1V1 + M2V2 + M3V3 + \dots = PT$$

meaning individually, with individually shaped velocities. Here to be mentioned that there is accepted a classification of the $M1,2,3,\dots$ components of the total M, in economics and banking practice, different than this above.

(2) Then, there is a similar development on the right hand side of the same implicit form – this is for individualizing the industries' price and transaction contributions to the real economy and corresponding money behaviour:

$$MV = P1T1 + P2T2 + P3T3 + \dots + PnTn$$

in which P_iT_i corresponds to each individual industry. This is called the Fisher's variant of the theory (Fisher, 1911).

Or, let us just stop here for reflecting about what is happening on both the above (a) and (b) developments of the equation, in economics, as compared to the above Newton's postulate, in physics, which remains a single unchanged mathematic expression forever. The question raised is that: Is economics, as a science, entitled to work on and change its initial formulas? In other words, which of these formulas gets true, from now on?

One of the answers to these questions might consists in the same specific difference of economics, as compared to the exact sciences: physics is nature and this is unchanged, whereas economics is reflecting economy, and this is changing data and landscape step by step, decade by decade, in its development. The previous mathematic and economic formulas get just primary, preliminary and obsolete in time. So, the scientific perception of the economy is supposed to adapt to such a reality.

On the contrary, only a theory proving such an adaptive capacity is a "great" one – there are not "great discoveries" in economies, but theories are

“great” just this way of remaking formulas and reconsidering more and more specific exogenous⁽²¹⁾. On the contrary once more, besides a theory like this one, there are also other less substantial theories leaving the economic science and thinking, once some specific conditions are out – see the example of the old “*Gresham Law*”. This is referring to money, as well as the quantity theory, and expresses like: *the “bad” money kicks the “good” money off the market* (Mundell, 1998).

Or, this last enunciation broadly limits, in its popular perception, to an economic and financial environment in which the gold money came (sometimes) to be replaced by silver currencies on market.

Actually, this was a quite complex process and this theory skips several deep aspects and catches just some appearances or the economic life of the 18th and 19th centuries. This rule is referred to *bimetallism*, that preceded the historical monetary system of the *gold standard*. It was the *gold standard* to talk about between the 19th and 20th centuries, and no any “silver” standard of the market values, except for some markets in the East Asia before 1800 – the Euro-American world was preferring gold, instead. *Silver* as value-standard had been just for the European Middle Ages. In the modern era, it became a basic value to be exchanged on the market, as in the money position, just under the *gold control* of the same money and value and just as replacing and extending the gold reference, which was getting increasingly scarce, as effectively, face to an extending trade and production development. In such a development, the gold presence was apparently weakening on the market, whereas its value reference was just staying. Moreover, this way the gold value was continuing to rise, whereas silver was getting exposed to devaluation. Vis-à-vis, the *international gold standard* was still alive in the early twentieth century and the gold value rises ever since. Even the bankruptcy of the gold standard did not stop the gold value increasing on all markets. And all these above are for equally make a complex issue even of such a simple theory – finally, which one (gold or silver) would be the “good” and the “bad” money, as time as once silver could take advantage just of bimetallism to remake its market position, and in another time gold came back to become the real “master” of the money-market? Actually, today scholars argue that this very specific monetary system that bimetallism was once ruled as a primitive substitute for the later modern world of monetary and financial systems with commercial banks and banking systems, with bonds and other valuable papers and stock exchanges. Plus, bimetallism made easier the coexistence between low and high individual prices, as requiring diverse money units on market, as correspondingly (also see Macleod, 1858, and Redish, 2000 for more details).

This above description is for giving alternative examples among different theories of economics – the *economic reality* is the threat, the obstacle to be passed over or the test to be attended by theories; but this is not the lonely one. See also some other aspects below.

(3) Let us take a new quantitative theory development aspect from another stand point and on the explicit form of the equation, this time. A quite delicate mathematical aspects comes up when the repeated from above expression:

$$P(M) = M \times (V/T)$$

realizes that not only M and P here are exposed to variation, but also the V and T numbers, in the effective economy. Or, what kind of mathematics would be this?

The developments on this aspect meat two kinds of answers. The first one – according to some of the adepts of the quantitative theory – is that the (V/T) report would be, in reality, a constant value (k), as of principle – both numerator and denominator of this vary together at the same. This opinion goes further on producing practical effects: the k coefficient⁽²²⁾ gets different values for more and less financially developed economic systems – when k is high, the financial system is less developed, and the contrary for lower k and its corresponding high developed financial system. Actually, k represents a portion of nominal income (PY) and a certain portion of the money supply that will not be used for transactions; instead, it will be held for the convenience and security of having cash on hand.

Despite this operative quality, this position stays under the same mathematical “handicap”: even so, the above mathematical formula, as explicit relation between the exogenous and endogenous, is not allowed to include other relations, among other variables, as there is the case of V and T . The k coefficient apparently plays for the quantitative theory and here brings in a new practical dimension of it – that is the one of remaking a monetary-financial criterion difference between macro-systems –, but that paying the unacceptable price of undermining the mathematical basics of the same theory. Moreover, k here corresponds in exact sciences just to an unauthorized disease cure or mass production technical formula.

Here, there comes the other approach answer to the question raised – and it belongs to John Maynard Keynes, in one of his early papers, when he was still considered one of the classic liberal economic scholars. His approach fought the mathematical retorts to the above considered k coefficient in a more proper mathematical context: the V/T report will no longer be considered constant, but there will be here to search for the economic conditions (restrictions) of constant numerator and denominator concomitantly. So, when, exactly, V and T will be constant values together? And the answer was not too complicated, as in this new context. As for V , the money velocity, this is variable on longer time only and constant on short periods (Wennerlind, 2005).

As for the denominator, there was a modification to be operated on. The volume of transactions T equalizes *production* (Q), national product and *national income* (Y), at the macro scale. Or, *production* here comes to be considered on the same short periods of the money velocity. When production gets constant on the short time? The answer turns to the variable production factors – here *labour* and *variable capital* (raw materials and natural resources). As for the macro scale, *labour* gets exhausted on the short time – see the *full*

employment state of the economy –, whereas raw materials and natural resources do the same on rather longer times. Shortly, the J.M. Keynes' finding contribution to the *quantity theory of money* was for limiting the basic enunciation of this to $M \rightarrow P$ only: (i) on *short periods* and (ii) in the *full employment* conditions. Alternatively, the rising money supply might go into production rising – see the *credit-investment-production* macroeconomic flow, as for putting in value the disposable production factors.

Even in his early and liberal stage of thinking, Keynes was basing the later coming *inflation-unemployment* relation and *economic growth* theories, belonging to his school of thinking, which, in its turn, was coming to be non-liberal.

The *quantity theory of money*, on its side, was following the same way of developments. Don Patinkin (1954) came to introduce more variables into the same function, but the conclusions also enlarged through less and less M , as exogenous, and P , as endogenous.

III. There might be much to describe about all these, but our description stops here for having achieved its goal of building an idea about the condition of any individual economic theory.

First, let us deepen the condition of *mathematics*, as for economic theories. We saw above that:

- (i) Mathematic developments are not demonstrating things, but stop to explaining and reports;
- (ii) So, they are always subordinated to theories, the way that the debate in economics is priory on the theories' enunciation;
- (iii) And the mathematical debate comes only among adepts of the same theory;
- (iv) Mathematics see themselves "humiliated" sometimes – the economic theory steps forward and progresses even by breaking elementary mathematical rules.

And here there might be also included a secondary aspect in which numbers considered in the mathematical model are not always materialized by statistics – see the price level (P), as aggregate, and the velocity (V), resented in practice for its temporary variations only. So, the theory, by its mathematical model, finds itself once more unable of the reality control.

Second, let us have the final conclusions about the *economic theories* themselves. We already saw above that economic theories encounter the economic reality. Besides, they are aimed to equally fight each other, despite that they are not always made for such a reason. In our case, the quantitative theory has proven itself substantial enough, whereas sharing the topic with other theories in the area, as *non-quantitative* or *qualitative* for money – see *psychological* theories of money etc. There is to imagine that adepts of these

latter positions would not be supposed to debate with the adepts of the quantitative theory on mathematical models of the above described kind, on the one hand. On the other one, these supporters are not necessarily contradicting each other as naturally or structurally.

Plus, we saw above that a theory advances even by breaking mathematical rules. Here, the context might be enlarged by noticing that theories step forward even by threatening their own previous enunciations and mathematical models.

What a theory does through including one more development in the area? It progresses, adapts to newly given conditions and strengthens itself. But, what a theory – more precisely, the new theorist, as personally – just had done previously than this? Here, the answer is: he or she has reconsidered the debate and so put the same theory in question and so in danger⁽²³⁾. The ones of theories have resisted, as successfully and successively to such series of assaults; they provided new answers to questions raised and those researchers became new followers, supporters and adepts. Other theories have not succeeded to encounter such a danger. Here recall the “Gresham’s theory”, which stayed in its history of the *gold-silver* money alternative. There has been concluded that the higher the adaptive capacity and the more numerous the adepts, the greater the theory.

One more concluding remark

In a word, *economics* is not an exact science, with spectacular discoveries and findings in presumable labs, but their condition is the one of a continuous fight(er), by individual postulates and ideas. We here above had science examples just by their piece-postulates and theories (some of them raising, some, on the contrary), but the idea of economics losing its whole battle, on all its theories on the field, for once in future, is never excluded, as theoretically, unless refreshed or replacing content.

Notes

- (1) See Latin or Slavish languages, in the European area.
- (2) See the major paper of Aristotle called “Politica”, comprising eight books that are suspected to have been written all along the philosopher’s lifetime. It was translated into Romanian by El. Bezdechi and published in 1924 by the “Cultura Nationala” publisher at that time.
- (3) See the German-Austrian school, represented by Wieser and Bohm-Bowerk, the Swiss one, with Léon Walras and Vilfredo Pareto, and the British one, represented by William Stanley Jevons Alfred Marshall (Hardwick et al., 1992).
- (4) That is criticized by Bran (1995) as a common sense defy against the “entropy law” of physics: *corps keep the same dimension whatever the reference system of assessment*.

- (5) Names like Raymond Aron, John Kenneth Galbraith and Jan Tinbergen were associated to such ideas in 1950's and 1960's. Shortly, it was argued that technologically advanced societies would be able to overpass those social details by reaching both a mixed type economy and a meritocratic social management, as required. Calhoun (2002) writes that studies on this issue go on, despite the post-communist economic emergency in the last decade of the 20th century (p. 93).
- (6) A professor of moral and philosophy, as previously, then turning into an economist and the first ever author of a treaty of economics.
- (7) The first publishing (1776) was in London: Methuen & Co., Ltd.
- (8) The Hume's biographers remark that he died the year of the treaty's publishing and in the presence of his friend that was Adam Smith. The last also published a letter occasioned by this event and actually the two scholars equally had much in common on moral, philosophy and politics issues. Hume was also less known by his economics writings than as a representative philosopher of his time (The Concise Encyclopedia of Economics/Online).
- (9) A very young (from 12 years old on) business man and autodidact turning into a great classic of economics when aging and leaving business for studying and writing.
- (10) That from the earlier and so called "utopist socialism".
- (11) Note that all the other generation representatives after Smith, Ricardo or W. Petty called themselves "neoclassic" the way that there are good several generations of neoclassic to talk about today.
- (12) And except for currents and schools of thinking that won't be here approached.
- (13) The book was also translated into Romanian in 1992 by Victor Vasileoiu and Elena Angelescu and published by "Editura Stiintifica" (Malthus, 1992).
- (14) As an interesting biographical detail, that editorial event shock "absorbed" even the author, that saw himself committed to "fix some" about it and then wrote and published a larger book named: "New principles of economics". Nevertheless, the last "New principles..." saw much less impact on readers than the previous "Essay..."
- (15) Together with scientific and technical conquests like filming-cinema, radio broadcasting and aircraft flying (The Concise Encyclopedia of Economics/ Online).
- (16) Luca Bartolomes Pacioli/Bacioli, called "frater", as a religious man, was born about 1445 at Borgo San Sepulcro, in Tuscany. He acquired an amazing knowledge of diverse technical subjects, as religion, business, military science, mathematics, medicine, art, music, law and language during his lifetime. He believed (with his time) in the interrelatedness of these widely varying disciplines and in the special importance of those, such as mathematics and accounting, which exhibit harmony and balance. His friend Leonardo da Vinci helped prepare the drawings for Pacioli's 1497 work, "*Divina Proportione*"; in turn, Pacioli is reputed to have calculated for da Vinci the quantity of bronze needed for the artist's huge statue of *Duke Lodovico Sforza* of Milan (Canham Rogers/Chartered Accountants-Management Consultants/Online).
- (17) Pacioli denied being a founder of the "double entry system" (Canham Rogers/Chartered Accountants-Management Consultants/Online).
- (18) Let us equally mention that, as related to the given comprehensive definition of economics, as *using a lower amount of resources to satisfy a larger utility area*, each economic specialty born in the 20th century has got its own distinct and restricted definition.
- (19) The full explanation about such a long series of authors is expected below. Just notice that this paper's aiming is different than the one of describing the quantitative theory.
- (20) There is to be here mention the polemics between the Albert Einstein's "theory of relativity" and the "quantum mechanics" lastly represented today by Steven Hawkins.
- (21) And I will come back to this idea below, near the end of this paper.

- ⁽²²⁾ As associated to the “Cambridge School”, with names like Alfred Marshall, A.C. Pigou, and even John Maynard Keynes, in the last’s earlier career.
- ⁽²³⁾ So, finally, the long series of authors, as adept or contributor to this and that theories, especially for big theories’ cases, gets now really explained.

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Need to implement corporate governance in the Romanian companies

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Abstract. *Under the background of the current economic realities, characterized by uncertainty and mistrust, of increased complexity of the environment in which they operate, the Romanian companies must demonstrate good organization, flexibility, skills, good risk management and be trustworthy economic and social partners. The answer to many of these challenges is provided by a modern management system, which makes proof of more convincing development possibilities, namely corporate governance.*

This article is an attempt to summarize the major theoretical and practical issues related to corporate governance models, as well as a vision of the need to apply this management system in the Romanian companies. At the same time, the paper will briefly present the current state of corporate governance system implementation in the Romanian companies.

Keywords: corporate governance; system management; Romanian enterprises.

JEL Code: D21.

REL Codes: 14K, 17B.

