

The Crisis of Reflexivity

“When performing economic analyses, facts could amaze (fascinate or blind) us to such an extent that we can no longer see the idea to which they belong.”

A ghost roams free on the inside of knowledge: the present economic crisis could belong to that category of fluctuations represented by the behavior of the fundamental elements of nature. The suggestion is that, similar to states removed from equilibrium (where the effect of the law of bifurcation takes place), both in the depth of economic facts as well as in their ideational reflection (in Economics) an alternative opening occurs, a contextually different passage emerges, another level of complexity which demands another level of interpretation.

If it is so, economic analysis could open itself to such a surprise (also in a sense of fascination and blinding) by the facts and their spectacular trajectories that it will become oblivious to the idea to which they are bound or, if you will, the idea shielded by the facts.

Surely though, the hypothetical resemblance would only be possible through the methodological envelopment of the present crisis in the perspective of the scientific experiment. Based on this it is probable that things may appear to connect, or more precisely it would be obvious why they connect or – more appropriately – we could visualize the way in which they connect; we would give this pattern the significance of the state of crisis. We know though that this cognitive transgression on the mysteries of economic facts is not possible, especially when they can no longer be perceived as events with turbulent effects on the material and the spiritual comfort.

In this situation our mind is all puzzled and does not adequately process that which could be the violent reaction of our own excesses. Because, no matter how much we tend to hide the origin of the effects as having no relation

to us, by trying to construct explicative models crystallized by material determinism, and not matter how much we falsify the substance of economic facts by considering it as pertaining to universal laws, we still cannot convince everyone and in a permanent way that the king would appear different to what we can all see.

The type of mental construction of what the crisis represents must not – in order to have a rational meaning – exclude us from the cause, but place us at the origin of facts on which the perspicacity of knowledge remains locked. The bifurcation of events toward crisis or toward equilibrium remains a sufficiently abstract convention and it is through this that it is revealed as non-conforming to the meanings of the material bifurcation in the direction of either loss or gain. It couldn't even be otherwise for as long as the idea of bifurcation which we are considering is reductionist – in the extreme sense, of absolute objectification because of the subjectivity of facts is being removed from the equation of knowledge.

Essential for the economy are – somewhat upside down (but as a rebound to the normal position!) – not the state of the facts, their substance, but their states of becoming, meaning the subjectivity from which the facts are born. The specific trait lies in the fact that when subjectivity is excessively objectivized it moves far away from equilibrium, it regresses toward the critical state, which is the state of abnormal excess; but when it follows the rule of the natural common sense it functionalizes the inner equilibriums of the “ideal” state of far-from-equilibrium, therefore shaping the positive performance of becoming.

No matter how we look at things, with or without us in the context, a challenge emerges against an alternative removed from the law of bifurcation, and what counts within this challenge is the choice of the path toward the fact and not the fact in itself. Choosing the perspective of originating the objective facts in subjectivity (more precisely in inter-subjectivity) or choosing the perspective build on the objective facts as a given (faced with which we can only acknowledge the reality) constitutes the drama of knowledge in Economics, as in any humanist science.

But this challenge is also the trap whose exit reveals not just the origin of the crisis but also the solution to it. What complicates this rational positioning is not related to, in truth, just the inadequacies of reflexivity, of the dialectic of concepts, but also (maybe especially so) to the tangible on which human nature feels the need to settle, on the palpable substance of winning and on the speed of the fulfillment of expectations.

To the degree to which fluctuation is seen, within Economics, as a dynamic of the physical states around the imminence of the elementary bifurcation, the sign is one which transcends both the material and the

emotional not to annihilate them, but to make them compatible with another level of relationship, more complex, but also with another level of understanding which remains attached to neither the given nor the created, but combines them both into a new cognitive unit.

Economics conceptualizes differently from Physics, in the sense that it conceptualizes facts as landmarks of the complex dynamics of the subjectivity which constructs the vision as the optimum of knowledge in both its components, rational and emotional. Economics conceptualizes the subjective origin of object-oriented facts and the objectifying of subjectivity in complex contexts structured through inter-subjectivity.

If a bifurcation occurs in Economics, it cannot be perceived but as a caesura in inter-subjectivity, equivalent to the deterioration of its substance, as inter-subjectivity does not increase through scissiparity.

The crisis is, thus, an accident in the substantial inter-subjectivity of Economics which lasts until the tears made by forcing performance through concept are repaired. In this way the crisis of the object is also the crisis of reflexivity, in essence any fluctuation in the contextual inter-subjectivity of Economics having at origin that which man thought could bring change in rhythm and direction to the dynamic of the complex inter-subjectivity.

The economy as a sum of economic facts sits at the origin of the crisis of theory. Man is the cause of the crisis. The fluctuations which lead to bifurcation take place in his theoretical visions, and when he applies them to reality the counter-reaction is natural, and we call this reaction crisis.

If we could foresee the crisis, we must realize that the supporting backbone of the theory is made to crumble under the weight of facts which it cannot explain; the crisis of facts the crisis of theory which faultily projects the facts.

But we perceive it upside down, as a crisis of objectified consequences and therefore we register failures in coming out of the state of crisis. Because we try, practically not just reversed but also illogically, to come out of the effects by remaining in the cause, ourselves and our ideas about economic facts being the true cause.

The distinctly applied dichotomies in the theory, with pretense of explicative autonomy, approve the complexity of inter-subjectivity, excessively simplify it, encourage it to stay fixed in the material (thereby forgetting the origins) or urge the complexity to steer toward the origins, as an obsession of the equilibrium (severing it from its ineffable substance). In between these unnatural states happens the reaction of inter-subjectivity to the fluctuation from the reflexivity of facts in the form of crises. It is clear (but in a

complicated way) that the solution to the crisis is the solution of the theory, of the conception on the specifics of substantiation in the economy.

The crisis at the level of economics facts is the consequence of the crisis of the fundamentals of the theory.

Any overcoming of the state of radical bifurcation in the tendentiousness of facts first requires the elimination of the excesses of the theory.

Marin Dinu

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The Gravity Law of Marketing – a Major Reason for Change to a Better Performance

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Abstract. *Companies develop marketing strategies only for success. But, sooner or later, even the most successful strategies begin to wear out and lose their impact on the performances of the company. The mutual attraction between the marketing strategy and the performance of the company is known as the law of marketing gravity. Once a marketing strategy loses impact on the marketing performance as a result of the law of marketing gravity a fundamental change is needed. This change must be made according to a new marketing thinking during a cyclic process for development of the new marketing strategy.*

This paper is aiming to point out that companies must recognize the limited viability of their marketing strategies, identify the causes of the strategic wear out and implications of the law of the marketing gravity. All these should be a solid ground for marketing strategic change which must be included in the general plans of change of the company and implemented with the particular tools of the strategic management of change.

Keywords: law of marketing gravity; strategic drift/wear-out; strategic opportunism; strategic change; cycle of change.

JEL Code: M31.

REL Code: 14G.

1. Introduction: the traditional strategic thinking about the marketing strategies

The traditional strategic thinking settles that the strategy indicates the direction for a future period of time and establishes the relationship between the objective and the steps needed in achieving it as they are included in an action plan (Uhe, 2002, p. 30, Danciu, 2005, p. 21, Florescu, Malcomete, Pop (coord.), 2003, p. 669). No matter the nature of the strategy – economic, management, marketing strategy – it has a large scope and a long-term as main characteristics.

The classic strategic thinking has as a leitmotif that no tactics is better than a good strategy. In other words, a well substantiated and developed strategy is needed because it marks out all the following steps and performances in the temporal horizon as it is established by its objective. A good strategy is also needed because it has a very small flexibility. This means that its content should be observed for the achievement of the strategic objective aimed at. These are essential requirements particularly for a good process of developing and implementing a strategy. In order to facilitate the success of the marketing strategy this process should take into account the following (Danciu, 2005, p. 25):

- The mission and goal of the company as a whole should be clearly known.
- The present and potential markets and the market segments of the company should be clearly established and analyzed.
- The probable changes of the resources of the company, the markets and consumers should be anticipated.
- The change of the strategic objective and even of the strategy should be taken into account.

Any marketing strategy should be developed and implemented only within the economic, social and temporal conditions in which the company is acting in the market (Danciu, Grigorescu, 2000, p. 113). A good marketing strategy should have some generic qualities which are essential for its success such as internal consistency and synergy, convergence with the external environment and feasibility within the resources of the company (Mc Donald, Wilson, 2002, p. 76). A good marketing strategy minimizes conflict and contradictions and maximizes synergies between the different elements of the marketing mix. At the same time, a good marketing strategy recognizes the implications of the external environment and aligns the resources of the company toward those implications. The available or accessible resources of

the company should facilitate the implementation of any good strategy without contradicting its goals or breaching the acceptable boundaries of the risk.

Since any strategy is a long-term one, it is implemented in a different context than the one it has initially been elaborated. There are many reasons for changing the marketing strategy, more or less because the change in the internal and external conditions. In such cases, some questions arise: What happens when the strategy is no more attractive. What happens if the company realizes that a strategic drift or wear-out is occurring and still maintains the strategy?

2. The strategic wear-out – a trend which should not be ignored

The development and implementation of a marketing strategy should find a solution for one of the three approaches: strategic commitment, strategic opportunism and strategic adaptation (Aaker, 2008, p. 128).