Introduction

The current economic dynamics and the fierce competition on all markets, regardless of their profile, require major changes in the business management system and a new managerial behavior. In this context, the performance management system and corporate governance, as modern and extremely efficient management systems, are more and more often applied (Lenghel, 2005). Due to the steady increase in competitiveness of the national and international business, the managers of today focus their activities primarily on increasing the effectiveness of companies, which implies the existence of a well-defined, modern and efficient management system. In the current context, when the markets become increasingly competitive and demanding, the Romanian companies must be able to quickly adapt to changes in the business environment, to assimilate these changes and to operate with them at the highest effectiveness level. The capacity to absorb information and adapt to the new conditions depends both on the characteristics and structure of companies, as well as on their managerial and leadership skills.

Materials and methods

The materials used for this article were represented by: national and international literature, studies by Romanian and foreign scientists, specialized websites and institutions that have implemented the corporate governance system (Bucharest Stock Exchange, OMV – PETROM company, and so on). The research methods used were based primarily on the bibliographic study and documentation, having in view a thorough knowledge of the basic theoretical aspects of corporate governance, as well as the analysis of the economic practice on the Romanian companies with regard to corporate governance.

Corporate governance – fundamental aspects

Improving the overall economic efficiency on the Romanian companies, and not only, should start from their good governance and management system. Business administration is already widely acknowledged as essential for establishing an attractive investment climate, characterized by the existence of competitive companies and efficient markets.

At present, there are numerous studies and empirical evidence showing that certain fundamental aspects regarding corporate governance plays a key role in improving business performance, primarily by facilitating their access to capital markets, thereby increasing investors' confidence and increasing enterprise competitiveness.

The principles of corporate governance involve a series of measures that ultimately lead to an increase of company transparency, making them more attractive. In addition, the implementation of corporate governance measures is a concern of the managers of listed companies, as well as of the authorities. The corporate governance implementation has an utmost importance in attracting major investors. Recent studies even link company performance to the efficiency of the applied corporate governance model (Briciu, 2012). More recently, the investors have focused on the corporate governance systems implemented in companies and are willing to pay extra for the good results in this area.

The companies are well aware of this reality and give it considerably more weight compared to previous years. The good and bad examples on the international market are relevant in this respect. Thus, on the one hand, there are companies that have put a lot of effort and time to achieve high standards of corporate governance. As a result, these companies are seen as representatives of governance based on added value, being able to maximize their value through systems and processes that enable managers, regardless of their hierarchical level, to assess and monitor the achieved performance. On the other side, there are companies that failed in building a corporate governance system and in having a transparent approach to the various stakeholders. Therefore, the drawbacks of the systems of the respective organizations are revealed and prove to be more than embarrassing, sometimes even leading to disastrous results.

Finally, the test of an enterprise governance model effectiveness is represented by the extent to which this attains its main objective, namely to maximize the company value in terms of shareholders and community. It all depends on how it manages to organize an ideal system: satisfying customers, employees, suppliers, distributors etc., the reward being an increased and sustainable added value, if good results are obtained.

The respect of corporate governance principles is recognized as increasingly important not only in terms of ethics, but also essential in building up a solid and prosperous business. The companies that meet the high standards of corporate governance will gain customers' confidence, the trust of those who provide financial resources, as well as the shareholders' confidence, which will lead to their better performance on the market. The risk assessment exercise is designed to help enterprises to maximize their potential by focusing on long-term strategic objectives and by optimizing the level of risk associated to their operations. In the conditions in which no enterprise operates in a completely risk-free environment, which is a fundamental component of the business environment, the risk assessment exercise should be accurate, complete and based on scientific principles.

Corporate governance emerged and developed while being successively influenced by the economic environment based on family property, banking capital, institutional investors or joint stock companies. Surprisingly, the moments of crisis had beneficial effects on identifying ways to improve corporate governance, so that its application methods and principles should correspond to each stage in the world economy evolution.

Models of corporate governance

The corporate governance principles established by the OECD (Organization for Economic Cooperation and Development) are provided as a standard, but each state should define its own corporate governance code, depending on the specific economic, organizational culture, ownership system, state intervention in the economy, financial and capital market etc.

The main corporate governance models established and implemented throughout the world in time are the Anglo – Saxon and German models.

The Anglo – Saxon or Anglo – American corporate governance model is specific to the firms from the UK, USA, Hong Kong, Canada and Australia. The commercial companies that apply this corporate governance model are characterized by dispersed shareholders, a low financial power concentration, so that power is exercised by managers. It is a system based on the control from external capital markets, which are very active and highly developed influencing, through mergers and acquisitions of listed companies, their control and trading securities (outsider-based system). Under these conditions, the investors' protection, when no major shareholders exist, represent a constant concern of market regulating institutions through corporate governance practices and policies. This shareholders-oriented system is actually based on a stock-exchange model, the evolution of the course of action being considered the synthesis of a listed company performance, thus enabling all the concerned actors, shareholders and managers, in the first place, to optimize their decisions and behaviors.

In order to analyze the Anglo-Saxon corporate governance model, a set of indicators or specific management tools are envisaged, mainly designed in the United States, but which are currently used all over the world, namely (Feleagă, Vasile, 2006):

- A funding indicator – available cash flow (free cash flow);
- A performance indicator – creating stock value or value for shareholder (shareholder value);
- An accounting assessment principle – fair value;
- An incentive tool – awards of options to purchase shares (stocks options);
- A disciplinary mechanism – takeover bids and exchange.

Based on these tools, the corporate governance codes issued after the crisis from the beginning of the century (Sarbanes – Oxley in the USA and New Combined Code – in the UK) had to focus on solving all problems, especially those related to the independence of non-executive directors and auditors from management, empowerment of independent directors, the existence of a single Board of Directors that continuously monitors activity management, risk reduction with transactions with affiliated parties, due to loyalty abuse by managers in their own interest.

Finally, the Anglo-Saxon corporate governance model provides the developed financial markets the last control role in enterprise performance; through purchases of securities it may determine the changes necessary for the recovery of commercial companies.

The German corporate governance model is specific to companies in Germany and continental Europe, as well as to those from Japan; its main characteristic, unlike the Anglo-Saxon model, is the presence of a strong shareholding system, which has an important influence on management, the business owners being banks, financial investment firms and other firms that control the company strategy. In order to strengthen the control of certain shareholders, there is even a limited issue of new shares. Thus, in these countries, the shareholders holding large blocks of shares are actively involved in the management of these companies, by penalizing poor quality management, fostering the economic efficiency and harmonization of the interests of the company social partners, including its own staff. Human capital is considered of utmost importance in the German model.

Property stability ensures long-term development strategies, and the main funding source is represented by credits, and not the capital market as in the case of the Anglo-Saxon model. Although the banks in these countries may not have large holdings of shares in the financed companies, yet they exercise a powerful influence and control over their governance system; hence the main advantage of this model: flexible funding of companies, as well as efficient communication between banks and the companies. The strong involvement of banks in the management of companies provides this system a great stability and priority orientation towards economic development. However, there are also certain disadvantages in this corporate governance system, among which the mostly important ones are the following: its failure to protect minority shareholders, financial power concentration and opportunity for dangerous combinations between the economic and financial power.

The attempts to obtain better performance in corporate governance have been materialized into *a comparison between the two models of corporate governance*. Although they have corporate governance systems built for a long time compared to emergent economies, in the specialized literature the opinions

are not fully in agreement with regard to selecting the most functional of them: the Anglo-Saxon or German. From the very beginning it must be mentioned that there is not a clear-cut advantage of one model over the other.

The countries are inclined to criticize the German Anglo-American system for its too mercantile character of the firm – administrator relations. The "Sarbanes – Oxley Act", enacted in 2002, introduces a stricter control of company managers, entailing the consolidation of investors' (shareholders') confidence in the business environment. The law sets new standards for the boards of directors, executives and accounting firms in the US and tougher penalties against those who infringe the law (Șerban, 2007).

Another difference between the two models is the different relation between the three actors, i.e. manager, (reference) shareholder and minority shareholder and their powers. Unlike the European model, which disadvantages the minority shareholder, the Anglo-American system makes no distinction between the minority and the majority shareholder, ensuring greater fluidity to the capital flow and greater stock market efficiency. The majority shareholder role is canceled, in the Anglo-American system, through the voting procedures imposed to administrators (managing director). The latter mitigate the majority shareholders' influence in decision-making, having also a corporative social responsibility, by diminishing appetite for risk. That is why the administration boards of companies that apply the Anglo-Saxon corporate governance model often use personalities outside the business circles, such as university professors.

In conclusion, a leader of an Anglo-Saxon company is engaged on contract terms, while a German one receives a social mandate from the company. In recent times, the trans-Atlantic methodology transfer is produced rather from West to East, so that the European researchers, concerned about future developments, seek to avoid the too sudden transposition of the contract-based method of administrator employment. In these circumstances, the European Commission organized an auction in April 2006, for a study to establish the optimum ratio between shareholders' power and administrators' power in a listed company. Won by three institutions, including the European Corporate Governance Institute (ECGI), this auction will bring the EU executive extremely useful data in decision-making (Șerban, 2007).

The comparative analysis of the advantages and disadvantages of the two models of corporate governance in developed countries suggests that the company governance system can be improved as a result of the action of the following factors (Vîtcă, Dănescu, 2006):

- Capital market actually offers official recognition of company performance and of its management implicitly, by the price of the shares of listed companies;

- Acquisitions of companies in developed countries like UK, USA, France, Germany, Japan, are made on a regulated procurement market;
- Institutional investors represent a potential influence power of company governance, especially in the UK and US. At the same time, they represent a danger in terms of the strong control they can have over firms, considering the high percentage of holdings in their capital stock;
- Creditors conclude contracts with the company to protect their rights, and in case of breach, may require initiation of bankruptcy proceedings for their recovery;
- Labor market for managers penalize the managers without notable performance, by replacing them by the Board of Directors, which entails the impossibility of finding a similar job;
- The competitiveness of products and services influences the company corporate governance, but the action of this factor is slow, shareholders can lose huge amounts of money, as a result of product quality degradation, loss of customers and markets.

As it can be noticed, these factors lead to better performance in corporate governance and to the removal of deficiencies, but this does not mean absolute standardization.

As it has been mentioned, there are still sufficient controversies in the economies of the developed countries about the appropriateness or non-appropriateness of different corporate governance mechanisms. For instance, Easterbrook and Fischel (1991) and Romano (1993) made an optimistic assessment of the US corporate governance system, while the studies by Jensen (1993) argue that the system suffers from major deficiencies and significant changes are imposed. The replacement of the Anglo-Saxon governance system by that of Germany and Japan (Gilson, Roe, 1993) is also debated. However, it is estimated that the corporate governance systems in the US, Germany, Japan and UK are among the best in the world, and their differences are not significant compared to the systems of other countries. Although the North American corporate governance model seems to be imposed in many countries and in many businesses, we should not overlook its limitations and criticism.

The corporate governance systems used by companies in Central and Eastern Europe (including Romania)

Unlike the German model based on internal influence (*insider – based model*), the enterprises in Central and Eastern Europe have a common governance model based on internal control, as a result of the privatization and restructuring process. This model, specific to countries from Central and

Eastern Europe, is a form of organization of companies resulting in capturing the control rights by managers or employees from the former state-owned enterprises in the privatization process, holding substantial blocks of shares by *insiders* of the privatization process and exercising their own interests in the decision-making process at the strategic companies level, when the companies still remain into state ownership. Hence problems facing corporate governance in this area appear: managers who have an excessive control of enterprises can act against shareholders, employees and other social partners, thereby jeopardizing the financial health, performance and the whole businesses environment of the company. This raises the need to increase the efficiency of this model by developing capital markets and banking systems as modalities of external or internal influence of the corporate governance systems of firms in transition economies. This is a more difficult approach, as in these countries no appropriate regulatory institutions existed, and therefore, no legal framework on issues that the companies are currently facing, such as bankruptcy, financial and accounting reporting requirements, ownership right, etc.

The corporate governance structures of firms in European countries in transition were significantly influenced by the objectives of the privatization process, i.e. speed, political responsibility, legal regulation and privatization efficiency. Considering the priority of these goals and the political and economic conditions, the privatization process had relatively different forms in the countries from Central and Eastern Europe.

In Russia, for example, the weak corporate governance mechanisms led to the embezzlement of assets from the privatized firms as a result of the managers' actions and to the quasi-absence of external financing for companies in this country (Boycko, Shleifer, Vishny, 1995).

In Romania, the corporate governance system management is applied only on the large state or private companies, due to the lack of information, poor training of some managers, legislative incoherence and economic and financial crisis.

In order to implement and improve corporate governance in the Central and East- European countries, in the Romanian companies inclusively, much more is needed than letting the market mechanisms regulate the company activity. Indeed, under the impetus of market competition, the firms will have to reduce costs, to seek for external financing conditions under most favourable terms, etc.

Thus, in order to accelerate the corporate governance implementation in these countries, the international institutions, governments, regulating institutions, employers' organizations, etc. were involved in the debates at Round Tables that resulted in the Stability Pact for South – Eastern Europe and the White Paper on corporate governance in South Eastern Europe, as the foundation of corporate governance model specific to these countries.

Conclusions

In an economy under continuous change, both at national and world level, business sustainability can be ensured by applying a system including effective management, implementation of modern management methods, proper motivation of employees, performance promotion at individual and organizational level and focusing primarily on results. Given the trends on the international market, we believe that corporate governance will remain a priority for the top management of companies for a long time, because the companies that adopt a transparent organizational culture and an efficient leadership model will have a better performance, while those that refuse to accept this absolutely necessary reality will experience poorer results.

The adopted management style should get adjusted according to the business nature and characteristics, to the structure of the enterprise. At present, the corporate governance is applied as a management system only in the larger firms in Romania. Given the advantages of this leadership model, we expect its expansion to smaller companies as well. The need for corporate governance is primarily due to business growth, both at national and world level.

It goes without saying that market volatility, combined with pressure from shareholders and economic uncertainty, creates the premises for the risk that the company top management acts incorrectly from the ethical point of view. Therefore, the importance of an efficient corporate governance model that controls and evaluates company performance, while satisfying the needs of all stakeholders and thus creates added value will further increase. Under these conditions, corporate governance can be a management tool to help maximize company value.

Corporate governance systems inefficiency is mostly due to the concentration of power in the hands of managerial staff and/or employees, without other market players being able to bring their influence and without active capital markets having an impact upon their evolution. Managers often think that they know everything and that the employees are mere subordinates who must execute orders. This management system can no longer be applied, in the conditions in which long-term performance and company effectiveness are targeted. Thus, a corporate governance system is necessary, which involves all decision-makers and all employees.

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Aspects of labor market flexicurity in the Mediterranean and Anglo-Saxon models

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Abstract. *In the context of the economic crisis and the challenges of globalization, the paper presents and analyses relevant aspects of labor market flexicurity, especially in the Mediterranean and Anglo-Saxon model. Thus, the labor market in Spain and the United Kingdom has been studied, highlighting the reason behind existing problems, compared to other EU countries, notably in the Euro area (Italy, Greece, Portugal, Germany). Labor market flexicurity highlights labor market flexibility while, at the same time, ensuring safe transition for employees from a job to another. In this context, it should be emphasized that integration in the Economic and Monetary Union involves fulfilling a major condition in order to cope within the Union, namely labor market flexibility.*

Keywords: Mediterranean model; Anglo-Saxon model; flexicurity; economic crisis.

JEL Codes: E24, J21.

REL Codes: 12G.

1. Introduction

As a concrete element, regarding the outstanding importance and influence of labor market flexicurity, compared to economic development, on one hand, and improving the quality of life, on the other hand, we can strongly say that this concept is a tool for sustainable socio-economic recovery in any human society. In this context, it should be pointed out that integration in the Economic and Monetary Union involves fulfilling a major condition in order to cope within Union, namely labor market flexibility. Therefore, labor mobility for Mundell (1961) is the most important criterion in defining optimum currency areas; it is able to take over the function of stabilizing the exchange rate because, through labor migration, the inflationary tendency is removed in a part of the region and employment issues to another region. Starting with the Lisbon Strategy and continuing with the Europe 2020 strategy, one of the objectives is to increase quality and productivity of labor, including flexibility and safety.

The analysis covers a range of relevant issues regarding labor market flexicurity in general and especially in the Mediterranean and Anglo-Saxon model. Furthermore, this concept is endorsed by one of the winners of the Nobel Prize for economics in 2010, as the main instrument of economic recovery and reduction of the massive unemployment rate surging in the EU. On the other hand, a number of autonomous trends on the labor market highlight the growing trend of implementing labor market flexicurity.

The economies of many European countries are going through profound structural changes. In response to these new challenges, most developed countries continuously adjust employment policies. At the heart of these models, the concept of flexicurity, consisting of *flexibility* and *security*, has recently gained more ground. The widespread concept is based on the belief that flexi-security is not just a state of the labor market or an analytical framework, but a political strategy that leads to win-win situations because it fulfills the employers' flexibility requirement (in order to increase the competitiveness of companies) and the employees' security requirement. Flexicurity, as a public policy strategy, refers to: "A strategy that is, synchronically and deliberately, aimed at increasing the flexibility of the labor market, its institutions and labor relations and, on the other hand, at increasing employment and social security, especially for vulnerable groups and those outside the labor market" (Wilthagen, Tros, 2004).

2. How should we understand labor market flexicurity?

The European concept of flexicurity designates a synergistic relationship between flexibility and security on the labor market. This implies a beneficial combination of flexible and serious contracts, comprehensive lifelong learning strategies, effective and active policies on the labor market and modern, adequate and sustainable social protection systems.

The concept of workplace security is considered and this concept is replaced by that of employment security. To keep a certain job that is not economically feasible may be counterproductive. It opposes restructuring and efficiency. In contrast, investment in developing new skills and abilities toward an active man gives him the chance for a smoother transition to a new career, by reorientation and retraining.

Flexicurity should promote labor markets that are more open, more responsive and more inclusive that can solve the problem of segmentation (Stanef, Manole, Militaru, 2012). This refers to both the employed and unemployed population. The inactive population, the unemployed, those with jobs that are undeclared or unstable should be given better opportunities, economic incentives and support measures, in order to have easier access to work or steps that help them find a stable and legally secure job. Support should be given to all those who have a job in order to remain able to work, to move forward and deal with horizontal and vertical transitions, from work and in between jobs.

Flexicurity does not refer to just a single labor market or to a single active life model or a single policy strategy, it should be adapted to specific situations of each Member State. Flexicurity implies a balance between the rights and responsibilities of all parties involved. With the common principles as landmarks, each Member State should develop its own flexicurity model.

Taking into account the experience of the European Union, as well as the need for an integrated approach, in order to achieve a high level of flexicurity, it is necessary to fulfill certain conditions:

- The possibility of flexible work contracts and forms of work organization, thus avoiding the phenomenon of discouragement and withdrawal from the labor market of people with low skill levels. At the same time, well trained people are able to adapt more quickly;
- Improving the content and forms of lifelong development, based on the idea that extending and improving the quality of training systems lead,

in the long term, to increasing employment rates and reduce gender discrimination. This stimulates the creativity of human capital and the investment therein;

- Active policies of labor market may contribute to an increase in labor mobility, significantly reducing the costs of social protection achieved through passive methods of minimizing the imbalances found on the labor market;
- Modernization of social protection systems can contribute to the activity of labor supply, avoiding the trap of poverty, by supporting reconciliation of work and family life. An active person, with a good physical and mental condition, will be more likely to be hired by a company because that person works with higher efficiency.

Fulfilling these requirements help improve the quality and mobility of labor, based on the idea that the quality of labor supply depends on both the skill and the desire of older people to get involved in economically and socially useful activities, as well as the degree in which the human potential is protected, in the context of imbalances between labor supply and demand. To implement the principles of flexicurity, coherent action must be taken by social and public authorities.

Workforce flexibility should be analyzed according to the following factors:

- i) Wage flexibility (in both real and nominal terms);
- ii) Labor mobility;
- iii) Shock absorption - salaries' ability to absorb shocks in case of short-term unemployment, to the detriment of unemployment.

Wage flexibility reflects the extent to which wage and salary cost is correlated with the ratio between supply and demand that exists on the market at a certain time. In order to achieve higher wage flexibility, remuneration systems should be based on performance and not on the degree of unionization. The wage should be determined based on labor productivity, so the higher labor efficiency is, higher the salary will be. But, as there is a tendency of near-equalization, unions demand higher salaries without they being justified by productivity and efficiency. Difference between wages must exist in order to maintain work motivation and stimulation, as well as the motivation of each employee concerned with improving their professional training.

Labor mobility implies the ability of people to change jobs in the labor market, without restrictions or risks when moving from one job to another, or from one employer to another. In terms of the scope of the labor market, we distinguish the domestic labor market and the foreign market, at an international

level. The free movement of people also implies mobility/movement of labor, both in the domestic labor market and the EU market. Movement of labor occurs, internally, under the conditions of the market economy, in which the laws of supply and demand are fundamental. Workforce must be supported to learn throughout life and specialize in several areas so that they can easily change the work place, if so requested either by labor market demand, or his/her preferences. Labor mobility is necessary in order to avoid “economic collapse” in some areas of the country or abroad. Thus, workforce can move where it is needed in order to balance the economy of certain areas and avoid “crowding labor market” in some areas.

Security in the workplace

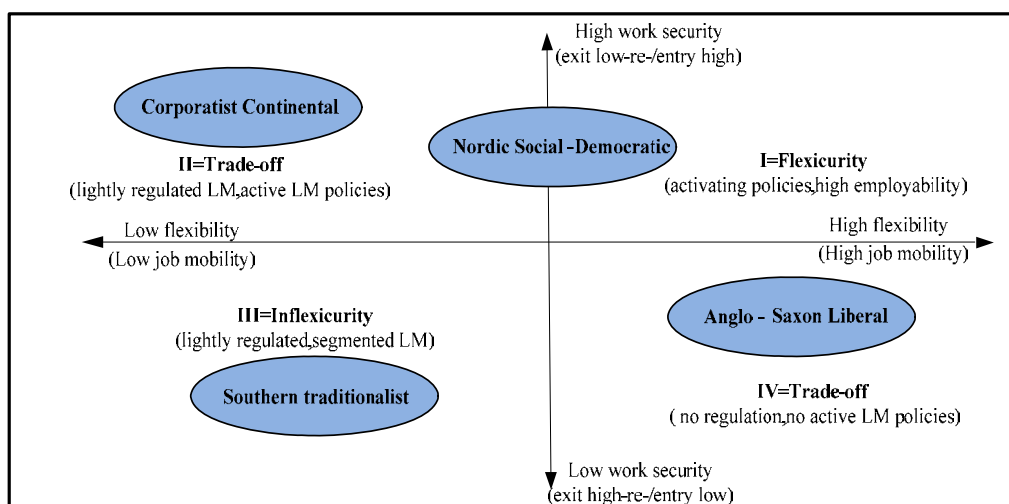
Along with increasing labor market flexibility, it is necessary to increase the protection of employees, including individual responsibility on their efforts to find a job. From this point of view, an important role is played by the Public Employment Service which will redirect its active measures toward groups of unemployed people who are reluctant to get involved in activation programs or who have difficulties getting employed, by increasing attractiveness of jobs. Security in the labor market refers to more than maintaining a job: it refers to skill development or access to skills that enable progress in the professional life and support in finding a job. It also refers to adequate unemployment benefits with the purpose of transition to socio-professional integration. Finally, it encompasses training opportunities for all workers, especially those with a low level of skills and older workers. Increasing security, in terms of employment, also establishes responsibilities for the employee-employer relationship.

The complex components of flexicurity have been experienced by several countries in the European Union that illustrate, with the help of monitoring reports, several models as a basis for analysis, of which stood out: *the Danish model, the Austrian model, the French model and the Finnish model*. The first model, the Danish one, stood out mainly because of its practice of temporary replacing displaced staff by training companies with long-term unemployed people, who are reintegrated into the labor market temporarily. The second, the Austrian model, is distinguished by encouraging labor mobility. A new obligation of employers was introduced and it consisted of transferring, on a monthly basis, a fixed sum of money into an individual savings account, opened on behalf of each employee. They can benefit from these economies in case of dismissal. The French model focuses on modernizing the labor market, linked to the reform of public employment services and the development of a vocational training system. The Finnish model focuses on the exiting flows in

the labor market, the regulations concerning transition from a job to another, correlated with the transition from unemployment to employment and the quality of working life.

3. The main flexicurity models, based on the relationship between flexibility and security

Flexibility and security can be theoretically combined in four ways, each of which is based on one of the two specific options of employment policy: flexibility and security are seen in opposition (employment policies focus only on one of the two terms) or they mutually reinforce each other (employment policies aimed at flexicurity).



Source: Muffels and Luijkx, 2004.

Figure 1. The main flexicurity models

I) *The Northern model (flexicurity): the Nordic socio-democratic model* – high flexibility, high security. This model combines flexible labor market regulations with a comprehensive system of protection for the unemployed and it focuses on vocational training measures. An institutional approach is taken, according to which, regardless of the economic cycles, institutions may determine convergent trajectories of flexibility and security, mainly by mobilizing employers and unions (employees). From this point of view, the labor market would function better if all parties adopt the model of knowledge economy and focus on investment in human capital throughout the career.

Thus, we can ensure both an increase in chances of being employed (“employability”) for employees, as well as corporate flexibility. Employee safety is seen in the broader perspective of the entire working life, it is more about employment security throughout life rather than security at a particular job. Stability is not related to a specific job but the high chance of passing from one job to another (re-entering the labor market fast, in case of job loss). Therefore, companies' flexibility is understood as an opportunity for employees to constantly improve and update human capital, which in turn makes a high degree of flexibility possible. The main disadvantage is related to high costs. The Danish model is a combination of the liberal model and the socio-democratic model of social protection. It is called the “golden triangle” and it combines high mobility between jobs, comprehensive social protection and active measures for the unemployed, it is also an expensive model. High mobility of employees is associated with flexible regulations of industrial relations. Every year, about a quarter of employees in Denmark is affected by unemployment and receives generous unemployment benefits. Most are able to quickly re-enter the labor market. The others are integrated into schemes of active measures (mainly professional training) to protect or improve their chances of being hired. However, in order for the Danish model to be applied, a number of pre-conditions must be met: strong economic growth, accompanied by the creation of new jobs, funding for social policies, good governance and a well developed system of enforcing active measures for training and education, a good collaboration of social partners, intensive and decentralized social dialogue, legitimacy, social support from citizens.

II) *The continental corporatist model*: low flexibility, high security. In most countries, including Romania, this combination is preferred by unions. For example, in France, although the rate of unionization is low (around 10%), the population strongly supports this model. That is the reason for the highly publicized and violent street protests of youth in response to the government's attempts to introduce labor market flexibility measures. Therefore, there are rigid labor market regulations as well as a comprehensive system of protection for the unemployed and emphasis on vocational training measures. The main advantage of such a policy is the high security for employees in the formal labor market. There are also disadvantages for both companies (due to rigid labor market regulations, companies can not adjust quickly by firing employees in the event of external shocks or adverse developments in the market, so the adjustment process of firms is relatively long) and individuals (due to increased labor market segmentation, rigid labor market regulations favoring workers in the formal labor market but offers no real chance of entering the labor market

for individuals outside it – the unemployed, workers in non-performing or informal sectors, therefore, the employment policy focuses more on existing job security and not on employment security and income of individuals).

III) *The Mediterranean model* (inflexicuritate): low flexibility, low security (Southern Europe: Spain, Portugal, Italy and Greece). This option is based on a certain type of economic growth, based on tourism, agriculture and construction, with a segmented labor market with limited access, relatively low mobility of labor and an informal sector that is well represented. It is considered to be a lose-lose situation, meaning that none of the social partners have anything to win, since both companies' flexibility as well as employees' security are relatively low. In addition, the situation of groups excluded from the formal labor market is a serious concern.

IV) *The liberal Anglo-Saxon model*: high flexibility, low security. This combination is favored by employers, however, it jeopardises the security of employees. This model is based on very flexible labor market regulations, in the absence of a comprehensive system of protection for the unemployed and, also, active measures for professional training are given little attention. In the context of the new structures of the knowledge economy, given the low demand for unskilled workers, their wages lower to the level of minimum wage, which is regulated by law. However, precisely because there is a certain level for minimum wage, productivity is insufficient to compensate for wage costs, which leads to reducing the number of unskilled workers. Therefore, the unqualified face strong barriers to entry into the labor market and are even excluded from the labor market. The most vulnerable to exclusion are exactly the disadvantaged groups with low social status and poor human capital. Exclusion from the labor market entails passing into the informal sector, which imply instability and insecurity of work, as well as income.