The strategic opportunism is driven by a focus on the present. The priority of this approach is the detection and capture of the opportunities when they emerge with a goal of achieving immediate profits. When short-term successes flow, the long-term will take care of it as at least some of these short-term winners will grow to major business and the rest will not be a burden.

One key to success in strategic opportunism in marketing is an entrepreneurial culture and willingness to respond quickly to opportunities as they emerge. The marketing people should be entrepreneurial, sensitive to new opportunities and threats, and fast to react. Another key is to be close to the market. The management team needs to talk to customers and others about the changing customers' tastes, attitudes and needs. The company should be quick to understand and act on changing fundamentals.

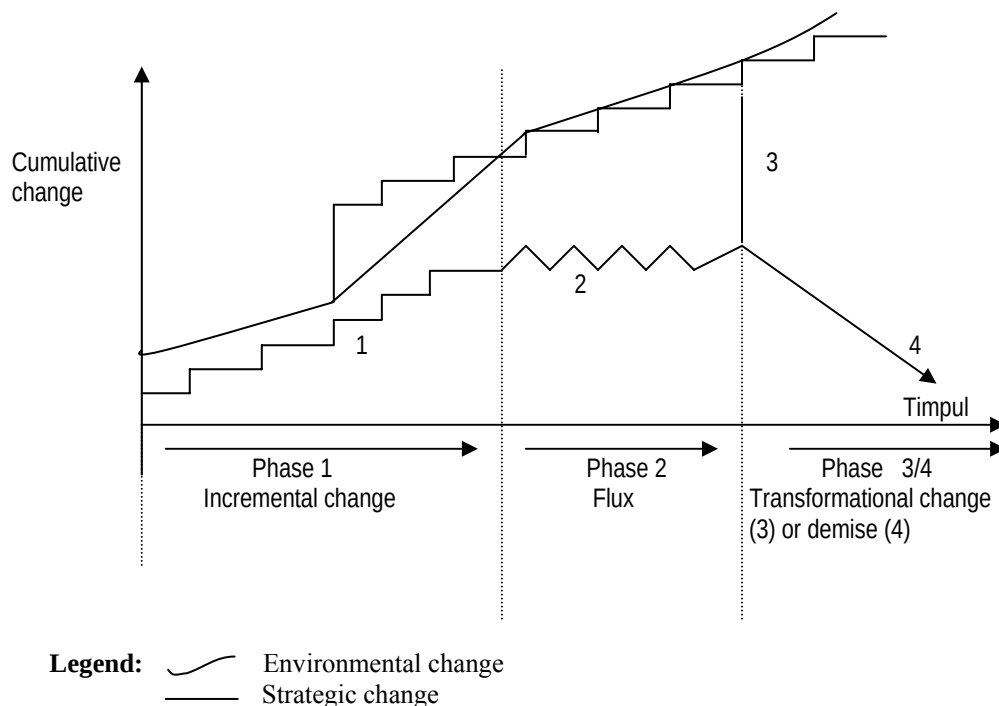
Such a strategic philosophy may facilitate a strategic drift or wear-out and lose its impact sooner as any other strategic approach. The strategic drift appears where the strategy progressively fails to address the strategic position of the company and performance deteriorates (Johnson, Scholes, Whittington, 2005, p. 27).

Even if any marketing strategy is developed only for success, every strategy could at one moment in time lose its attractiveness for the company. Such a phenomenon is due to the lack of sensitivity and self-sufficiency. Historical studies of patterns of strategy development and change of companies have shown that companies typically go through a long periods of relative continuity during which established strategy remains largely unchanged.

Especially in the case of strategic opportunism this process tends to create a strategic drift or strategic wear-out.

At least three phenomena can turn strategic opportunism into strategic drift (Aaker, 2008, p.131). First, a short-lived, transitory force may be mistaken for one with enough staying power to make a strategic move worthwhile. The result will be a marketing strategy that is not suitable for the company or the environment. Second, opportunities to create immediate profits may be rationalized as strategic, when, in fact, they are not. Third, expected synergies across existing and new business areas may fail to materialize due to implementation problems, perhaps because of culture clashes or because the synergies were only illusions in the first place. As a result, new business areas would be in place without the expected sustainable advantages.

The whole pattern of strategic wear-out compared to the environmental change could be analyzed using the information from Figure 1, as it was drawn by Johnson, Scholes and Whittington (2005, p. 27).



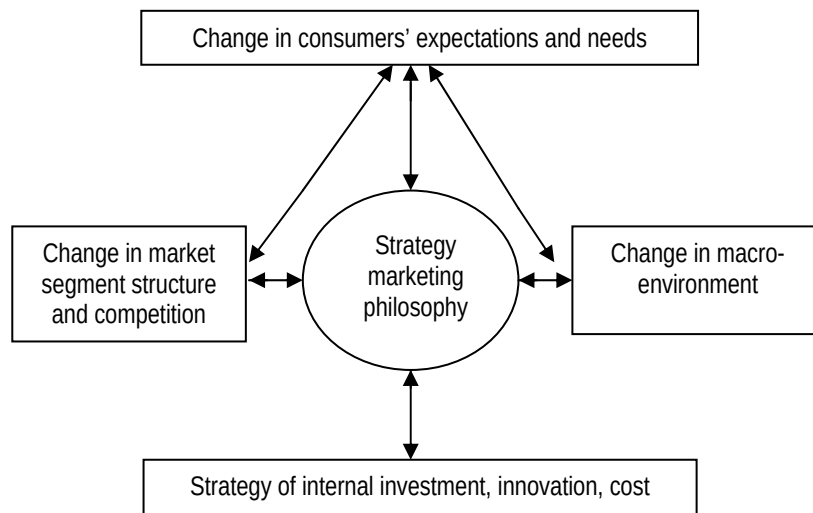
Source: Johnson, Scholes, Whittington, 2005, p. 27.

Figure 1. *The risk of strategic wear-out*

The strategy may be viewed as having a life cycle which begins with strategy launching, continues with the increase stage when the success is established, followed by maturity when successes are consolidated. At the end of maturity stage the signs of wear-out begin to show. If the strategy is maintained despite the wear-out the process of strategic decline and failure is accelerating as a result of the lack of strategic flexibility and review in order both to anticipate and meet environmental challenges due to cumulative change.

3. The law of marketing gravity, the law of marketing strategic wear-out

The dictionaries define gravity as the degree of intensity with which one body is affected by the attraction exercised by another body (The Concise Oxford Dictionary, 1964, p. 538; Nouveau Petit Larousse, 1968, p. 483). In a similar way, a kind of attraction is established between the marketing strategy and the performance of the company. This mutual attraction depends on the degree of intensity of the gravitation forces. Sooner or later the intensity diminishes and the impact of the marketing strategy on the results of the company is reduced too. The causes that are contributing to the strategic wear-out and the decreasing effects of the strategy are environmental changes and internal factors, as in Figure 2. Any such motive could cause a strategic drift of the marketing strategy in every phase of the life cycle of this strategy.



Source: Author's design.

Figure 2. Factors of the strategic wear-out

Among the important factors which could cause the strategic wear-out are changes in the consumers' expectations, marketing structure, competitors' stance, economic, legislative, ecological and technical changes, changes of the distribution and the suppliers, lack of internal investment and innovation, poor control of the costs of the company and the tired and uncertain managerial and marketing approach (Johnson, Scholes, Whittington, 2005, p. 475). All these factors and many other ones explain why any marketing strategy could fail. The law of marketing gravity states that regardless of how big or powerful a company becomes sooner or later its performances will almost inevitably decline (Wilson, Gilligan, 2005, p.475). This pattern is appropriate for the successful companies which often prove reluctant to change what is seen as a winning strategy, no matter what changes occur; even if recognize the regular review of the marketing strategy. A company that is highly resistant to change will exhibit characteristics such as the following: large, established, centralized, hierarchic management structures, vertical information systems, undifferentiated product lines and immobile workforce.

4. The strategic change as the best solution to effective gain from the law of marketing gravity

Facing the dramatically environmental changes the marketing managers can take one of the following approaches: to try to predict the nature of the changes and then manage them proactively, to respond quickly or slowly but largely reactively, or to ignore what is happening and accept the consequences of strategic drift or wear-out.

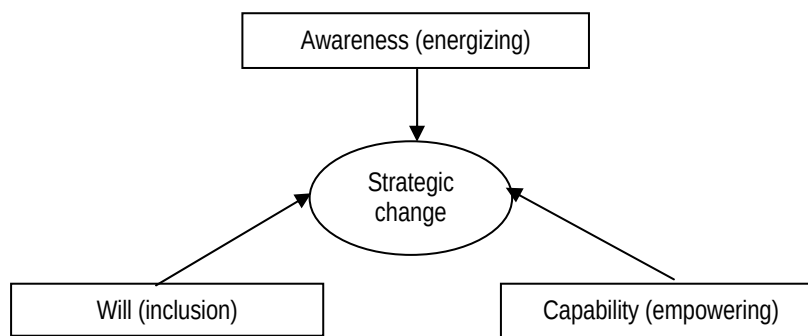
Incremental strategic change is a natural outcome of the influence of the organizational culture, individual and collective experience, political processes and prior decisions. If changes in the environment of the company are at a grater rate than the rate of incremental strategic change the company will get out of line of its environment. Such a company may become merely reactive to its environment and fail to question or challenge what is happening around it or to innovate or to create new opportunities.