4. The Mediterranean and Anglo-Saxon model – comparative analysis

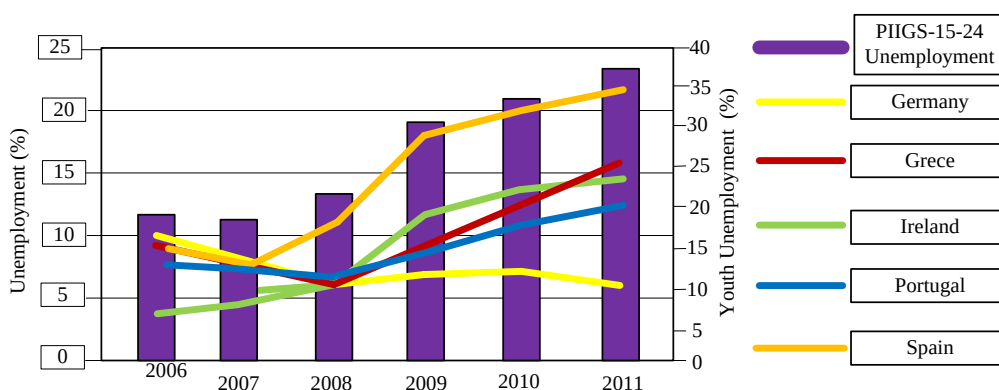
The Mediterranean model is based on expenditures for pensions, job protection, a relatively homogeneous structure of wages, obtained through collective negotiation. The main feature of the labor market policies is a rigid legislation for employment protection and support for early retirement policies, as a means of improving employment.

The liberal Anglo-Saxon model highlights the following aspects:

- It emphasizes individual responsibility for oneself and the labor market is not regulated;

- Social transfers are much smaller than in other models, they are more focussed. Consequently, social policies usually serve social classes with low-income. The state encourages market players to provide services and offers recipients (low income groups) the choice between public and private providers;
- Private insurance and savings schemes are supported by complementary state policies (eg, tax credits and tax shelters). Labor relations are decentralized and negotiations take place, mainly, at company level;
- Ireland has similarities with the UK, despite the fact that we find more pronounced interventionist policies here. This can be attributed to the special position of Ireland, which quickly moved from the position of a country with low incomes to one of the most expansive European economies, in terms of growth rate.

Regarding the labor market situation in Spain, we find a historically new high unemployment rate of 24.4% at the end of the first quarter of 2012, which represented a significant increase from a rate of 22.9% at end of 2011. Spain will be haunted by huge unemployment rates for many years, especially among the young population, but now things are worse than ever. For 2012, a new rate of unemployment is expected, that of 25.4%. The total number of unemployed people increased by 365,900 between January and March 2012, reaching 5,639,500.



Source: http://translate.google.ro/translate?hl=ro&langpair=en%7Cro&u=http://articles.businessinsider.com/2012-01-7/markets/30634557_1_unemployment-rate-rajoy-spain

Figure 2. Evolution of the PIIGS unemployment rate in the period 2006-2011

From the above chart, in the PIIGS group of countries, an increasing trend of the unemployment rate in the period 2006-2011 is observed. It also shows that the only country, among those analysed that registered a contrary but still positive trend is Germany. After a more detailed analysis of the situation of the other countries, the following aspects can be distinguished:

- Portugal has registered an unemployment rate of 13.2% in November 2011, an increase of 0.9 percentage points over the previous year;
- Ireland reported an unemployment rate of 14.6% in November 2011, an increase of 0.3 percentage points over the previous year;
- Italy had the lowest unemployment rate, among PIIGS, of 8.6% in November 2011, an increase of 0.5 percentage points higher than the previous year;
- For Greece, unemployment was at 18.8% in September 2011 with an increase of 5.5 percentage points over the previous year. Greece is the only country where the unemployment rate rose faster than in Spain.

Comparison between the evolution of the unemployment rate in Spain and Germany

In terms of the comparison between the evolution of the unemployment rate in Spain and Germany, it was found that the major differences between the economic trajectories of the countries in the Euro zone reached their peak, in the first month of this year, after Germany announced the lowest unemployment rate in the past 20 years, while Spain registered the highest number of unemployed people, for the fifth consecutive month. The number of unemployed Spanish people increased to 4.42 million, while the number of unemployed Germans lowered to 2.97 million. Another study, based on households, shows that Spain has even more unemployed, about 5.4 million people, almost 23% of the workforce. This value ranges, for Germany, at only 6.8% (December 2011).

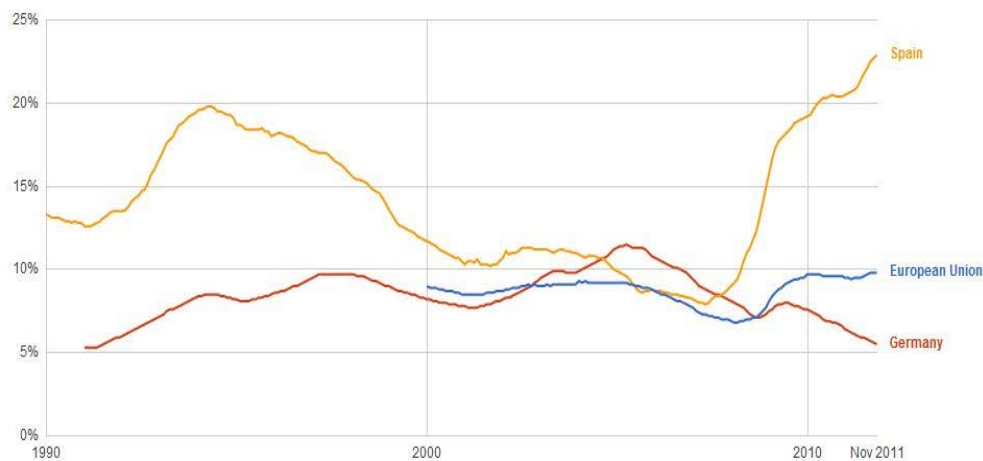
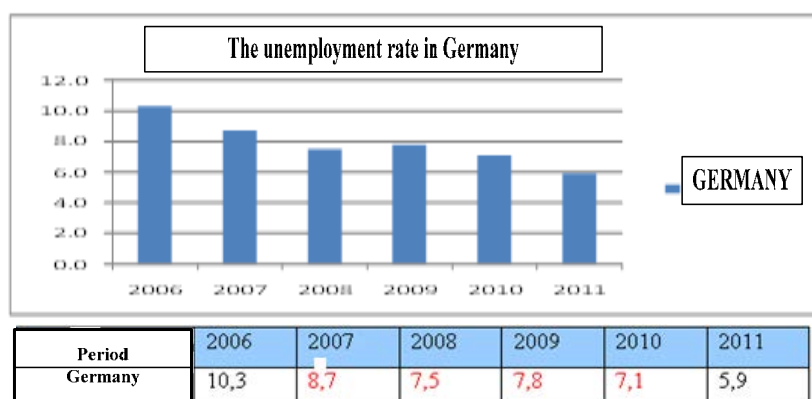


Figure 3. Evolution of unemployment rate in Spain versus Germany

While Spain and other countries have announced labor market reforms, in order to give another chance to their economies, in 2012, the most persistent issue the Euro zone leaders must face refers to the courage of politicians to implement tough austerity measures.

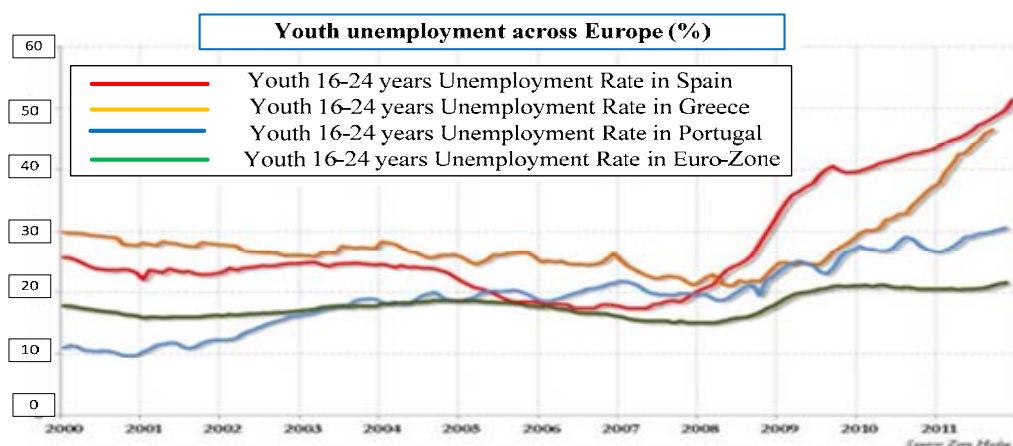
In January 2011, the unemployment rate among young people (under 25 years) was 19.9% in the Euro zone and 20.6% for the whole bloc, while in the same month of the previous year it was 20.2% and 20.7%. The lowest unemployment rate among young people was registered in the Netherlands (7.8%) and the highest rate was in Spain (43.1%), where it is expected to exceed 45% by the end of 2012.



Sursa: Eurostat.

Figure 4. Evolution of unemployment rate in Germany (2006-2011)

Germany, long considered the “engine of the Euro zone”, especially since it mass produces for exports, manages excess workforce better. Throughout the crisis, it even managed to reduce unemployment to 7%. Citizens accepted reduced working regulations instead of abolishing jobs and the government pays compensation amounts to companies, in order to maintain part-time employees, instead of firing them.



Source: <http://www.zf.ro/business-international>

Figure 5. Unemployment rate among young people during 2000-2011. Comparative analysis in the Mediterranean model (Spain, Greece, Portugal, Italy) and the Euro zone

The decline of the Spanish economy and the level of labor market flexibility

The unemployment rate in Spain, of 22.9% in November 2011, increased by 2.5 percentage points (pp) over the past year. The global financial crisis hit Spain, drastically affecting the construction industry, which led to the removal of two million jobs and now, the country is struggling with a crisis of emmigration. The government of Mariano Rajoy, the new prime minister from the center-right People's Party, believes that aggressive reforms imposed on the country's inflexible labor market, combined with benefits for small businesses will help generate jobs. Also, budget expenditures will be reduced and taxes will increase in order to reduce the budget deficit, which must reach the level of the European Union.



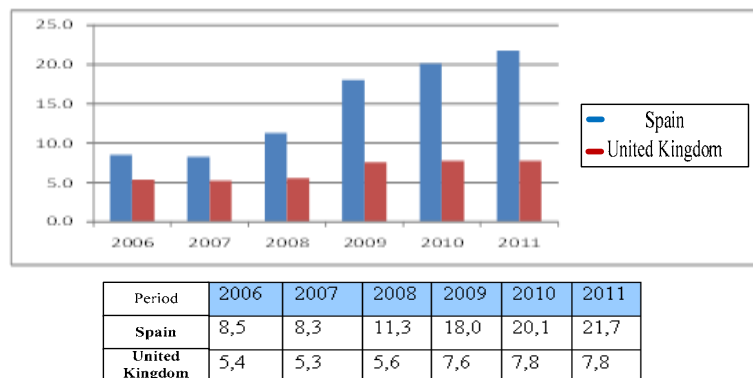
Sources: Thomson Reuters Datastream, Eurostat.

Figure 6. Decline of the Spanish economy in terms of the unemployment rate

Out of all the European countries, the most affected ones were those that had significant increases in the minimum wage in the years preceding the crisis; Spain, one of the countries with a very high rate of unemployment, reaching a level of 20.5% in April 2010, had an increase in the minimum wage from 490 Euro/month in 2004 to 700 Euro/month in 2008.

Regarding the problems in the labor market in Spain, one can identify the following:

- Encouraging non-labor in some regions by excessively and deficitly using social protection measures;
- With the outbreak of the crisis, those who lost their jobs were paid, by the state, 75-80% of the last salary for two years, therefore, many people willingly gave up their jobs in order to receive state money;
- After two years of unemployment luxury, Spaniards were eligible for another nine months for an aid of 600 euros per month; social protection measures led to difficulties in the labor market and high national debt, in addition to those generated by real-estate and economic crisis.



Source: Eurostat.

Figure 7. Comparative evolution of the unemployment rate between Spain and the United Kingdom

It is noted that the United Kingdom, where there is a high degree of flexibility of the labor market, has fared much slower in terms of raising the unemployment rate, so that in 2011 amid the ongoing effects of the economic crisis unemployment in UK represented about a third of the unemployment rate registered by Spain.

Labor market flexicurity highlights labor market flexibility, while ensuring a safe transition for employees from one job to another. Bear in mind that this concept refers to both external flexibility, as well as internal flexibility and security. Regarding flexicurity in the United Kingdom, the British model, which is less regulated, less syndicated and with lower taxes, is an example of flexicurity in action. Although, in England the workforce has a high degree of flexibility – with about 6,000,000 leaving work each year and a similar number who find new jobs – more than two thirds of these job changes are voluntary and workers in the United Kingdom feel generally safe in their jobs. England has the second lowest rate in the EU for the percentage of workers who fear they will lose their jobs over the next six months. In addition, the flexibility of legislation for the protection of employment meant that the UK had a relatively high rate of workers employed on permanent contracts (representing 94% of the workforce). Integrated flexicurity policies play an important role in upgrading the workforce and contribute to achieving occupancy of 75%, set by the European Strategy 2020. For countries that have made significant changes for a more flexible market, such as the UK, the Netherlands and Spain, there were increases in income inequality and reductions of skilled labor that can not be regarded as socially optimal.

Possible solutions for Spain to overcome the crisis

A significant step in this direction is to improve the tax base and the best way to do this is to strengthen its educated workforce.

“They need more employees in the office”, says Edmunds, noting that Spain should “facilitate the migration of skilled workers between regions and attract skilled workers from abroad (John Edmunds, professor of business at Babson College in Wesley, Massachusetts).

Another challenge for Spain is to try to get more people with higher education to move and live there. Also, skilled workers, with administrative, professional and managerial activities, tend to be a more reliable source of tax collection than small businesses. Spain, Greece and other countries, including the US, are facing problems in collecting income taxes from small business owners. Last but not least, we must consider that tax evasion is one of the problems that led to the fiscal crisis in Greece, whose situation is worse than that of Spain, with huge debts, strict austerity measures and yields of bonds which exceeded 20%.

5. Conclusions

To ensure the highest level of labor market flexicurity, certain aspects must be followed, such as: providing flexible employment structures – in terms of flexibility of working hours and flexibility of work skills; ease and cost of hiring/dismissal, short-term employment contracts, increased flexibility for payment schemes and housing flexibility.

In the Mediterranean model, unions and employers are important for the highly centralized negotiation process of wages and working conditions. Employment rates, especially for women, are very low. The Mediterranean model is used by Spain, Italy, Portugal and Greece.