Once a marketing strategy loses its impact the company's management typically needs to make a series of fundamental changes to recapture its lost position. These changes should introduce a strategic shift, which must firstly relay on a new orientation. The direction of the strategic vision must change from focusing on the short-term situation toward the focus on the future direction which shows where the company wants to go and how it is going to

get there (Bradley, 1997, p. 103). If the company fails to do this, then levels of loyalty of customers rapidly disappear and the market share begins to slide. Worse, the company runs the risk of competitive oblivion. Thus the need of focus upon marketing strategies that create unique value for customers and its review according to the nature of environment change becomes self evident. The starting point involves getting off the treadmill of day-to-day activities and moving away from existing patterns of marketing thinking. This approach needs to be an emphasis upon a series of steps (Wilson, Collins, 2005, p. 473):

- Competing for the industry foresight by identifying how the market will or can be encouraged to develop; in other words “seeing the future before it arrives”.
- Crafting the strategic marketing architecture or blue print for developing the marketing skills and structures that will be needed in order to compete in the new environment.
- Stretching and leveraging the marketing strategy so that the resources of the company are focused, developed and exploited to the full.

The marketing change could come as a result of a process during which a new marketing strategy is made and implemented. This process known as the cycle of change has three essential characteristics and each of them includes many detailed ingredients, programs and elements to make it up. These strategic marketing characteristics are necessary conditions for effective change as Figure 3 shows:



Source: Inspired from Carnall, 1995, p.171.

Figure 3. *The necessary conditions for effective change*

Awareness (I understand, I know) outlines as key conditions:

- How thoroughly does every one affected understand the needs of customers, objectives, strategy and timetable, resources required and new behaviors techniques, systems etc.?
- How systematic a process has been instituted for tracking the strategy implementation and for making corrections whilst change is in progress?

Capability (I can, I can cope) outlines as key issues:

- How completely have been identified and provided the resources required including financial resources, skills and time?

Will (I choose, I value, I will) depends on the answer of the company at the following questions:

- How strong is the commitment of relevant marketing managers and employees to implement the change including how credible do they view the change as being, to what extent do they “own” the approach, how can commitment be sustained?
- How consistent and credible is the climate of accountability for the implementation period including to what extent will those involved live up to their commitments?
- What are the consequences of failure, will reward systems differentiate between success and failure and how visible and consistent is leadership behavior?

The process of the marketing change depends on the extent to which these conditions are fulfilled. The process has three steps as follows (Carnall, 1995, p. 172):

Beginning. At this step the problems are recognized, awareness-raising begins, strategic analyses are undertaken, feasibility studies are begun and so on. This begins to create a new perception of achievable marketing performance in what may be rapidly changing markets, customers, technologies etc.

Focusing is the stage when effort at building awareness continues, but also managers are moving toward decisions and action. New directions of attacking markets, new product policy and various competitive strategies may be strategic marketing decisions.

Inclusion. At this stage the focus of strategic marketing change broadens. A particular strategy is created and implemented for each component of the marketing mix. All these strategic components are included in an overall strategic marketing plan.

The change is the winning alternative to the impact of losing attraction between the marketing strategy and the marketing performance due to the environmental change. The weaker the marketing gravity, the stronger the need of strategic change. Authors (Johnson, Scholes, Whittington, 2005, p. 506) and managers are convinced that it is beneficial for the nature of change to be incremental. In this way it will build on the skills, routines and believes of those in the company and on the company's present resources so that the change is efficient and likely to win their commitment. But it may appear a "big bang" kind of change which needs a faster direction and pace, especially if the company is facing crises or needs to change marketing direction very fast. Each situation needs a particular kind of strategic change depending on the nature and scope of the change for an appropriate change of the marketing strategy as Table 1 shows.

Table 1

Types of marketing strategic change			
Nature of change	Scope of change		
		Realignment	Transformation
	Incremental	Adaptation of the marketing strategy	Evolution of the marketing strategy
	Big bang	Reconstruction of the marketing strategy	Revolution of the marketing strategy

Source: Adapted by the author according to Johnson, Scholes and Whittington, 2005, p. 506.

In period of crises we believe that a big bang approach to change occurs, that is the company should reconstruct or/and make a strategic revolution. When the nature of change is incremental the strategic marketing change may be soft, having as a support the adaptation or better the evolution as way for transformation.

The revolution is the change that requires a rapid and major strategic and marketing paradigm changes. This could be in circumstances where the marketing strategy has been so bounded by the existing marketing paradigm and established ways of doing marketing in the company that even when environmental or competitive pressures might requires fundamental changes the company has failed to respond. A quick marketing innovation as an innovating strategy about new product could do the job in such circumstances.

The reconstruction is the type of strategic change which may be rapid and could involve a good deal of upheaval in the marketing of the company but which does not fundamentally change the paradigm. It could be a turnaround

situation where there is need for major structural changes of the marketing mix or a major cost-cutting program to deal with a decline in market performance or difficult or changing market conditions.

The evolution is a strategic change that requires marketing paradigm change, but over time. This is a more reactive strategic change; even the marketing management may be in a position of planned change, with time to achieve it or may continually adjusting the strategies as the company's environment changes.

The adaptation is the alternative of change which can be accommodated with the current paradigm and occur incrementally (Nickols, 2008, p. 7). It is the most common form of reactive change in companies. A well-adapted company must show sustained legitimacy, effectiveness and efficiency overtime (Chakrawarthy, Lorange, 1991, p. 302). Legitimacy describes a company's right to persist with its chosen mode of operations that is externally legitimacy and the degree of commitment its members have to each mission and strategies (internal legitimacy). Effectiveness is a measure of the growth opportunities that are available to a company in its chosen market niches. Efficiency refers to the amount of surplus contributions that a company is able to generate through its chosen strategies, over the inducement that it has to provide its stakeholders for implementing those strategies.

Every type of strategic marketing change meets the needs of avoiding strategic drift or wear-out only if it is made in a congruent approach with the nature, scope and pace of the environmental change. A proactive change of the marketing strategy will permit a better avoidance of the risk of strategic wear-out.

Conclusions

Any marketing strategy is developed only for success but even the most successful strategies will at one moment in time begin wear out and lose impact. This phenomenon is known as strategic drift or wear-out. It makes strategy progressively fail to maintain the company's performance. In other words, a mutual attraction between the marketing strategy and the performance of the company is established and its intensity describes the law of marketing gravity. Due to the change in various external and internal factors a marketing strategic wear-out could appear, that is the intensity of attraction between strategy and marketing performance is progressively weakening. This pattern is appropriate for the successful companies reluctant to change, especially for

those which are oriented toward a strategic opportunism which is based on incrementally made strategic decisions in response to market opportunities.

Once a marketing strategy loses its impact, a fundamental change to recapture the lost position is needed in order to avoid the risk of lowering the loyalty of customers and of competitive oblivion. The starting point of such a change involves a new marketing thinking. This new marketing paradigm of change suggests a cycle of change, which is a result of a specific process during which a new marketing strategy is made. The strategic cyclic change should have as strong support at least three conditions that are awareness, capability and will and three essential steps, which are beginning, focusing and inclusion. The intensity and impact of such a change on the revitalization of company's performance depends on the marketing gravity. The weaker the marketing gravity the stronger the strategic change. The marketing strategic change could be incremental or as a big bang approach. Every type of strategic marketing change meets the needs of avoiding the strategic drift or wear-out only if it is made in a congruent approach with the nature, scope and pace of the environmental change.

The pace of strategic wear-out and degree of weakness of the marketing gravity throughout the life cycle of the marketing strategy calls for a particular kind of strategic change. If the change is incremental by its nature the company could chose between adaptation and evolution. These are soft changes, which are directed toward strategic corrections depending on the impact of changes of the various factors on strategic wear-out. In the case of a big bang type of change the scope of strategic change shows reconstruction and revolution as change of the marketing strategy. The most potential benefic changes remain those of big bang in nature and reconstruction in scope.

The above analysis indicates that companies must be open to change. They should avoid the contributors to the marketing gravity law and act on a solid ground of strategic management of change.

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The Consumerism and Consumer Protection Policies in the European Community

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Abstract. *In the modern economy, the efficiency of the markets generally guarantees an effective superiority of the consumers, that unjustly consider them to be affected by large-scale diffusing of the consumption process, but which in reality are not more than the free choice expression of the consumers, practically of their own autonomy. Starting from these aspects, the authors have aimed, after a short presentation of the consumer protection policies and the origins and evolution of the consumption phenomenon within the EU, to identify and analyze the critical elements with impacts over these policies, but also the first steps made by the institutions and legislation of the states that make the European Community. Our attention has been mainly focused on the future strategies programmed by the EC, highlighting the support and harmony encouragement necessity between the national legislations of the EU member states, in order to answer first of all to the more pressing demand, on behalf of the citizens, to have laws as simple and clear as possible, and therefore to be protected. Therefore, consumer protection becomes, from an objective mediated through individual interventions of the Community Institutions (inspired by the harmonization wish of the national legislation afferent to the EU member states regarding economical and commercial relations) one of the main intervention policies of the Community Organisms.*

Keywords: consumer protection policy; community organisms; consumerism; the consumer.

JEL Code: F15, F19.

REL Code: 14G, 14K.

1. Introduction

“Consumerism” is a term invented to define a specific analysis category that studies the phenomenon that came up with mass production development and consumption expansion. As long as for a great part of the population the consumption was anchored just for surviving, taking into consideration the restrained income disposed of, the analysis of the activity regarding the consumption had a minor priority, also reduced being the attention accorded to the quality of the products and services. The consumption has many forms and interpretation, one of these referring to the appearance of new status need, rights and common interest carriers. By these characteristics, the consumer’s face as a social subject has gained a raised importance, even to evoking the way from the consumer’s face in relation with the economical revolution. This evokes furthermore citizenship rights (keep in mind the relation with the public services, school, care services and medical assistance, public administration), and can make a subject or in the contrary, a market object, if trained consciously it can aspire to the role of market referee, especially if it is involved in associations and democratic movements, it can orientate the economical, social and civil development or he can resign to a directed subject role.

The active conscious aware consumer role can be important, especially from a sustainable and solid development point of view. We are talking about a phenomenon that until a few years ago was very little known, but which in present involves the companies that aim to presenting themselves as being modern and consider the client as being the primary resource, and that accept or better said search for the confrontation with the exigent client.

2. The origin and evolution of the consumerism phenomenon. What it is, where, how and for what is it born?

The consumerism phenomenon is born in the USA, at the beginning of the 20th century, where in the year 1906 the first mass protests were so powerful that they constrained the federal government to approve a very important set of rules, which imposed a control, not very restrictive though, to the industry at that time. The first organized experience regarding consumerism lead to the foundation of the magazine called “Research Bulleting”, that published the results of the tests regarding large consume products.

Later, in the year 1928, the Consumer Union was founded, an active and present association of the USA and Canada. This association, by an own magazine, informs its subscribers about the news regarding goods and services on the market, offering the consumers the possibility to know more profoundly

the product they wish to acquire. The American consumerism had a great sustainer: J. F. Kennedy, who proclaimed the five fundamental rights of the consumer: the right to health, safety, economical defense, legal defense and representation. In Europe, barely in the 50s, the English government was involved on this front; the English government and then the Dutch one considered necessary to give the consumers the opportunity to feel their own voice, creating a protection organism, called the Consumer Advisor Council. In England, such as in the USA, a magazine is started to be published, the Shopper's Guide, which supplies to the consumers critical information regarding various products, comparing them among themselves by rigorous tests, verified and for the first time a consumer-favorable service is offered, to obtain rewards if cheated. In the same period of time, following the example of Denmark and England, more countries started recognize the social importance of this problem: France, Switzerland, Belgium, Germany and Netherland but without Italy, and found together administrative control organisms in favor of the consumers, which formed the sub-layer for further development of a more complex legislation.

The advanced capitalist societies have lead in parallel to form monopolist and oligopolistic structures, discovering new figures, diverse from the traditional social categories, and carriers of new interests and rights: the consumers.

As Fabris recalled at the end of the 50s, a large scale diffusing of the conviction that a new balance was reached, a new society model towards whom all the countries aimed, the *mass society* model, characterized by a grow in standardization, making a homogenous market, but mostly towards a cultural and value unit. The protagonist of this new social order, defined not randomly a consumption society, is the consumer – the main subject in medium and long-term predictions, in the context of relatively slow but predictable changes. This analysis was, instead, based on a “linear” vision of the changes and the cause/effect relation, underestimating the complexity of the existing system and the turbulences this on-growing complexity would have brought in the social development of future periods of time.

The development of technologies that has lead to the increase of the access of a subject multitude allowed an increased liberalization and a diversification of the information sources. As Vanni Cadeluppi states: “*the tomorrow consumer will be more lay, because he will be more unpredictable and unfaithful regarding his decisions on brands and products' privacy*”.

In the same time, the consumption has gained a raised social relevance as a mean of individual branding, according to a reasoning that says that the products tend to reflect a new values system. In the last years, the relation between the consumer and the company has changed, by a conscious raise of

the consumer role importance compared to the company; the new consumer is more exigent, selective and mature. The raise of its autonomy to the ones that sell goods and services is in the same time the cause and effect of a major sensibility to the quality, to the faithfulness to the strongly-dimensioned brand, and a greater sensibility to the price, that is no longer seen as an independent variable, but as an element over which the pressure of the consumer can have influences. But there, where the reorganization of the market has lead to reduction of the efficacy to choose consumers, the need to give birth to an organization was sensed, that could give a re-balance of the relation between the producers and consumers, leading to the creation of that social phenomenon defined as “consumerism”. By consumerism, we understand that assembly of ideologies regarding social activism, pressure groups (consumer associations) and in general that trend that tries to raise the rights and the consumer’s power in relation to the entities.

3. Consumerism as a social movement

Protecting the consumer is not an invention of our times, as Mayer underlined, the consumer protection legislation – for example against altered food and scale fraud appear even since the Old Testament and the Hammurabi Code. In the 15th and 16th centuries, in Austria, altered milk sellers were constrained to drink the product themselves, while in France, the ones that bought rotten eggs were authorized to throw them at the seller.

But when talking about consumerism, we refer to a well-circumscribed phenomenon, “a social movement that seeks to raise the rights and powers of the one that buys in relation to the one that sells”, says Philip Kotler.

Short history of consumerism

Within the activities of the EC, a special attention for the consumer’s protection was developed at the beginning of the 70s, when Chiefs of States and Governments from the 9 member states of the EU have gathered in Paris in October 1972, in order to establish practical decisions, inviting the representatives of the Community Institutions to define an action program capable of consolidating action coordinates in favor of consumer protection. Within this context, some fundamental objectives are remembered, according to article no. 2 of the Rome Treaty, set by the EC, were “to improve constantly the life and work conditions of the citizens” that were part of the community, and the assumed engagement was to “promote harmonious development of the economical activity, by a continuous, balanced and stable expansion to improve faster and faster the living conditions”.

It is important and proper to signal that articles no. 85 and 82 of the Treaty, even if referring to competition, could be extended for consumer protection, as far as offering the EC the power to dispose of laws that could establish the limits of “production and markets” or “development of the technologies that operated in spite of the consumers”. Therefore, after these confrontations begun, the competent institutions could be given the initiation of consumer protection policies, as a new and essential dimension that over the years would influence (and further on till today) the assembly of the sector policies that contribute to economical and social development of the EU and that expresses its particularities to other community policies. As a consequence of the decisions made within the Paris reunion, first measures were taken to develop a consumer policy at a community level: creating a environment and consumer protection service, creating a Consultation Committee of the Consumers near the Commission composed of organizations that represented the consumers and experts designated by the Committee and a preliminary program of the EC for a protection and informing consumers policy.

The prior plan for the longest period, 2007-2013, that will be analyzed more profoundly along the work, is based on an ambitious existent program substitution program, for the consumer policy sector, by an unique action plan in what regards health and protection of the consumers, wanting to work based on a common synergy that will give better results.

The greater part of the European policies, and the one destined to the consumers, is the subject of permanent upgrades, being in the center of certain consultations on all levels, from the competent institutions to civil societies, passing to the directly involved associations. Until now, the EU has legislated, with specific references for consumer protection: food product labeling; misleading advertisement; safety of the cosmetics, toys and general safety of products; door-to-door sales; trans- country sales; long-distance sales; multi-properties; electronic sales; abusive clauses of long-distance sales and financial sales contracts; voyage contracts; product guarantees; protection of personal data etc.

Almost all the interventions that create jurisprudence regarding consumer protection are included in the Community Directive, in which the perspective of an approach of a national law obliges the member states to reach the aimed objective, but leaving at their choice a certain application flexibility of the dispositions. In the same time, the consumer-citizens must be in the center of a sensitizing campaign that may allow them to become economically responsible subjects, aware especially in what regards the rights and obligations in collecting opportunities that the unique market proposes; knowing the

community directives actually means knowing the minimum protection level a state must guarantee.

In what regards the new states that have entered the EU between 2004 and 2007, a conformation of these community rules is tried, even if in certain cases it has not gone up to direct upgrades, because structures and control organisms were missing to be able to protect the consumer. A special attention is wished to be granted on behalf of the EU along with the adoption of the directives regarding consumer protection in this countries.

3.1. Consumerism culture in France

France's policy regarding the consumers has, as a main objective, their permission to be responsible economical players, sufficiently informed and capable to act, and install relatively trustworthy and transparent in the market relations. In what regards the protection of the economical interests of the consumers, the regulations about the consumption phenomenon has, as a purpose, supplying the possibility to the consumers to make aware choices, as a consequence of an objective informing, and to protect them in the case that imbalances can be verified in relation to the entities. These two objectives contribute to determine a healthy competition on the market, in benefit of the consumers.

In the last 20 years, the upgrade and adequacy of the legislative area and regulation has been signaled, in order to protect the fundamental rights of the consumers. An active support has been given by the independent association to allow it to play an active partner role with the public powers and professionals.

In France, the objectives of the consumption policies have been fixed by the Ministry of the respective sector, along with other governmental departments. The governmental actions were made about:

- excessive indebt degree;
- new technologies, especially in electronic commerce and cellular phones;
- general safety of the products.

The public/administration structures

The "Conseil National de la Consommation" was established, in order to allow confrontation and consultation between representatives of the consumers' interests and representatives of the companies, public services and public authority interests, all the situations being focused on problems about consumption.

This organism is presided by the competent Ministry, and supplies consultancy regarding the legislative and normative problems that could have

an impact over consumption; it is made of an equal number of representatives both on behalf of the consumers and companies; it is consulted for almost any interest consumption subject and votes the decisions made by the workgroups of the Council and for the legislative projects or consumption regulations. It is the only national structure, the other ones operating nationally or in specific sectors.