Occupancy is higher in the Anglo-Saxon model, the difference being attributed to maintaining high occupancy rates for the elderly and a lower rate of youth unemployment.

By using the concept of flexicurity, several part-time jobs have been provided and most were registered in Germany, which was reflected in employment occupancy, which is the best in the Euro zone. Given the diversity of EU Member States, in terms of socio-economic and employment patterns, the following question is raised: How effective is the European Union's capacity to overcome the challenges posed by the current economic crisis?, given that flexicurity policies have been questioned and the most affected during this period of economic downturn are those from vulnerable groups, especially young people.

Acknowledgements

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Impact of economic models on European Union economies development

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Abstract. *The horizon of 2050 is projected a new vision of the economy, supported by a coordination of economic policies in order to generate sustainable growth, employment levels, social cohesion, which would contribute to economic and financial recovery of European Union.*

Challenges facing the Union are higher than before the recession, while the margin of maneuver is limited. Enhanced role of Union demonstrate increasingly economic and politic power of emerging countries.

Keywords: economic crisis; global development; economic models; sustainable development.

JEL Codes: E31, J20.

REL Codes: 18C, 20B.

1. Introduction

Since 2000, the European Union assumed profound transformation stage in the economic system, by ensuring economic and social cohesion. The aim is both compatible with EU overall development and harmonization of new members in full and global level.

Therefore, the most important challenge for the countries of Central and Eastern Europe is foreshadowed economic harmonization with international standards (challenge based on knowledge) any other obstacles that can slow this process will compromise the chances of rapid catching income between countries and regions in the EU.

Over time it was justified the existence of three types of capitalist systems: the social-democratic (which includes the Nordic countries), the conservative (continental European countries) and liberal welfare system that includes Anglo-Saxon countries.

Within the EU there are two systems: the Mediterranean, which includes southern countries, and the “catching-up”, which includes the new Member States, former communist.

Today the world is facing three models (Dinu, 2004, p. 28) of economy and society, being in the same time also social and economic development models: the European model, American model and Asian model.

2. Models and sub-models of competitive economies

The European model includes three elements: economic growth, political freedom and social cohesion. American model include economic growth and political freedom, excluding social cohesion, while Asian model includes economic growth and social cohesion, excluding political freedom. This last model is the regional model that propels China's pivotal position in Asian regional economy. Even specific variants Japan and South Korea and the Asian tigers meet Chinese model features. It is allowed dirigisme, interventionism, single-party or authoritarianism.

We note that two of the three models are characterized by exclusion, the US and Asia, the European model is only inclusive nature. Exclusive models are antagonistic and ideological resonance. US neoliberal model instance is emphasizing the virtues of the market, and the Asian is socialist, placing high value on control decision, resources and political freedoms. History has shown that exclusive models have greater dynamic results; inclusive model is the model of the third way, an alternative to exclusive models.

According to the social cohesion, European and Asian models have social purpose, and the American model is exclusively yield. In terms of political

freedom American and European models are based on individual judgment and price, Asian one put options against individual rule society, politically guided. If we consider the face of economic growth, American and European models are based solely on competitive market mechanisms for resource allocation, while Asian model attaches importance gradual involvement in the certification market controlled allocation of resources.

Northern sub-model in the European Union has shown that the most effective sub-model generates both social equity and macroeconomic efficiency.

Nordic sub-model (Scandinavian) includes Sweden, Netherlands, Denmark and Finland and is characterized by a high degree of redistribution is the most efficient system of social protection, promoting social inclusion, provides social services to all categories of citizens and open dialogue and social cooperation between social partners and the government (Figure 1).

This type of economy stands among the most competitive European economy. It is able to not sacrifice social cohesion to improve economic performance of countries that have adopted this sub-model.

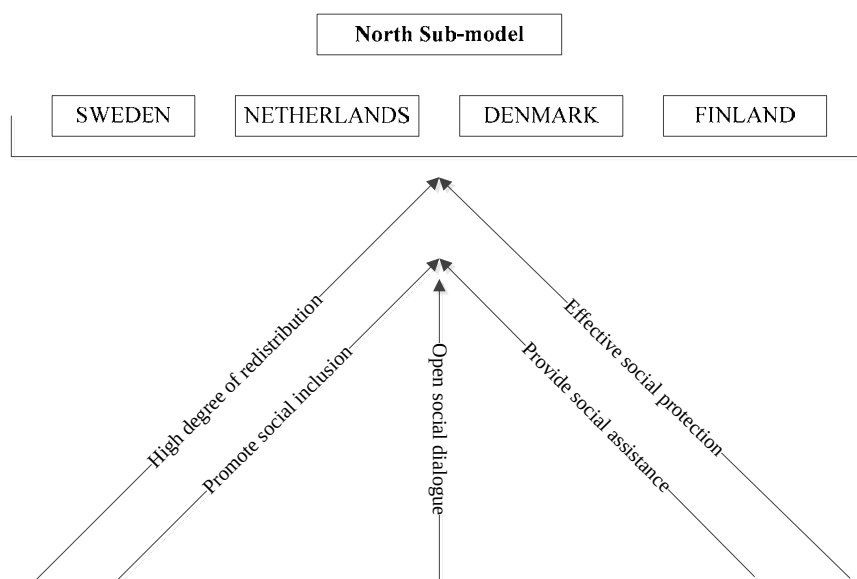


Figure 1. *Nordic sub-model*

Anglo-Saxon sub-model (UK and Ireland) reflects a liberal approach to welfare system, where social assistance is limited and state responsibility is transferred to the care of the individual in that it has a private system – well done – insurance risks of any kind (Figure 2).

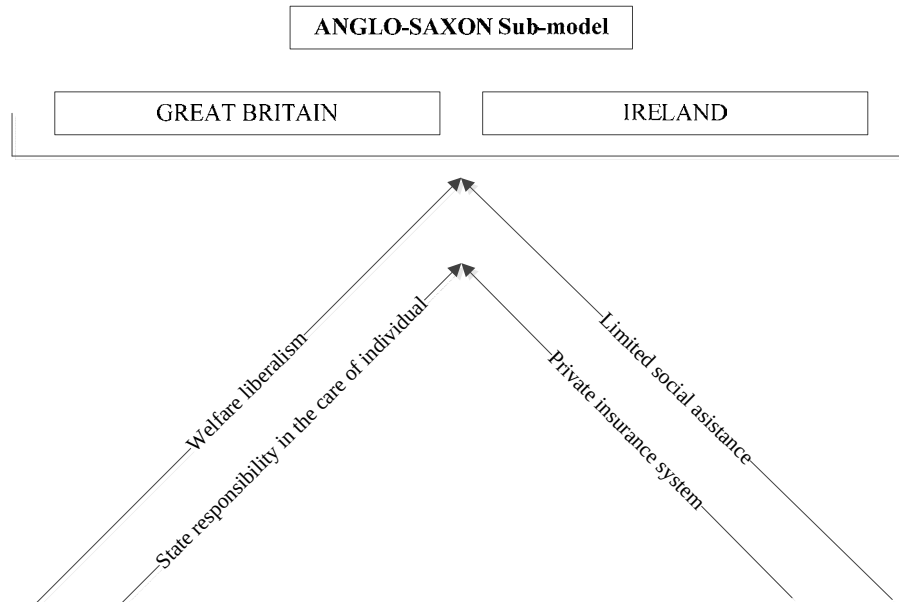


Figure 2. *Anglo-Saxon sub-model*

The same principle, individual responsibility, and labor apply where the decision to seek a job belongs to the individual. State allocates small amounts of labor market regulation policies. In Ireland, government intervention has improved the country's economy so that it has become the second largest economy in Europe in terms of economic development.

Employment of labor is relatively high in Anglo-Saxon countries due to a reduced income tax and due to low unemployment ratio in relation to salary. The Anglo-Saxon countries have the lowest unemployment rates due to small amounts of unemployment benefits paid by the state.

Efficiency feature is successfully achieved by this sub-model but when it comes to fairness, this sub-model shows notable differences in the distribution of income in society.

Continental sub-model includes France, Germany, Austria, Belgium and Luxembourg. In this model, employment of labor is the basis of social transfers and benefits granted are much smaller, being dependent on the income obtained previously. The labor market is regulated by the state so that it has reduced workers flexibility (Figure 3).

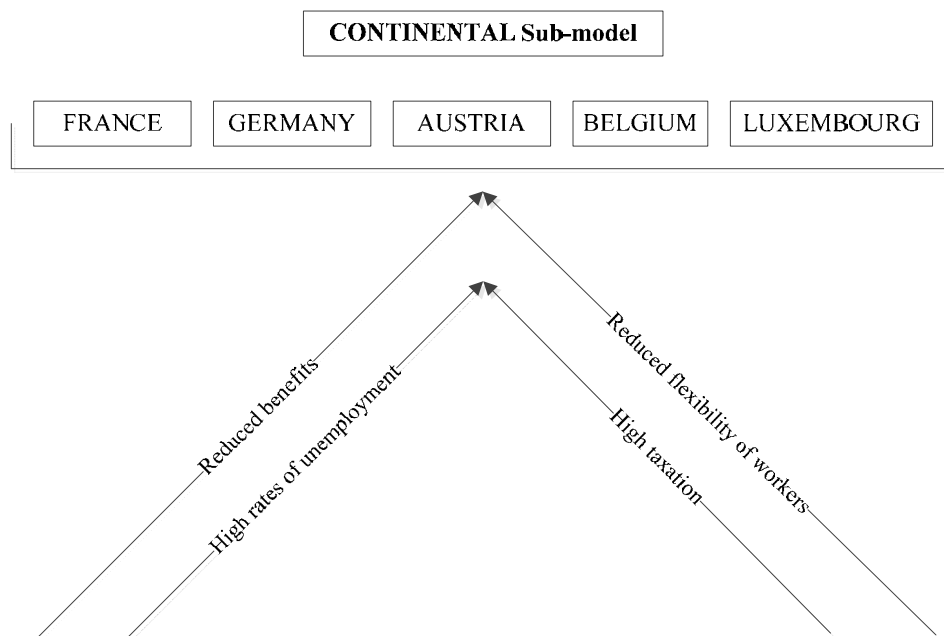


Figure 3. *Continental sub-model*

Taxation is high (compared to that of countries that have adopted north sub-model), and this leads to a lower capacity to create jobs in the private sector.

Unemployment benefits are quite high in relation to wages, which is urging citizens to stay home instead of looking for a job and, of course, this involves high unemployment rates.

Countries in continental sub-model have a lower income inequality than Anglo-Saxon countries sub-model due to higher spending on social protection made in the past.

Southern sub-model includes Greece, Italy, Spain, Portugal, Malta and Cyprus. The state has a minimal role in terms of social protection, with social benefits only to certain categories of people. The labor market is controlled by the state is highly fragmented and rigid. Wage negotiations are centralized (Figure 4).

In this sub-model state functions are taken to some extent by the family. An important role in social and productive throughout is played by the family.

Long-term unemployment is particularly high among young people, while social spending is low budget. The labor market is rigid because the state is regulating this market.

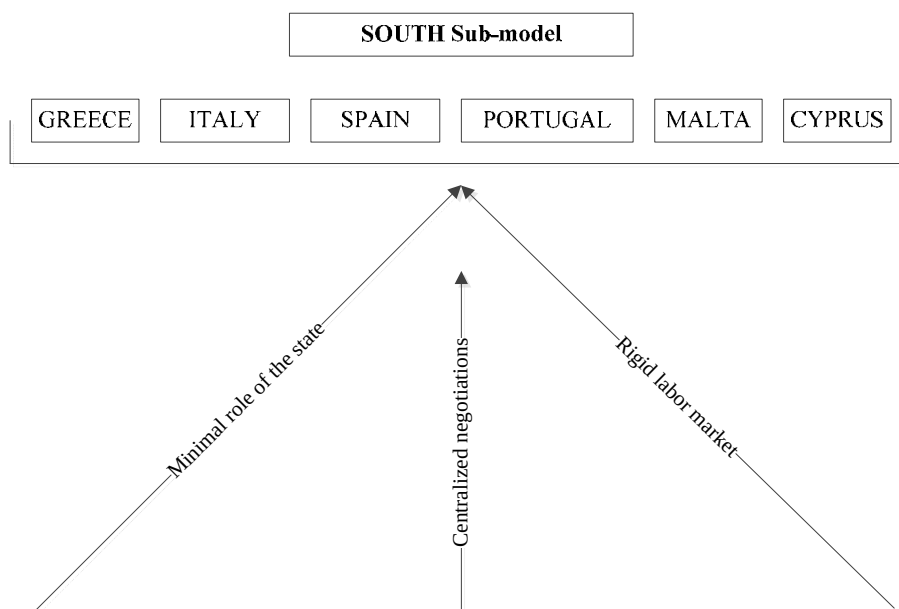


Figure 4. *South sub-model*

Differences in income are explained in terms of a smaller state and a redistributive economic system unable to significantly increase the employment rate of workers. In some countries such as Italy, Portugal and Spain income differences can be explained by the existence of large regional differences.

Catching-up sub-model (Central and Eastern Europe – CEE) comprises the Czech Republic, Slovakia, Slovenia, Hungary, Poland, Estonia, Lithuania, Latvia, Romania and Bulgaria. Although these economies have undergone a process of transition to a market economy, however there are significant differences in terms of the organization of national wealth (Figure 5).

Some countries such as Hungary and Slovenia have opted to increase spending on social protection, while others, such as the Baltic countries, have relied on keeping them low and fostering the development of catching by promoting an income tax similar to the Anglo-Saxon sub-model.

However, the overall analysis of catching-up sub-model suggests regulated labor markets, the presence of institutions of social dialogue still lagging behind the reality of a low security.