L'Institut National de la Consommation – INC is the organization in which the consumer representatives address to prepare the discussions in the Council, aided by the technical consultancy of this institute.

Established in the year 1966 as a public entity with an administrative characteristic, after the 1990 reform it became a public entity with an economical and commercial characteristic, making own compared evidences and publishing an own magazine addressed to the consumers.

The General Direction of Competition, Consumption and Fraud Repelling (DGCCRF) is an administrative structure responsible of upgrading the consumers' political program upgrade. This organism is a direction of the Ministry of Economy, Finances and Industry, tasked with the market control and upgrade of the consumption policy; it also is tasked with national cooperation, having relations with a number of the world countries.

The consumers association

In France, there is a large number of consumer associations that all operate within the protection area, other exclusively in specific domains. In the year 1988, the French law allowed the right to summon in court only the known associations; in order to obtain recognition, these must have had as a status "protecting the interests of the consumer" and be truly representative, that is to have operated at least a year, pursue the consumer protection objective in a public and effective way and have at least 10,000 members; in present, only 20 such associations are recognized, the most important being "Union Federale des Consommateurs", established in the year 1951 by public authorities contribution.

Mediation, reconciliation and arbitration

Still in France, various public structures were created, to solve out of court the disputes that involved the consumers. The mediator on behalf of the republic (Mediateur de la Republique), institution established in 1973, helps the citizens that are in conflict with the administrations or the companies that supply public services. Since December 1994, in France have become active special commissions on consumption disputes (Commission de reglement des litiges de consommation - CRLC), that are still in experimental phase and to which the consumers can accede free of charge and easy.

Another governmental structure, existing since 1990, is Commission de Surendettement, near Banque de France, established for the ones that cannot pay own debts and need a friendly way. It is necessary to recall of Boites Postales 5000, introduced in the year 1977, with offices present in around 70 departments, operating under the authority and competence of the “Direction departementale de la concurrence de la consommation et de la repression des fraudes”. In the great part of the cases, initial mediation has a favorable result, being accompanied by reward payback regarding made damage, in favor of the consumers that have made the complaint. Along with the public entities, private companies have created own mediation and conciliation structures.

3.2. Consumer protection policy in Germany

In Germany, the consumer protection policy is considered an integrated part of the general economic policy decisions. In fact, the federal government defines, by the annual economical report, the political orientations that are to be applied for this domain.

The report regarding salvation of the German Market (Bericht zur Zukunftssicherung des Standortes Deutschland) expects suppression of the regulations contrary to the market laws.

After the unification, the actions were concentrated on making consumer organizations of new Lander, and then on general informing on its rights and the offered possibilities the market economy gives to the consumers.

In Germany, more activities are taking place for consumption monitoring by:

- The statistic Wiesbaden bureau – a German federal cartel bureau, which is responsible in what regards competition. Since January 1998, there is a new governmental organism for telecom and postal problems; regarding the food products offer there are some surveillance organisms (Lebensmittelueberwachungsaeamter); for disloyal competition, there are the consumer organizations especially.
- The international cooperation is very developed – for consumption goods it is proper to mention the information exchanges regarding harming products, for food products the bases of cooperation installed in the Food Code (Codex Alimentarius) being set. This cooperation exists even in the Organization for Economic Cooperation and Development, some organizations raising the contracts on an European and world level, and which participates by workgroups to upgrading the PECO projects (Central and Western Europe countries) and the 3rd world countries.

The Federal Ministry of Economy has made an “Eurotelephone” in order to allow the consumers to inform themselves free of charge about the intern market and demand information about community regulations over personal problems.

Certain organizations estimate that the EU remains, for the greater majority of the Germans an unknown figure, rather negative, and for that reason the initiatives of the Commission in favor of the consumers are not known, and the consumer does not perceive as such the effects of the community regulations made for him. This means that, according to the article no. 153 of the Rome Treaty, Germany does not consider as necessary that for any specific action that the EC may/should propose to sustain and, if necessary, to complete the policy of the member states in favor of the consumers, opposing to the take over by the Committee of actions in domains that are not mentioned in article no. 153 of the Treaty.

3.3. Consumerism policy in Spain

Spain is no different to other European member countries, taking into account its wish to improve:

- legislation, aimed to create authentic consumer rights;
- juridical protection;
- product and services quality;
- education;
- consumer representation;
- competence condition and consumer choice possibility.

In the last years, strategic activity plans were elaborated, regarding the protection policy of the consumers, which were approved in the Sector Conference of the Consumers, making the base in realizing a homologous policy within the national territory. The main responsible administrative structure for this program is the Health and Consumption Ministry. The mid term action program is presented for approval in the Sector Conference of the Consumers, to which participate the Minister of Health and Consumption and the independent community advisers, the Consume Cooperation Commission made of the General Direction of Consumption of the independent Communities and the National Consumption Institute tasked with its appliance.

The Spanish legislation authorizes the consumers to participate, by their own representatives, to more than over 50 consultation organisms, dependent of public organisms. Besides the Consumption Institute (INC), they participate to all the work meetings where aspects that can affect or interest the consumers or subscribers are examined.

Within the INC association registry, a total number of 313 organizations are recorded, of which 11 of the national sphere, which are part of the Consumer and Subscribers' Council (CCU), and must be consulted along with

making general dispositions for the consumers, that make the Real Decreto no. 825/90, modified by the decree no. 221/1995. The CCU is made exclusively of the representatives of the 11 national organisms; Decree no 825.90 establishes that the Ministry of Health and Consumption must supply to the CCU the human resources and materials necessary for its functioning; besides that it establishes that the headquarters of the council will be the one of the INC, and its secretary will be nominated from its workers.

According to the opinion of the Consumers' Observatory, Spain with the INC and France with its DGCCRF, or England with its Office of Fair Trading dispose of a well-defined structure that guarantees constant attention to the consumption of all products and services.

The INC has bi-lateral cooperation with all Latin America, with several Central Europe Countries, the EU countries and sporadically with the North American, Eastern Europe and Asian countries. Within the material interchanges, the most frequent is technical assistance of the workgroups that demand information regarding the arbitrage in what regards consumption, education, market control etc. In what regards protecting health and consumer safety in Spain, applying article no. 51 of the Constitution and Law no. 26/1984 are pursued as such, and through concrete action in what regards safety, especially for:

- the possibility to dispose at any moment of an adequate normative for consumer protection;
- the control of the market as a protection mean and promoting instrument of the quality (surveying and prevention of the product risks, food contamination, control of the critical production and commercialization points);
- self-control advertising, within the companies;
- contribution of the consumers to realizing a health and safety protection legislation;
- tight collaboration between the competent authorities in what regards consumption, by cooperation mechanisms established internationally;
- studies regarding safety and quality of goods and services.

As a consequence of the participation of the consumer organizations, article no. 22 of the Law no. 26/1984 stipulates the participation of the consumer organizations to elaborate the legislation regarding products and services; this participation is made by the CCU.

Spain considers as being necessary to upgrade at a community level all that regards the trans-country advertising and access to justice questions, especially in what regards:

- making international penalties;

- consolidating the initiative capacity on behalf of the consumer associations within the consumption policy of the EC;
- aggressive sale techniques;
- trans-country payments;
- transparency within the banking sector and bank credits.

3.4. The consumerism phenomenon in Belgium

The public/administrative structures and the semi-public organisms

In Belgium, there is a consultation specialized organism: Conseil de la Consommation/Raad Voor Het Verbruik; this council is made of 36 members, half of them being the representatives of the consumers, nominated by the associations they recognize, and the other half being represented by various groups that interest the companies, regarding aspects such as production, distribution, manufacture sector, professionals and agriculture.

The consumer associations are recognized by the Ministry of Economy, which gives the right to the consumers to participate at the discussions. If an association is part of the Consumers Council, it is considered representative and has the right to summon in court as being a recognized association. The task of the council is to supply consultancy to the Belgian government, the impact of the council over the consumerism policies being limited. The large number of divergent interests makes, usually, reaching a unanimous opinion impossible.

According to the Real Decree, that has lead to the establishment of the organism on February 20, 1964, it is necessary to collect information regarding the consumer problems, to stimulate research and coordination of the initiatives regarding informing. Unfortunately, the limited resources have not allowed to absolve this task, the greatest part of this being solved by the CRIOC/OIVO.

“Il Centre de Recherches et d’Information des Organisations des Consommateurs/OfldeZoek en Informatiecentrum Voor de Verbruikersorganisaties” was founded in 1975 by the desire of the association to obtain support in preparing the reunions of the council. This center is financed almost entirely with the subventions of the Ministry of Economy, being lead by the association of consumers, its task being to supply technical assistance, disposing of three services: documentation, information and education. The CRIOC/OIVO library is the largest in Belgium, also from a book number point of view but also when talking about publications. This organism has its own weekly magazine in which syntheses are published, of the articles of 30 current journals and 16 weekly published of all Europe.

Private associations

In Belgium, there is only one consumer association: La Association des Consommateurs/Verbruikersunie; evermore, the list with the recognized associations includes 17 more names, that is why it is easy to obtain recognition; it is necessary in fact for the associations to be represented in the consumer council. Also, the syndicates and consumption cooperatives are recognized as associations as it happens in other countries, and the family associations and the feminist ones can represent consumers' interests.

La Association des Consommateurs/Verbruikersunie, founded in 1957, has as main purpose pursuing the interests of the consumers. Verbruikersunie collaborates with similar organisms in Europe, and the results of the tests compared are published in the Test Aankoop/Test Achats reviews; this is a private association and almost exclusively sponsored by income obtained from selling own publications.

Until 1992, this association was based on the copyright law in order to protect the information supplied by comparison tests, in the same year succeeding in convincing the legislative to introduce, in the law against unfaithful competition, privation to inform and consumer protection, the article no. 23, that includes an explicit interdiction regarding public use of the tests made by private associations.

Dispute solving

Verbruikersunie distributes contract-type modules, whose content was negotiated with the suppliers, these modules approved by the Testaankoop/Test Achats being available to acquire long-term consumption goods, as rental contracts for houses, land, furniture etc. Within the same context, Arbitrary Commissions were established, that decide on privation of these problems.

The consumer associations have the right to summon in court the unfaithful commercial practices, but the associations must be recognized, for that being sufficient to be a member in the Consumers Council.

The unfaithful commercial practices concept is interpreted in a more complex way: this refers to the misleading advertisement, incorrect clauses from contracts with consumers and selling methods that authorize tactics based on powerful pressures. Contract violation does not allow the associations to interpret legal actions, because it is not considered as being an unfaithful commercial practice.

3.5. Consumerism culture in Italy

Consumerism culture in Italy started to be diffused late compared to the rest of Europe, as a consequence of poorer legislation in what regards it. In the 50s, in Italy reigned the most total arbitration in what regards consumerism, the observation and evaluation of this situation making the reason that led to the official establishment, on November 25th 1955, of the first Italian Consumer Association (l'Unione Nazionale Consumatori). The Consumers' League is the second Italian experience that is born in 1971. This one starts operating in the presence of a powerful raise of prices, and in parallel in the presence of a greater demand of raise in quality, life condition, environment protection, national solidarity; but the real consumer protection in Italy started working due to the normative of the EC, that, starting with the year 1975, wanted to reorder organically the initiatives in what regarded consumer protection. The communitarian intervention made with the passing of time became more urgent, even if the legislative was busy only with the substantial right to defense of the consumer, leaving to every state the discipline regarding entities and proposed organisms to protect the consumers, competences and prerogatives. The Italian law of July 30th, 1998, no. 281, "Disciplina dei diritti dei consumatori e degli utenti", recognized in the whole Europe for promoting the interests of the consumer and insuring own protection means, making the national referring normative that, besides the fact that establishes the consumer's right, supplies an institutional recognition of the Consumer's Association.

4. Consumer protection policy of the consumers in the EU for the 2007-2013 period

The EC has disposed of a precise strategy for the consumer policy in the EU, extending it in design for a period that starts with 2007 until 2013; dressed as a slogan, the objectives aimed to be reached and consolidated within this period of time refer to: a greater power for the consumers, more welfare for these, along with a more effective protection. Before analyzing these orientation directions of the communitarian policies, it is necessary to highlight which are the objectives the EC has stated:

- first of all, insuring an increased attention over the powers and rights of the consumers, so that they significantly motivate competition;
- second of all, promoting welfare of the consumers in what regards prices, quality, choice, diversity and safety – this aspect certainly being a direct evidence of the existence of correctly functioning markets;

- the third objective regarding consumer protection refers to the fact that these can be subjects exposed to risks and threats, which they cannot face as lone individuals. This objective is a strategic one because, if reached, determines a greater trust of consumer-citizens to the European institutions.

These three macro-objectives, in order to be achieved, need an internal market of the member states, that would be more integrated and effective, especially in what regards piece by piece sale, as long as it is the internal European market that has the necessary potential to become the greatest market of this commerce type, seeing that in present there are 27 mini-markets, all animated according to national coordinates. Therefore, it is necessary to insure a raised consumer protection degree, especially by an improvement of information, consulting and consumer representation.

Another deem aspect to investigate is the trans-border detail commerce, that has received significant increasing signals in the last years: in 2006, 26% of the consumers have made at least an acquisition beyond the borders of the country, in the last 12 months, compared to 12% in 2003. The electronic commerce becomes one of the most popular selling channels in 2006, 27% of the consumers making an acquisition by electronic commerce, but this percentage is raised with only 6% if taking into consideration only trans-border acquisitions. 50% of the subscribers to household internet have acquired by electronic commerce, and only 12% did it across the border. 57% of the detail commerce of the EU sells by electronic commerce, and 49% of these are willing to look across the border in at least an EU country; nevertheless, 29% have already made that. Figures regarding financial services are even more eloquent: 26% of the consumers have acquired a financial service on long-distance, from a seller or supplier in their own country, and only 1.1% over border. These figures demonstrate the necessity to intervene in increasing the trust for the detail commerce consumers on the internal market (*Cf. Strategia per la politica dei consumatori dell'UE 2007-2013, Maggiori*).

It is necessary to recall that not only the European institutions have objectives and hopes, but also the consumers target towards certain force-points such as: an increase of workplaces, a new and more vivacious relation with the EU institutions, these being more than justified aspirations as long as only the Europeans' consumption represents 58% of the EU's GDP, capable to determine a significant economical change, motivating innovation and efficiency.

In conclusion, the obstacles for a real internal own market are numerous, but they can also be of a normative nature, that is why they are not limited only to the lack of trust on behalf of the consumers about who we recalled at the

beginning of the paper. The most important obstacle has started to be eliminated by the directive regarding unfaithful commercial practices, by the Regulation regarding consumer protection cooperation and by the European Network of Consumer Centers. No doubt, the introduction of the Euro currency has simplified also the possibility to compare the prices from different countries, but relevant obstacles remain, especially in the consumer contracts domain.

Conclusions

The result that the EU has proposed to reach by the year 2013 consists in the possibility to guarantee to the citizens of the Member States equal rights and protection, not caring if acquiring from a shop or an online web store. The objective is rather ambitious, but no doubt the consumer is wanted to be in the center of attention; the recent Lisbon Treaty will lead, within economical balances, to a raise in actions to protect the consumers, but this characteristic itself, in the case of European policies variation, may act as a brake in a fully development and common shared of this one.

Certainly, in the future, after speeding this policy in the last years, an important role must be played by the associations that are focused in consumer protection, consolidating the network between the member states, being necessary to continue working by a more optimum coordination; but it would not be wrong to make, in the same time, efforts for an economical growth.

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Comparative Analysis of Investment Funds Stocks-based Portfolios and BET Stocks-based Portfolios

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Abstract. *In this paper we intend to find out what is the best choice of stocks-based portfolio. The major goal is to find whether is more efficient to invest the whole capital in a single sector, like financial investments, or to create a diversified portfolio, taking into account assets from various economic sectors. Capital allocation will be based on the concept of cointegration. We have chosen this method because it can be applied on non-stationary data series, and, besides, it has the advantage of using the whole set of information provided by the financial assets. Another goal is to study how the portfolio structure adjusts if a shock occurs during the period under analysis so that to preserve a certain return or minimize a potential loss. The study will result in an investment solution in the Romanian capital market, even in the context of financial crisis.*

Keywords: stocks-based portfolio; diversified portfolio; cointegration; financial crisis; long-short strategy.

JEL Code: G12.

REL Code: 11F.

Theoretical foundations

This paper follows another research which was intended to study the allocation of capital and the building of portfolios with the help of cointegration. Thus, in order to build optimal portfolios we have analyzed six stocks that are traded on the Bucharest Stock Market, for which we have the longest and most complete data series. Another criterion that has been used to select the stocks is their liquidity. In the first part of our paper we test the existence of stationarity of the price series, using the ADF method. After this stage we have created the index that has to be tracked by the portfolios. In the second part of the paper we create two artificial indexes by adding and decreasing respectively a certain expected return. Then we have used the cointegration notion in order to study closely the two indices in a long-short strategy. After testing, the study has shown that there are portfolios that can bring a certain expected return, even if this conclusion does not hold for all portfolios and all strategies.

We based our research on the work of C. Alexander and A. Dimitriu (2002) – „The Cointegration Alpha: Enhanced Index Tracking and Long-Short Equity Market Neutral Strategies”. These authors present several strategies of capital allocation based on the concept of cointegration, building portfolios using the DJIA (Dow Jones Average Index). Tests have shown that the results depend on the expected target.

Data

The portfolios that we intend to build will include only stocks traded at the Bucharest Stock Market (BVB); the first category of stocks represents securities that are included in the BET Index (6 stocks: ATB, AZO, BRD, OLT, SNP, TLV); the other category represents the 5 SIFs (BET-FI). We have selected these stocks because they present the longest time data series and a high market liquidity. The period under analysis is between January 3, 2002 and April 30, 2009.

Methodology

I. Strategy to target the index

1. Testing for stationarity with ADF test

To explain the concept of stationarity we will use the following process:

$$y_t = \rho \times y_{t-1} + u_t$$

Given that $\rho = 1$ we can say that variable y_t is non-stationary, while if $\rho < 1$ we say variable y_t is stationary. A stationary series has the median, variance and

covariance constant and independent in time, and they tend to fluctuate around the median within a relatively fixed band.

To test whether data series are stationary or not, a number of tests can be applied; one of the most widely used tests is Dickey – Fuller (DF) test, because of its simplicity and wide application. Because testing for stationarity leads to the generation of an autoregressive process (AR), the median of which is zero, we will use another variant of DF test, namely ADF (Augmented Dickey – Fuller test). As for y_t that follows an AR(p) process a DF is used, then we can expect that error variable to compensate the differences occurring in the dynamic structure of y_t that is tested with the other variant of DF test – ADF test. In this case, errors' auto-correlation will invalidate the employment of DF distribution, which is based on the fact that u_t is a „white noise”.