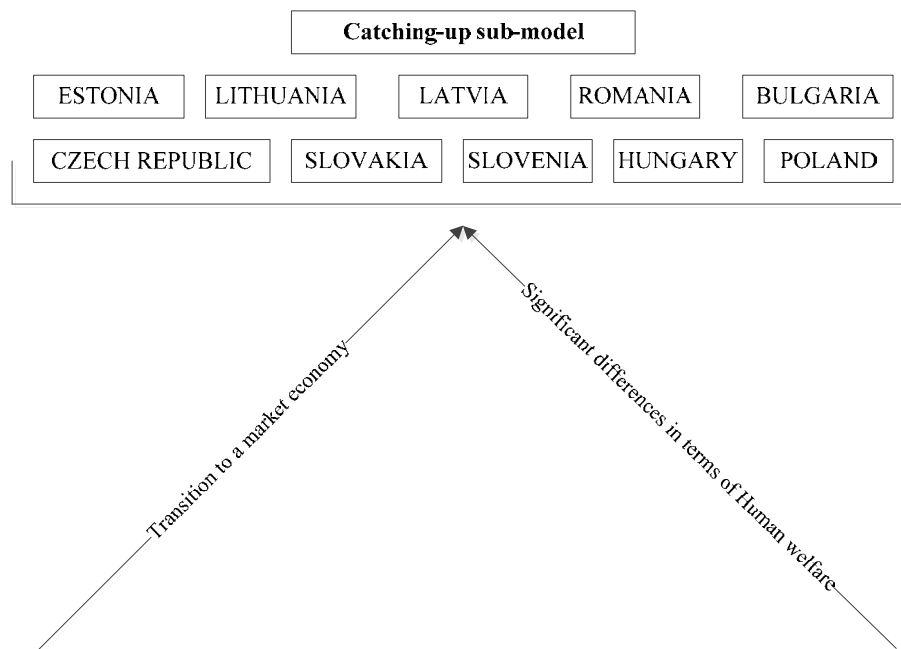


Figure 5. *Catching-up sub-model*

For Slovenia and the Czech Republic, employment rates are highest, the most significant increases is recorded in Bulgaria and the Baltic countries, where occupancy approached the continental sub-model.

In the catching-up sub-model one can define two groups of countries: one that includes the Visegrad Group countries (Hungary, Czech Republic, Slovakia, Poland) and the other – economies that implemented flat tax (the Baltic States, Romania and Bulgaria).

Nordic sub-model and Anglo-Saxon sub-model both proved to be capable of generating economic efficiency and social equity, although in Anglo-Saxon sub-model the social responsibility is transferred to individual.

Continental sub-model showed lower performance compared with the Nordic sub-model with high rates of unemployment and high taxation.

Southern sub-model and catching-up sub-model differ significantly from the social-democratic in the organization of the national wealth. Low performance in terms of reducing inequalities of income and the high degree of corruption in these sub-models are an example not to be followed by other EU countries.

From all the foregoing results that the homogenization of the European model will be difficult because the transfer of common values specific for the last two sub-models to the other three may encounter institutional resistance.

The European model is the ingredient for expanding monetary economy and the real economy relies on consistency, solidity and stability that generates nominal economy. Europeans thought the system as a balance between income and productivity, a system that puts aspiring work and products, certifying employment and offering sustainable business and reliable products. It is the economy where risk is calculated and minimized, it is product economy.

End of growth and beginning of decline for the total and working age population in the EU and candidate countries for the period 1999-2050 has the following track:

- Romanian population decreased to an alarming rate and will continue to decline as a result of the aging process without a satisfactory birth rate.
- Total active population will decrease as a result of reduction population over 65 years, but active population aged 15-64 will increase, the participation rate reaching 65% in 2013.
- Young population reduces both numerically and as a proportion of the total population.
- Very low birth rate, reaction to pro-natalist policies promoted voluntary in the 60s and 80s and migration, both of which are a result of extremely harsh living conditions inherited from the dictatorship regime and uncertainty of transition period (very long in Romania) which leads to the emergence of generations rather than numerically smaller, despite the existence of a population of childbearing age (i.e., especially young people) very large.

Following this series of shocks, demographic decline, affecting long-term economic developments, is difficult to reverse.

Total population decline since 2025 will generalize to a long term horizon. But in regard to the situation of the working age population, the effect is almost immediate, in medium term, starting 2011 to widespread phenomenon occurring. New demographic trends, with high probability, announce a significant change society structures.

3. Europe 2020, a new model of economic development

This strategy encompasses a new vision of Europe's economy in the next decade, based on closer coordination of economic policies in order to generate growth, employment levels, high social cohesion, which would contribute to economic and financial recovery of Union Europe.

Given the persistence of negative effects on labor market, policies and the implementation thereof must have an important role to constitute a means of correcting current trends and prevent potential negative effects. Europe 2020

Strategy aims, for the reasons listed above, increasing young labor employment, older workers and low skilled people.

In terms of the key indicators of labor market developments (employment and unemployment), Romania recorded between 2000-2007 an average of about 60% of employment and about 7% unemployment rate.

Employment situation is similar to that of Spain (in the Mediterranean sub-model), Belgium (continental sub-model), or the catching-up sub-model of CEE states, Lithuania, Latvia and Slovenia, also with values close to 60% occupancy. Besides the employment rate, unemployment levels are similar to those in the Czech Republic, Malta, Belgium and Romania overall positioning registering during this period sub-model values between Mediterranean and continental, with unemployment rates significantly lower than those of states like Hungary (16%), Lithuania (11%), Latvia and Spain (10%), Poland (16%) and Bulgaria (13%).

Regarding employment, among the most important issues on the labor market in Romania there can be mentioned the reduced flexibility, late youth entering the labor market later, weak intensity of dialogue between social partners or weak correlation between demand for labor force and offer training, etc.

The financial crisis has had a major impact on the ability of European enterprises and governments to finance investment and innovation projects. To achieve its objectives for Europe 2020, the EU will need: a regulatory environment that promotes efficiency and safety of financial markets, innovative instruments to finance the necessary investments – including through public-private partnerships.

In 2012, the European Commission presented new data for 2011, GDP growth was 2.5%, contributing to this result the agricultural production, industry, gross investment return of capital formation and private consumption.

For 2012 it was projected an increase of only 1.4% of GDP mainly relying on domestic demand growth. In terms of net exports, it will contribute further negative while the exports to the EU, representing 70% of Romania's total exports, will fall much more than imports supported by domestic demand, the current account deficit reached the level of 5%. GDP growth for 2013 is expected to reach 2.9% as domestic demand continues to recover.

If from the point of view of inflation it is estimated that in 2012 and 2013 the level will be that of the central bank targets inflation ($3.0\% \pm 1$ pp in 2012 and $2.5\% \pm 1$ pp in 2013), regarding the labor market we have some problems inherent following the measures taken in recent years.

The unemployment rate for people between 15-74 years was 7.4% in 2011 and is forecasted values of 7.2% for 2012 and 7.1% in 2013. But alarming problem is represented by the population under 25 years who have an unemployment rate of 25.4%, while the overall rate of employees was 58.5% last year.

Intermediate stages of the employment to population aged 20-64 years were determined overall and by sex and are presented in the table below (Table 1).

Table 1

Forecasting the employment rate by gender for age group 20-64 years

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Men	71,2	71,6	72,0	72,4	73,0	73,4	73,8	74,1	74,4	74,6	74,8
Women	56,0	56,1	56,5	57,0	57,8	58,8	60,0	61,2	62,5	63,9	65,5
Total	63,6	63,9	64,3	64,7	64,7	66,2	67,0	67,8	68,5	69,3	70,0

Source: National Prognosis Commission, available at <http://www.dae.gov.ro/admin/files/Tinta%20ocupare.pdf>.

Realistic scenario for national employment target by 2020 proposed a total employment rate for the population aged 20-64 years by 70%, 74.8% men and 65.5% women. We notice a reduction in the “scissors” gender employment by about 14 percentage points (which were average last six years both for Romania and the EU-27) to about 9 percentage points.

Depending on macroeconomic developments and the degree of achievement of other objectives assumed in 2020, a pessimistic scenario provides an employment rate of 68% and an optimistic scenario an employment rate of 71.5%.

The objective of increasing the employment rate is conditioned mainly by the favorable development of the economy, particularly when resuming growth and recovery by increasing education levels and access to forms of lifelong learning by providing access to benefits and social services in a way that does not reduce the attractiveness of working and ensuring effective transition to the labor market, especially by implementing active employment measures in an appropriate manner in terms of financial and adaptation to individual requirements and dynamics labor market.

If all these conditions are met, the employment rate always will increase during 2012-2020. At this time there are no structural breaks in dynamic growth, growth being a “smooth” of 0.49% per year for men, 1.58% per year for women and 0.96% annual total employed population.

Forecast data from the National Prognosis Commission shows that, by 2014, the employment rate for men will continue to grow faster than the employment rate for women, but since 2015 the trend is reversed. The difference between the employment rate for men and women will reduce annual, average of 1.09%, which is a positive trend in line with the European principle of increased gender equality.

Even if Romania will fulfill the national target adopted regarding employment rate of 70% for 2020, this proportion reaches only 93.3 EU target of 75%, leaving a lag of 5 percentage points in the employment rate in group aged 20-64 years.

4. Prospects for European model

For the European model can provide both social cohesion and competitiveness, it is necessary to amend the European Union's economic system consistent with economic policies and features of the new cycle.

Promoted reforms should eliminate inertia of European economy, involving of course also certain economic and social costs of adjustment. Even if they are high in the short-term, however, it is the basic condition for the sustainability of the European social model.

From Nordic economies sub-model experience in implementing these reforms the following lessons can be drawn:

- Increase productivity helps reduction income inequality;
- Active labor market policies result in a shorter search time between jobs and hence the decrease of long-term unemployment rate;
- Labor market flexibility and social security are not conflicting goals;
- Continuous training and development of employees skills are essential conditions for the existence of a high level of adaptability to changing labor;
- Growth rate of labor market participation is a way to relieve the pressure generated by demographic developments.

Absolute stake regarding globalization and the spread of the European model as a global model is functionality of another principle which ensures overcome bottlenecks within which the international regime evolution is and constitution of international order. European model appears as a new formula to organize the world in order to solve otherwise non-confrontational, resource allocation, as well as development issues that have not solved the principle of adversity. The European model is therefore a viable constitution which supposes a global society, to manage the global economy, as well as all other departments of global governance.

5. Conclusions

Europe is faced with clear options, but difficult. The first is to collectively face the immediate challenge of the recovery and long-term challenges – globalization, pressure on resources, aging – to offset recent losses, regain competitiveness, boost productivity and the EU enrolment on an upward path of prosperity (“sustainable recovery”).

The second option is to continue reforms in a slow and largely uncoordinated rhythm, representing a permanent loss in wealth, a sluggish growth rate (“sluggish recovery”), which can lead to high levels of unemployment and social distress and a relative decline on the world stage (“lost decade”).

Europe has much strength: talent and creativity of a strong industrial base, a vibrant services sector, a thriving agricultural sector and high quality, a strong maritime tradition, the single market and common currency, the position of the largest trading bloc in the world and leading destination for foreign direct investment. Many EU member states are among the most innovative and developed economies in the world. But Europe has the best chance to succeed if it acts collectively – as a Union.

At this point we can issue the following recommendations:

- Romania should try to increase quantification national targets for the Europe 2020 objectives as economic, financial and institutional matters improve. In this way, Romania will contribute to its greater modernization and integration to the European Union and will have a greater contribution to the implementation of European document.
- Europe 2020 strategy document should be seen as central planning and public policy fields filled with clear objectives prioritized in national perspective.
- To promote an integrated system of planning that brings together national policies with European policies in terms of united coordination.
- Specific reform measures and promoting public policy approach must be focused on policy makers.

As the universe of meanings, as phenomenology and the finality, the European model viewed as a global model appears to be nothing more than global and globalism, as compared to any other historical form they took during the pre-global principle structured adversity.

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Cyclical convergence of Central and Eastern European countries to the Euro area core. New methodological approach

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Abstract. *The current paper develops an analysis on the degree of business cycle convergence of the new member states of the EU towards the Euro area core (Germany, France, Italy, Belgium, Netherlands and Luxembourg) during 1996 – 2010.*

Unlike the previous research, the study takes into consideration the similarity of cycles, and not their synchronization. Furthermore, from the methodological point of view, it explores the use of survey indicators in the analysis of the cycles, thus in addition to the traditional approach that employs the GDP. The results obtained through clusterization show that the degree of convergence towards Euro area core remains modest.

Keywords: cyclical convergence; business cycles; similarity of business cycles; Central and Eastern Europe; Euro area.

JEL Codes: E32, F44, O47, C38.

REL Codes: 8N, 20H.

1. Introduction

The study of the economic convergence has received particular attention in the literature, especially within the European Union (EU) integration process. The research has focused on the issue of real convergence, which was defined by De Coevering (2003) as a two side process: on the one hand, the tendency to equalization of incomes and development levels, and, on the other hand, the tendency to attain a level of similarity between business cycles, more exactly the cyclical convergence on which the present paper focuses. The analysis of this type of convergence has become necessary in the context of the unique European currency and of the common monetary policy defined by the European Central Bank.

In the study of cyclical convergence, the majority of the empirical papers have concentrated exclusively on one property of the business cycles, namely synchronization. According to this property, the countries with strong links regarding the concordance and the correlations of business cycles should bear lower costs when joining a monetary union than those with less synchronized business cycles.

Even though it cannot be denied the fact that synchronization of business cycles is a relevant characteristic, it should be mentioned that this represents a necessary condition, but not sufficient in order to determine whether business cycles are similar enough with a view to assessing the costs of a monetary union. If the shape of the business cycles is different, a unique monetary policy applied to a monetary union would prove to be inadequate for all the participating countries.

For this reason, this research paper aims to study the similarity of business cycles, and not their degree of synchronization. The study focuses on countries of Central and Eastern Europe (CEE) which joined the EU in 2004, respectively 2007, and analyzes the degree of similarity of business cycles in these countries towards the core of the Euro area. While the papers conducted up to present employed the Gross Domestic Product (GDP) as a relevant indicator to evaluate the degree of similarity between business cycles, the present paper extends the research area by using indicators based on surveys rather than GDP. The time period of the analysis is between 1996 and 2010.

The article is organized into four sections, as follows: the synthesis of the literature is provided in Section 2, the proposed research methodology in Section 3, the results obtained in Section 4, and Section 5 concludes.

2. Literature review

Up until now, the similarity of business cycle characteristics among the European countries has not received the required scrutiny. The majority of the studies focused only on the description of the cycles. There are also authors such as Camacho, Perez and Saiz (2006) who study the similarity of business cycles and extend the analysis to the shape of the cycles. They provide at least four contributions to the literature: they provide a solid statistical framework to analyze the similarity of business cycle characteristics, by applying an adequate model for short data series; they study the business cycle characteristics of the new EU member states; they have a new statistical approach for the analysis and comparison of business cycles, by employing clusterization techniques of countries with similar characteristics of business cycles; and they are pioneers in terms of establishing a relationship between the distances in the business cycle characteristics of two countries and the distances in the synchronization degree. It is also interesting the fact that through clusterization the authors prove that there is not a single business cycle at the European level, in terms of business cycle similarity.