In these conditions y_t follows an auto-regressive process of order p^{th} :

$$y_t = \psi_1 \times y_{t-1} + \psi_2 \times y_{t-2} + \dots + \psi_p \times y_{t-p} + u_t$$

The null hypothesis is $\psi = 0$ as compared to the alternative $\psi < 0$. To test the null hypothesis we calculate statistics for DF test and compare them with the critical value.

The ADF test was used in this paper in order to test if the data series were stationary or non – stationary. The existence of the stationary in the data series was tested in this paper, in level and in the first difference, for all data series.

2. Building the index

The second stage of tracking the index consists in creating a market index including all the stocks analyzed in the paper. This index is built after each series has been normalized and each stock has received an equal weight. Thus, stocks will have each an equal influence on the index variation.

Stocks have been selected on the basis of the following criteria:

- Series shall be as large as possible.
- Stocks have to be included in a stock market index.
- Stocks have to present a higher liquidity.

After stocks' selection and index building, the next step consists in the creation of portfolios to track the index accurately. Portfolios are built taking into account their cointegration with the index. This consideration has a number of merits: tracking error fluctuates around a certain median point, information reflected by stocks' prices is better used, shares' weight in portfolios is stable and, consequently, portfolios need not be frequently rebalanced.

3. The concept of cointegration and Engle – Granger method

Two series are cointegrated if their relation is stable (stationary) in the long run. This relation is possible even when each series is stochastic (non-stationary). The cointegration notion can be considered as a long run equilibrium toward which a system converges, and ε_t can be seen as a disequilibrium error (the gap between the system's current and equilibrium position at the moment t).

Engle – Granger method says that if two variables x_t and y_t are integrated of order I and between them there is a stable long-run relation, then the two variables are cointegrated $CI(1,1)$.

4. The construction of portfolios

To build portfolios able to track the index as close as possible, one fact must not be overlooked, namely, the correct estimation of portfolios structure. This condition is fulfilled for each portfolio by using OLS for the cointegration equation, which regress the index price based on the stocks' return for a certain calibration period.

$$\text{index}_t = c_1 + \sum_{i=1}^n c_{i+1} \times p_{i,t} + \varepsilon_t$$

The calibration period of portfolios is between 1 and 3 years, the remaining time being used for testing. We have created portfolios based on 3, 4 or 5 shares, when we refer to stocks included in the BET Index, respectively 3 or 4 stocks when these are included in the BET-FI Index. The rebalancing period for each portfolio is 10 days.

After portfolios were built, the next step is the application of Engle – Granger test of cointegration for each of them. The cointegration test consists in the application of ADF test on the residuals of each cointegration equation, in order to find if this is stationary or not. The ADF regression equation for testing cointegration is the following:

$$\Delta \hat{\varepsilon}_t = \alpha_1 \times \hat{\varepsilon}_{t-1} + \sum_{i=1}^n \alpha_{i+1} \times \Delta \hat{\varepsilon}_{t-1} + \varepsilon_t$$

The null hypothesis of this test is the assumption that the two variables are not cointegrated.

II. The long – short strategy

This strategy follows the same stages as the first strategy, but included the creation of two indexes in order to imitate the evolution of the index built at the beginning. These two new indexes are built starting from the value of the original index, by adding or subtracting a certain expected annual return – evenly distributed among daily returns.

Testing results

We first attempted to study stationarity. The first step was to test the stationarity of data series in level and we noticed that these are not stationary. In the second stage we have studied stationarity for the first difference, and we have obtained a stationary data series. The results of ADF test are shown in the following tables (table 1, table 1.1, table 2 and table 2.1).

Table 1

Testing stationarity with ADF test (in level - BET)

	ATB	AZO	BRD	OLT	SNP	TLV
H0	False	False	False	False	False	False
pValue	0.5267	0.3476	0.5074	0.4036	0.5101	0.4733
tStat	-0.3419	-0.8308	-0.3946	-0.6781	-0.3874	-0.4876
cValue	-1.9416	-1.9416	-1.9416	-1.9416	-1.9416	-1.9416

Table 1.1

Testing stationarity with ADF test (first difference - BET)

	ATB	AZO	BRD	OLT	SNP	TLV
H	True	True	True	True	True	True
tStat	-40.28	-37.021	-41.038	-40.516	-42.359	-48.683
cValue	-1.9416	-1.9416	-1.9416	-1.9416	-1.9416	-1.9416

Table 2

Testing stationarity with ADF test (in level – BET-FI)

	SIF 1	SIF 2	SIF 3	SIF 4	SIF 5
H0	False	False	False	False	False
pValue	0.5185	0.4913	0.4629	0.5076	0.4973
tStat	-0.3643	-0.4387	-0.5159	-0.3942	-0.4223
cValue	-1.9416	-1.9416	-1.9416	-1.9416	-1.9416

Table 2.1

Testing stationarity with ADF test (first difference – BET - FI)

	SIF 1	SIF 2	SIF 3	SIF 4	SIF 5
H	True	True	True	True	True
tStat	-37.37	-39.74	-38.62	-37.96	-39.59
cValue	-1.9416	-1.9416	-1.9416	-1.9416	-1.9416

Before building portfolios and reconstruct the index we have used the cointegration concept to establish the weight of each share in the portfolio, both for BET stocks-based and for BET-FI stocks-based portfolios.

For BET stocks-based portfolios we have used one, two and three years for calibration, the rest of the period being used for rebalancing portfolios so that they can track the index as close as possible. Each portfolio rebalancing was achieved from ten to ten days and transaction costs have been omitted. These portfolios included three, four or five stocks, with the above mentioned calibration and rebalancing period; overall, we built nine portfolios.

For BET-FI stocks-based portfolios we have used one, two and three years for calibration, the rest of the period being used for rebalancing portfolios so that they can track the index as close as possible. These portfolios included three or four stocks, with the above mentioned calibration and rebalancing period; overall, we built six portfolios.

Taking into account that in the analyzing period a shock occurs – the actual financial crisis – the results obtained from these portfolios do not fit exactly into our expectations, but at least we managed to minimize the loss.

Only some of the 15 portfolios have accomplished the conditions for being included in an investment strategy.

In the charts presented bellow (Figure 1 and Figure 2) one can see how close the index has been tracked by the 3 stocks -1 year calibration period portfolios.

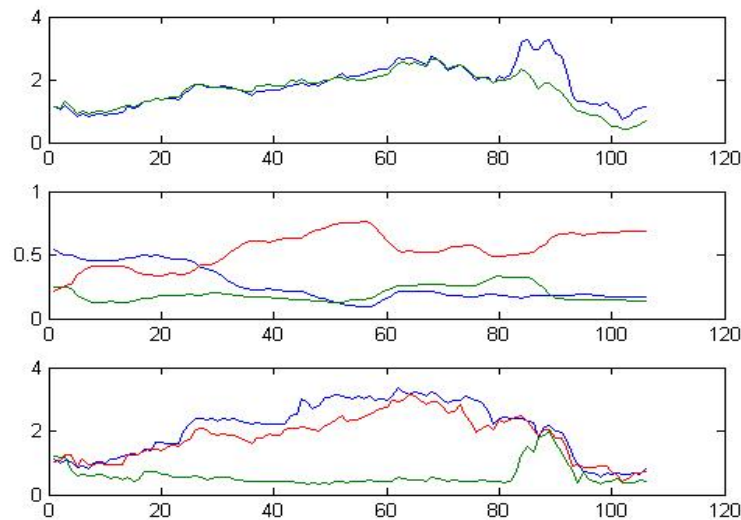


Figure 1. Portfolio with three securities (ATB, AZO, BRD) and index tracking

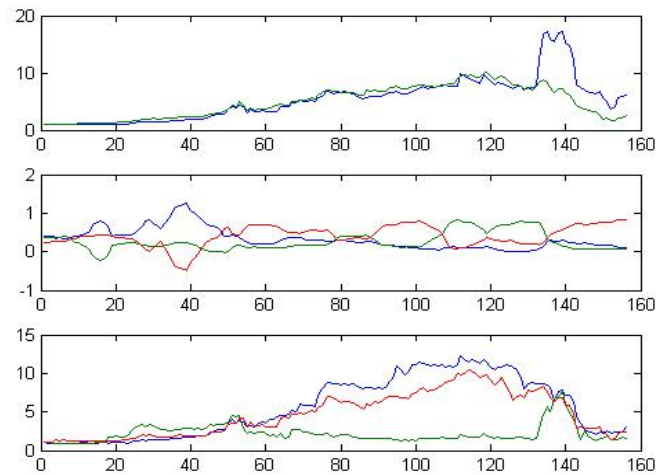


Figure 2. Portfolio with three securities (SIF1, SIF2, SIF3) and index tracking

In the second part of our paper we have tried to replicate the two new-built indexes by creating two artificial indexes: thus, we have added and subtracted an expected annual return of 20% that will be evenly distributed among daily returns.

The charts below show the new-built indexes.