Based on the clusterization of countries according to the similarity of business cycle characteristics conducted by Camacho, Perez and Saiz (2006), Beyaert and Garcia-Solanes (2009) have explored the influence of business cycle phases from countries with similar business cycle characteristics on the real convergence between these countries. The results show that the convergence process is not uniform across the business cycles. In their analysis regarding the characteristics of business cycles, the authors employ the GDP usual indicator.

In the literature, there has also been a new approach to business cycles towards their analysis through the survey indicators. This approach aims to overcome the shortcomings of the GDP and industrial production indicators, traditionally employed for this purpose.

As regards GDP, even though it is considered as the best macroeconomic aggregate, it has the disadvantage that the data series are not available on long term for an important number of countries, unlike the industrial production. However, the use of industrial production is probably not the best option taking into consideration the fact that the sector accounts for less than 20% of the Euro area GDP. Then, industrial production is more volatile than aggregate production.

Furthermore, Gayer and Weiss (2006) have emphasized some important disadvantages in the use of these statistical data. Among them there is the need to apply filtering techniques and the dependency of business cycle properties on their way of dating. By comparison, the survey indicators have a genuine cyclical character and are not subject to long term trend, and therefore the arbitrary methods of decomposition in trend and cyclical component are not necessary.

There are currently empirical studies in the literature that approach comparatively the business cycles, through usual statistical indicators and survey indicators. The major conclusion has supported the potential of these indicators to be employed in this type of analysis.

As compared to this literature background, the current research can contribute significantly. Firstly, unlike most of the studies until now, the paper focuses on the analysis of business cycle similarity and not on their synchronization, a broadly debated topic so far. Secondly, some new approaches are explored in terms of indicators that can be employed in the analysis of business cycles. More specifically, we take into account survey indicators, in this case the Economic Sentiment Indicator (ESI) computed by the European Commission. Thirdly, the degree of similarity between business cycle characteristics is assessed through clusterization, a method with limited applicability in this field so far.

3. Research methodology

The current study presents a quantitative analysis on the degree of the similarity of business cycles between CEE countries and Euro area core. We have included 16 EU countries in the study, 10 of them belonging to CEE group – and being referred to by EU-10 – (Romania, Bulgaria, Slovakia, Slovenia, Estonia, Lithuania, Latvia, Hungary, Czech Republic, Poland), and the other six being Euro area members. The latter ones make up the core of the Economic and Monetary Union (EMU): Germany, France, Italy, Belgium, Netherlands and Luxembourg. Their statute as members of the EMU core has been defined in many studies, among which the comprehensive analysis conducted by Kappler (2008).

The employed data concern the period 1996-2010.

The variable used in order to determine the similarity of business cycles is ESI. This is monthly published by the European Commission for each of the 27 member countries. ESI is an indicator made up of more confidence indicators: indicators regarding industry, services, consumption, constructions and retail trade. The highest share is given to the indicator regarding industry (40%), followed by services (30%), consumption (20%), constructions and retail trade (each with a 5% share). These confidence indicators are computed as arithmetic averages, seasonally adjusted, of answers obtained following the survey questions. The surveys have been harmonized.

ESI is computed as an indicator with an average value of 100. The values above 100 point to an economic sentiment above average, and those below 100 point to an economic sentiment below average. As the European Commission

publishes only monthly series of this indicator, in order to obtain quarterly data, we have computed the arithmetic averages of the values for each country.

The method applied for dating business cycles is based on the definition of inflexion points according to the methodology proposed by Bry and Boschan (1971):

- maximum point at moment $t = \{y_{t-2} < y_t, y_{t-1} < y_t; y_t > y_{t+1}, y_t > y_{t+2}\}$;
- minimum point at moment $t = \{y_{t-2} > y_t, y_{t-1} > y_t; y_t < y_{t+1}, y_t < y_{t+2}\}$.

This methodology is also used by the National Bureau of Economic Research, which imposes more restrictions: the minimum duration of business cycles phases must be of six months, that is two quarters in case of quarterly data, and a complete cycle should have a minimum duration of 15 months, that is five quarters in case of quarterly data. If there is a situation in which two or more minimum or maximum points are very closed to each other, then we have chosen the lowest, respectively the highest among them.

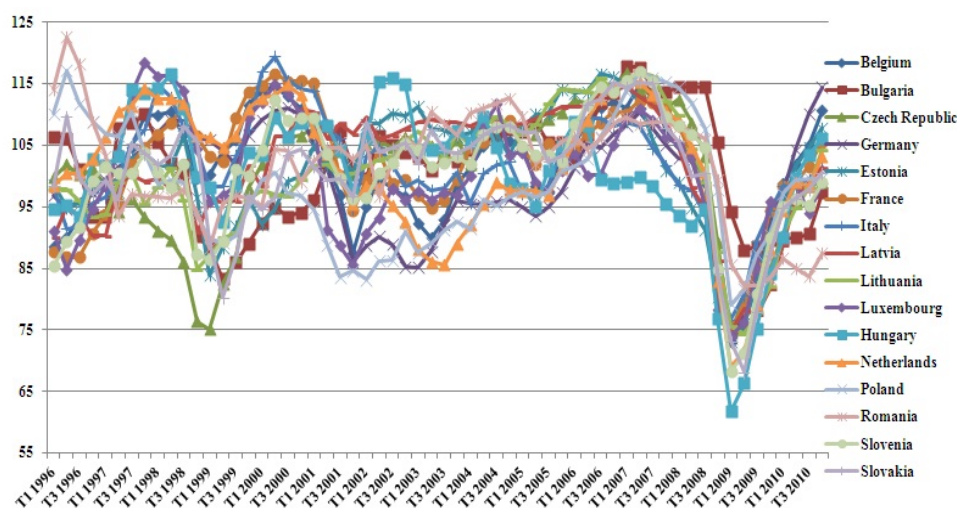
After having dated the business cycles, in this stage of research, we have kept in the analysis only the amplitude. For each country included in the study we have computed an average amplitude, both for expansion and recession phases. Then, we have applied the hierarchical clusterization technique in the SPSS soft in order to identify the countries with similarities of business cycle characteristics during expansion and recession phases. By using the hierarchical clustering, we have been able to note very clearly the clusterization stages of countries and the size of the distances between them at every moment. In the Annexes 1 and 2 we have presented the corresponding dendograms for both economic expansion and recession phases.

After determining the final clusters, we have emphasized the countries within the EU-10 group that have joined countries in the Euro area core, having similar amplitudes of business cycles.

4. Findings of the paper

After having aggregated the monthly data of ESI, we can notice in the figure below the quarterly evolution for all the 16 European countries included in the study.

From the graphical analysis results that the average quarterly values of ESI have been varying between 75 and 115 points, with a visible dramatic decrease in 2009, as a consequence of the economic crisis. Among all the countries, Hungary and the Czech Republic stand out with visible divergent evolutions during certain periods of time.



Source: Authors' estimations.

Figure 1. Evolution of economic sentiment indicator, Q1 1996 – Q4 2010

Surprisingly, Romania is the country within EU-10 that has recorded a maximum quarterly value of ESI in Q2 1996, of 122.6 points, which points to an economic sentiment above average supported by the transition to the market economy and the progressive development of the private sector. According to the data of National Forecast Commission, the year 1996 has marked the moment when the private sector became a major sector that contributed to the GDP by 55%.

At the opposite side there is Hungary, which recorded a minim value of ESI in Q1 2009, of 61.7 points, that suggests an economic sentiment well below the average, due to the urgent liquidity needs of the country, despite the agreement concluded at the end of 2008 with the International Monetary Fund.

In order to complete the analysis, we dated the business cycles and computed the average amplitude during 1996 – 2010 for each country, on the one hand for the economic expansion phases, and on the other hand for the economic recession phases. The results obtained are synthetically presented in the table below:

Table 1

Average amplitude during 1996-2010		
	Average amplitude (absolute values)	
Country	Periods of economic expansion	Periods of economic recession
Germany	16.9	-15.3
France	14.6	-16.9
Italy	12.7	-17.8
Belgium	15.45	-19.82
Netherlands	14.1	-21.9
Luxembourg	19.5	-25.7
Bulgaria	16.26	-17.6
Czech Republic	18.67	-18.9
Estonia	11.7	-16.2
Latvia	9.3	-13.2
Lithuania	11.2	-16
Poland	22.4	-25.4
Romania	7.5	-11.1
Slovakia	12.8	-18.5
Slovenia	14	-18.3
Hungary	13.1	-18.4

Source: Authors' estimations.

The comparative analysis of the two groups, the Euro area core and EU-10, emphasizes that Poland and Luxembourg have recorded the highest amplitudes during expansion periods, but also the most significant decreases during economic recession periods.

Within the group of CEE countries, Romania and Latvia display similar developments, with low values of the amplitude during the economic cycle phases. As regards Romania, it can be noticed that it recorded the lowest average amplitude during economic expansion periods from 1996 to 2010, by comparison to the countries included in the analysis. Also, as regards economic recession phases, Romania recorded the lowest average amplitude. This data could seem inconsistent to the GDP data, given the fact that during 2004-2008 Romania recorded a high growth period, and during the economic crisis the downfall was serious, but the data presented here are averages for the period 1996-2010.

In order to provide a systematic view of the business cycle amplitude similarity from EU-10 countries with Euro area core, we employed the hierarchical clusterization technique. We report four clusters described in Table 2.

Table 2

The structure of final clusters

No. of the cluster	Economic expansion		Economic recession	
	Countries in EU-10	Countries in the Euro area core	Countries in EU-10	Countries in the Euro area core
Cluster 1	Slovenia, Bulgaria	Belgium, France, Germany, Netherlands	Slovenia, Bulgaria, Hungary, Slovakia, Czech Republic	Belgium, France, Italy
Cluster 2	Poland, Czech Republic	Luxembourg	Poland	Luxembourg, Netherlands
Cluster 3	Latvia, Romania	-	Latvia, Romania	-
Cluster 4	Estonia, Lithuania, Slovakia, Hungary	Italy	Estonia, Lithuania	Germany

Source: Authors' work.

The clusters highlight the lack of membership of Romania and Latvia to the Euro area core both during the economic expansion and recession phases. Hence, the average amplitude of business cycles in Romania and Latvia has remained different from that of the Euro area core, questioning the desirability of joining the Euro area in the near future.

Another important observation is that the different amplitudes of business cycles in the countries belonging to the Euro area core places them in different clusters, providing evidence for the absence of similarity of this characteristic even though all the six countries have a unique currency and monetary policy.

As regards the way of grouping of EU-10 countries with those belonging to Euro area core, there is a lack of stability taking into account the economic cycle phases. The only cluster that remains the same is that of Romania and Latvia, which is very distinct to the Euro area core.

The cluster which gathers the highest number of EU-10 countries is cluster number 1, corresponding to the economic recession phases. More exactly, the five countries Slovenia, Bulgaria, Hungary, Slovakia, and the Czech Republic display average amplitudes similar to Belgium, France and Italy in the recession periods.

5. Conclusions

In this stage of the research we have obtained a series of important results regarding the similarity of business cycle characteristics between Euro area and CEE countries.

The analysis reveals the fact that, during the analyzed period, the amplitude of business cycles in economic expansions and recessions groups EU-10 countries and Euro area countries in four different clusters, with a

unique, notable exception: Romania and Latvia. These countries form a distinct cluster during both expansion and recession phases.

Knowing that synchronization of business cycles is a necessary, but not sufficient condition for taking part in a monetary union, the study provides evidence that within the EU-10 group, the Euro area core, but also within these countries as a whole, there are still remarkable differences of business cycle characteristics, which may generate costs for the members of the monetary union.

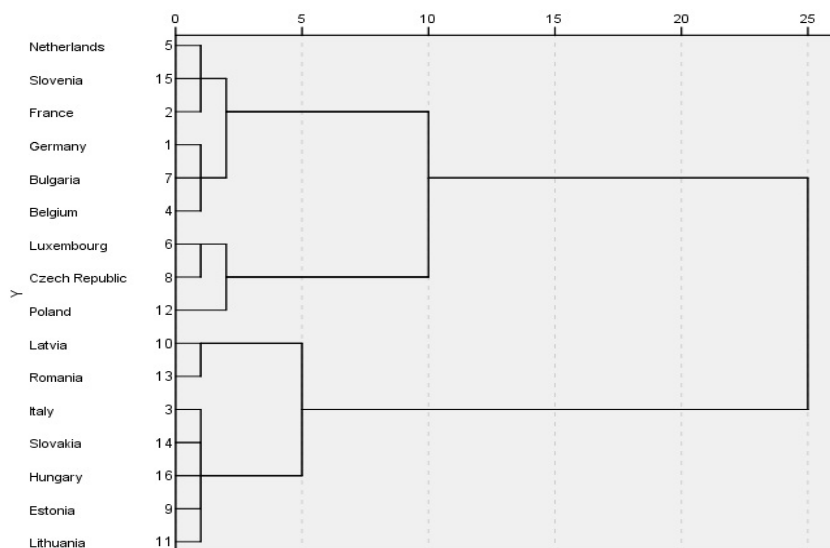
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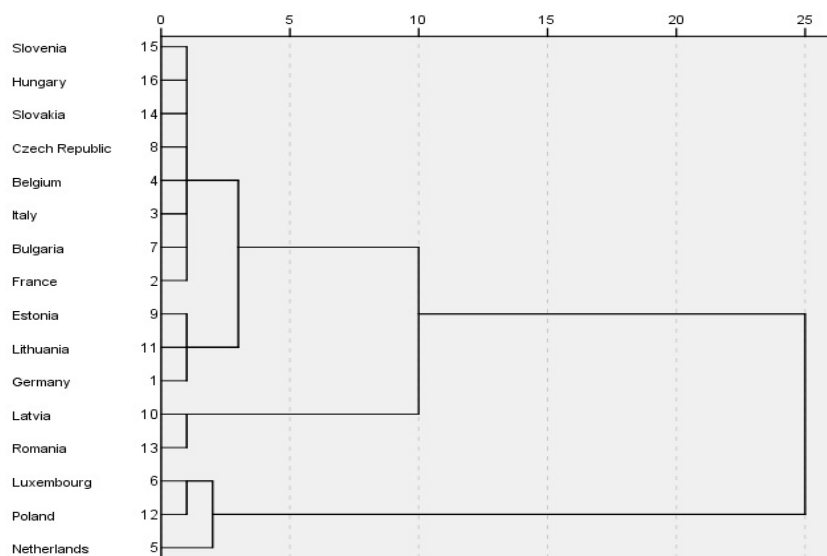
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Annex 1 – Hierarchical clustering during expansion phases



Source: SPSS, authors' work.

Annex 2 – Hierarchical clustering during recession phases



Source: SPSS, authors' work.

Models for the analysis of the labor market in Romania

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Abstract. *During the transition to a market economy put the urgent problem of using labor and unemployment. Increasing labor resources has been accompanied by a continued reduction in employment and a rise in unemployment. The government tried to initiating programs, including external funding, job creation, but compared to the massive layoffs that occurred following the restructuring of sectors, the number of new jobs created has proved insufficient. A significant aspect is given by the increase of population employed in agriculture, characteristic of underdeveloped countries. Modalities of intervention in support of reducing unemployment and increasing employment can be active and passive character.*

Keywords: unemployment; labor market; model.

JEL Codes: J21, J23, J29.

REL Codes: 12B, 12E.

1. Introduction

In an era of rapid technological change, exchanging information and developing knowledge-intensive industries, it is difficult to be able to identify future labor market requirements. Rising unemployment in the Member States of the European Union and developing countries in Eastern Europe, combined with technological change may lead to continuously changing labor market requirements, taking into account that educational provision should be appropriate in accordance with job requirements on labor market. European Union member states have investigated several methods for forecasting employment to identify future needs for labor related factors accounting for sectoral, occupational, educational and training that affect supply and demand for jobs.

Some Eastern European countries are interested in developing such models in order to provide employees with adequate training required on labor market. Considering the single labor market demands and increasing international mobility, states must develop models to the forecast for the training and qualification that can be comparable with that ones existing Member States. This objective requires regular medium-term outlook will extend in the time horizon of the decision makers that can be applied throughout the national economy, taking into account factors such as future investment in the economy, forecasts of income and productivity work and, of course, technological exchanges. The development of such predictions will require the use of quantitative and qualitative methods that systematically will organize and integrate data and analyses relating to education and training, as well as sectoral and occupational needs.

2. State of art

Generally, when we talk about labor market we believe it is the meeting place of labor supply and demand.

As a first step in the analysis of employment and skills shortages, we need to define the purpose of the labor market under consideration. There are three relevant dimensions to characterize the labor market:

- Occupation and/or competence;
- Sector and
- The geographical area (regional, national and European).

Demand for labor force represent the necessary number of employees in different occupations and qualifications in a particular geographic area and period of time.

Global demand for labor is labor market needs expressed by businesses within the national economy. The businesses understand persons or groups of persons active in various sectors of the national economy using production elements that are at their disposal (including labor) to get a certain quantity of goods or provide certain services in higher amounts and at lower costs. This category includes credit and insurance institutions, government or private Romanian companies employing foreign labor in Romania (Jigău et al., 1998, p. 8).

Demand for labor depends on a number of variables: the growth rate, the demand for goods and services, investment rate, technical progress, labor cost etc. Ideally, having a perfectly competitive labor market would be possible only with a very good communication system characterized by informational decentralization, giving individuals the opportunity to choose between different options, but taking into account the disadvantages of risk. In general, in Romania, due to a deficient information system on labor market it is possible only to estimate the total demand and the activities at a particular time, given the population of working age and labor force population.

The indicators used to assess the type and volume of demand for labor force can be structured into two categories:

- Level indicators (total number of persons who applied for a job, total number of people who have found a job and, respectively, the number of people who have not found a job) and
- Structure indicators (these indicators are structured according to different criteria: age, sex, industry, profession, level of education).

Labor supply is the number of working age people able to work, looking for a job and ready to start work as soon as they find a job corresponding to their level of training.

Indicators used to analyze labor supply are:

- Number and structure of unemployed (by gender, age, level of education, profession, his time as looking for a job);
- Number of people employed (in search of a new job and can start work immediately and people who are looking for a new job but which can not start immediately to work);
- The number of people employed and their structure by age and sex, by level of education;

- The number of high school graduates, respectively, university and structure by gender, by level of education and training.

Once you have defined the labor market, we must develop definitions of different types of employment deficit. For the purposes of basic labor scarcity occurs when employees request in a specific occupation exceeds offer employees who are skilled, trained and looking for a job (Visco, 2001, p. 4). Under this definition, we can distinguish two types of employment deficit (Boswell et al., 2004, p. 5): aggregate employment deficit and the deficit of employment due to labor market asymmetries.

Aggregate labor deficit occurs where is full or nearly full occupancy and is manifested generally by a difficulty finding qualified and skilled and competent workers to fill vacancies then existing labor market.

Asymmetry in the labor market.

It is important to note that this deficit due to mismatches in the labor market can coexist with significant levels of unemployment. Amount of inadequacy and its development over time can be synthesized by the Beveridge curve, which is a graphical inverse relationship between unemployment rate and vacancies. The unemployment rate is defined as the proportion of unemployed people registered in total employment and vacancy rate as the ratio of vacancies in total employment in total employment force. A high vacancy rate indicates a low unemployment and vice versa.

Estimates of the current deficit of manpower and skills are essential for defining the relationship between demand and supply of labor in a given time in the labor market. The deficit can be measured by absolute numbers for specific occupations, sectors or regions or unemployment rates or vacancy differentiated by sectors or regions.

When we begin to predict, we must take into account the future development of the supply and demand for labor.

Determinants of supply and demand for labor force can be derived from economic theories as well as from empirical studies. A detailed analysis of the factors influencing supply and demand in the labor market is not necessarily required to make deficit projections of employment, but the crucial point is the definition of labor policies (Wilson, 2008, pp. 9-35).

There are two different levels of employment deficit approach when analyzing it causes. First, we conceptualize the term “employment deficit” in the microeconomic perspective. In this case, the deficit can be explained in terms of a less rapid and persistent increases in labor demand that outpaces the ability of the labor market to provide workers. Alternatively, it may be due to a decrease in supply which is greater than the corresponding decrease

in demand. In both cases, it results imbalance in the labor market (Meagher et al., 2000). Very important is the increasing economic sectors due to the fact that the composition of labor demand varies significantly across economic sectors. In the future, we expect to continue structural changes in Europe, a decline in employment in agriculture and manufacturing field and an increase in service sector (Neuart, Shomann, 2002, p. 3). Structural changes expected in the new EU member states may involve serious labor market problems. Less skilled workers may lose their jobs when expanding service sector, which is likely to meet current skills shortages here. Structural changes across economic sectors can be caused by several factors, including demographic changes, changes in consumer preferences and the international division of labor. At the origins of demographic change lies age, which is an important factor. Since the demographic structure of European societies are changing, the demand for specific products and services will increase in the elderly age group (for example, in the health sector and tourism). Meanwhile, demand for products and services that are directly related to the younger generation will be in decline (eg, education). Trendences resulting from changing consumer preferences and general economic conditions will also have an impact on the balance between supply and demand for labor. While the trend is constant for goods and services, other areas will be marked by strong fluctuations. Changes in the international division of labor will also have an impact on the demand for skills in European companies. It is important to remember that it can achieve growth in these sectors in the EU if they do research in those areas, thereby increasing the number of skilled workers. One of the most important factors that generate employment deficit is reluctant resident workers who are poorly qualified and badly paid. In some countries, for example, jobs in the public sector have become less attractive because they are poorly paid and due to low social status. In Britain, for example, this tendency manifests itself among doctors and teachers. Several studies have indicated that there are labor flows from new EU member states, following the restriction of access to the labor market after a transitional period of two, five or seven years (Boeri, Brucker, 2000, p. 4).

3. Determinants of employment

For further analysis of the link and dependence of socio-economic phenomena, elementary statistical methods are often inadequate. Therefore, analysis of the links between factors determining GDP growth, investment, employment, etc. can be exemplified by use of regression and correlation. The

links between mass economic phenomena is characterized by the fact that one phenomenon or another varies under the influence of a range of factors, some of which are essential, while others are secondary.

Determining the most powerful factors influencing the development of the analyzed phenomenon, one can design and implement practical measures to ensure optimal conditions for its development, increasing the influence of positive factors, eliminate or mitigate the influence of unfavorable factors.

In case of complex relationships, where along with the dependent variable emerge several independent variables the calculation of correlation can not be limited only to variables pairs, but must include other independent variables with significant influence on the dependent variable analyzed. Joint influence of these variables is measured by multiple correlation indicators.

However, in the multiple links, factor variables have different influences on the resulted variable, some exerts a significant action on the phenomenon effect and must be taken into calculations of regression and correlation, while others have a share less important action and can be neglected. Correlation methods have the effect of simplifying the calculations and conclusions, because it is very difficult to quantify the set of all causal factors acting on a socio-economic process or phenomenon. Measurement methods and statistical techniques, factor analysis, estimation and testing are represented by an extensive and varied lot of procedures and statistical and mathematical tools. The most significant of these tools and procedures are applied, in one form or another, to input available for explicitness factor and therefore the separation of information necessary to support decisions for action. For further analysis of the evolution of the main macroeconomic indicators which reveal employment; in the following we will verify the hypothesis of the existence or nonexistence dependence (correlation) between: population and total number of employees in public administration. Analyzing data from the Romanian Statistical Yearbook (2009 and 2010), it appears that the employed civilian population had a decreasing trend in 1990-2009 and the number of employees in the branch of government during 1990-2009 had an increasing trend due massive employment made in this business after the Revolution. In the analyzed period, the number of employees in public administration increased by 181.25%, but employment fell (-22.4%). Let's see if between developments in the two indicators could be a connection and to what extent employment decline was due to the increase in the total number of employees in public administration.

The model reflects the relationship between employment (endogenous variable) and total number of employees in public administration (exogenous

variable). In the last 20 years after the Revolution, in the state sector a large number of employees was employed. These employees are those who do not produce value added economy. The employees of this branch of the national economy must be qualified. If the number of employees in public administration will increase by a thousand people, employment will decline by 11 thousand people, because their salaries are quite expensive, so the investments are reduced. T calculated are compared with the theoretical value of the Student distribution table corresponding to the level of significance $\alpha = 0.05$ (5%) and with a number degrees of freedom $n-2$ (as 18):

$$t_{\alpha;n-2} = t_{0,05;18} = 2.101.$$

Because $|t_{calc}| > |t_{teoretic}|$ it results that the previously determined estimator is statistically significant. Validity of linear regression model can be tested using the F test in the form: $F = 13.92$. Both estimators are significant statistical.

In comparison with the theoretical value of the Fisher-Snedecor distribution table corresponding to the significance level $\alpha = 0.05$ (5%) and a number of degrees of freedom equal to $r-1$: $F_{\alpha;r-1;n-r} = F_{0,05;1;19} = 4.38$ and how $F_{calculated}$ is higher than $F_{critical}$ it results that the model used is valid, correctly identified statistically and can be used for making predictions for the future. It follows, therefore, that 43% from variation of the total population employed in Romania is determined by the variation in the total number of employees in public administration, and the remaining 57% is the influence of other factors (investments, earnings). The results shown were obtained with EVIEWS. As such, the model that describes the relationship between phenomena is analyzed:

$$\begin{aligned} \hat{Y}_i &= 11567 - 11x_i; & R_{y/x} &= -0.66 \\ (461.62) & (3.088) & s_e &= 506.94. \end{aligned}$$

The relationship between population and total number of employees in the branch of public administration is an indirect link (reverse), medium intensity, as $R_{y/x} = -0.66$.

Table 1

Dependent Variable: POP_OCUPATA

Method: Least Squares

Date: 09/07/11 Time: 20:46

Sample: 1990 2009

Included observations: 20

POP_OCUPATA=C(1)+C(2)*SALARIATI_AP

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	11567.46	461.6280	25.05797	0.0000
C(2)	-11.52319	3.088293	-3.731248	0.0015
R-squared	0.436129	Mean dependent var		9897.750
Adjusted R-squared	0.404803	S.D. dependent var		657.1034
S.E. of regression	506.9488	Akaike info criterion		15.38934
Sum squared resid	4625947.	Schwarz criterion		15.48891
Log likelihood	-151.8934	Durbin-Watson stat		0.912665

Source: calculations of authors.

A more appropriate modeling of the relationship between two variables can be achieved by using the parable of degree 2.

$$Y_i = \beta_0 + \beta_1 x_i + \beta_2 x_i^2 + \varepsilon_i$$

Correlation ratio that shows the intensity of the relationship between variables will be $R_{y/x} = -0.68$, resulting in an indirect connection, medium intensity, the total number of employees in public administration and employment affecting 47% the variation in employment. To verify the model we calculated the significance of the F test, whose value is 7.55. In comparison with the theoretical value of the Fisher-Snedecor distribution table corresponding to the significance level $\alpha = 0.05$ (5%) and a number of degrees of freedom equal to $r-1$: $F_{\alpha; r-1; n-r} = F_{0.05; 2; 19} = 3.52$ and because $F_{calculated}$ is higher than $F_{critical}$ it results that the model used is valid, correctly identified the statistically and can be used for making predictions for the future. In conclusion, we can say that the model is correctly specified, that the variable total number of employees in public administration employment is a significant factor because the estimator is significantly different from zero and correctly identified as the model explains most of the variation in employment. It follows that for a change of $\pm 1,000$ persons employed in public administration, employment will undergo a change of 32,000 people. As such, the model that describes the relationship between the phenomena considered are:

$$\hat{Y}_i = 13124 - 32x_i + 0.069x_i^2; \quad R_{y/x} = -0.68$$

$$(1552.4) \quad (20.6) \quad (0.066) \quad s_e = 505.51.$$

4. Conclusions

Presentation of the overall employment schedule aimed to identify the general features of the labor market in order to determine areas where they can take actions to improve the quality of Romanian education system for increasing the qualification of the labor force. Given the observation that Romania has the lowest level of spending on education as a percentage of GDP, accounting for only 3-4% compared with the average of 5.22% calculated for the remaining member states of the European Union, our recommendation would be to increase the percentage of spending by at least 5% in the near future. Resources must be targeted at equipping faculty with advanced technique laboratories containing latest equipment capable of conducting courses encourage practical application.

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Annex 1

Table 1

**Evolution of the total number of employees in public administration branch,
the total employed population during 1990-2009**

Year	Adjusted values with linear model (thousand persons)	Adjusted values with nonlinear model (thousand persons)
1990	10646	10931
1991	10496	10659
1992	10396	10410
1993	10300	10338
1994	10150	10119
1995	10069	10011
1996	10127	10088
1997	10069	10011
1998	10023	9953
1999	9943	9856
2000	9862	9765
2001	9920	9829
2002	9874	9778
2003	9816	9716
2004	9781	9681
2005	9643	9554
2006	9551	9480
2007	9286	9317
2008	9078	9240
2009	8975	9219

Source: Romanian Statistical Yearbook, 2010, National Institute of Statistics.