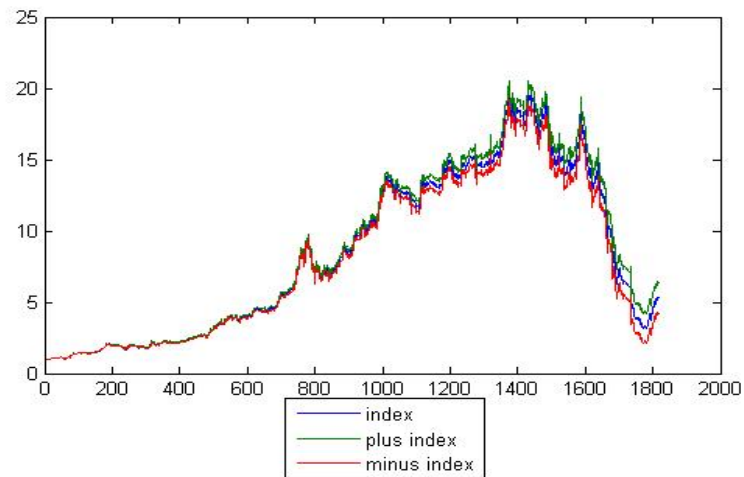


Figure 3. „Plus” index and „Minus” index for the BET stocks-based index

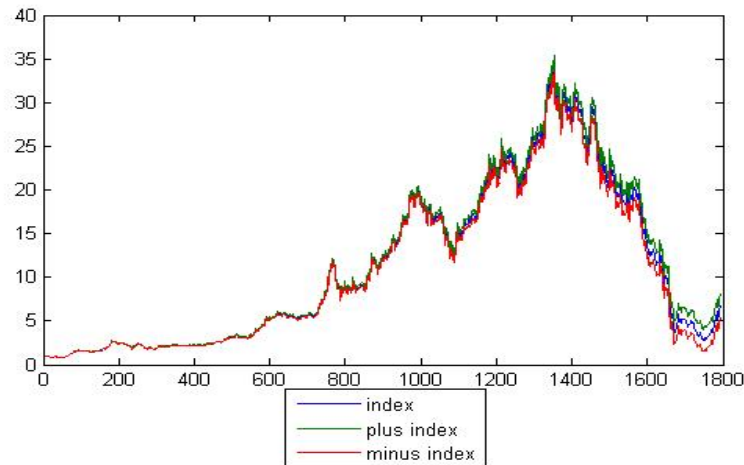


Figure 4. „Plus” index and „Minus” index for the BET-FI stocks-based index

After the construction of these new indexes we have pursued again the whole analysis presented in the first part of the paper: we built portfolios to target both the „Plus” and the „Minus” indexes and search for the best strategies.

In the charts below one can see how close the index is tracked by the portfolios, what is the best portfolio’s structure, how this changes as stocks’ price evolves, and what was the evolution of stocks’ prices during the period under analysis. It is obvious that BET stocks-based portfolios do not manage to change their structure adequately to target the „Plus” or the „Minus” index, even if they are well-diversified. Instead, as far as BET-FI stocks-based portfolios are concerned, the results are better: the portfolios manage to change their structure fast enough to target adequately the „Plus”/”Minus” index.

The above mentioned results are reflected in the following charts.

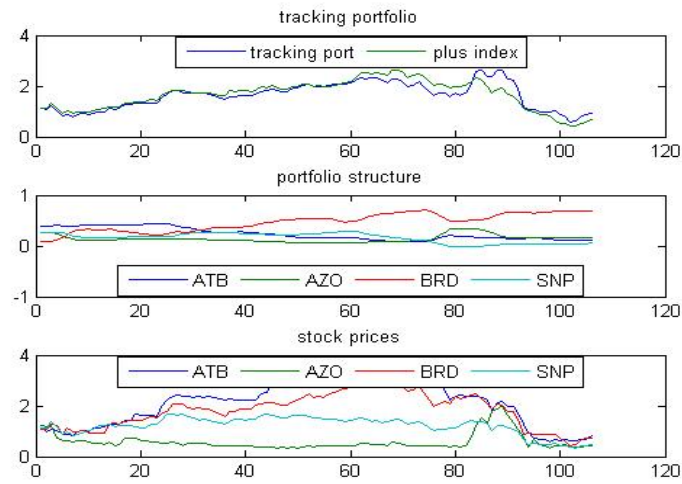


Figure 5. Portfolio with four BET stocks and „Plus” index

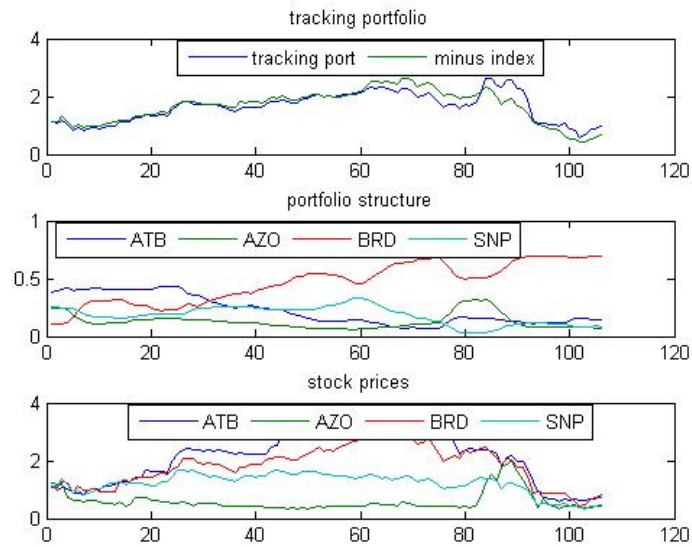


Figure 6. Portfolio with four BET stocks and „Minus” index

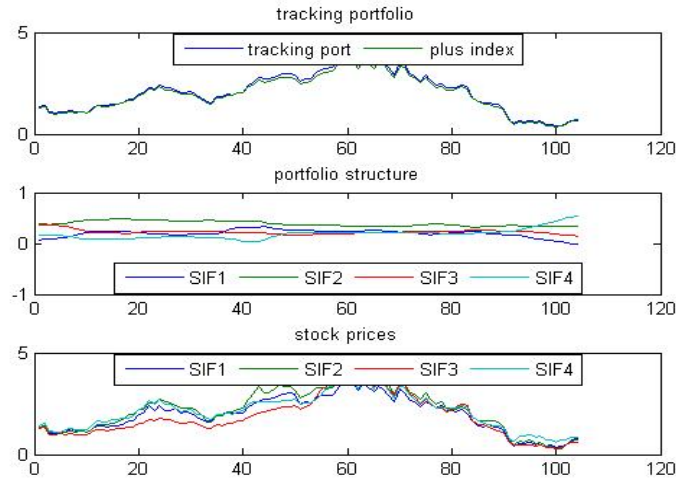


Figure 7. Portfolio with four BET – FI stocks and „Plus” index

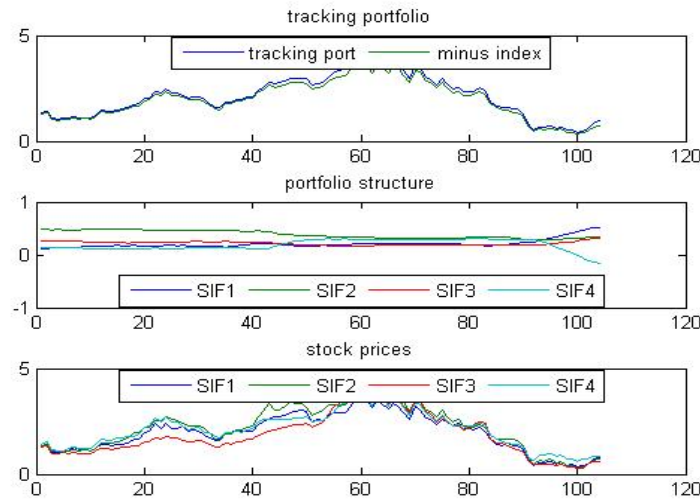


Figure 8. Portfolio with four BET – FI stocks and „Minus” index

At the end, we have created strategies for both BET and BET–FI stocks-based portfolios. Because of the unfavorable events that impacted the capital market, resulting strategies did not delivered significant better outcomes.

However, keeping in mind the goal of the present paper, namely the comparative analysis of portfolios based on various sectors and portfolios based on stocks from the same sector, it is obvious that in Romania, during the present financial crisis, it is not optimal to diversify, but to invest in the same economic field. This conclusion results also from the following charts.

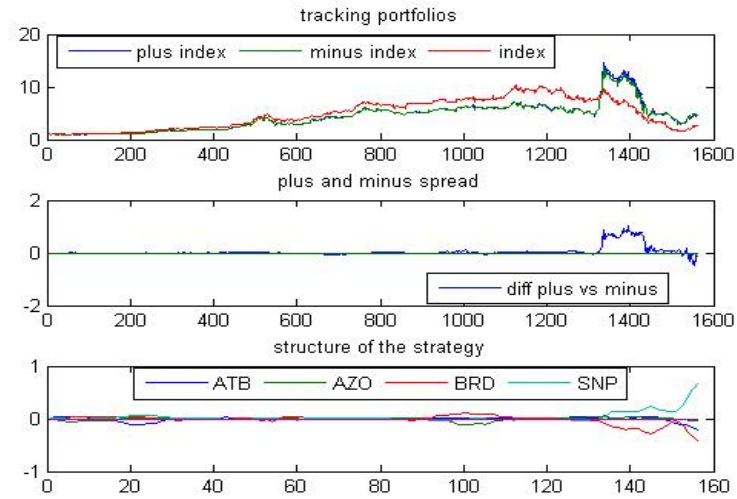


Figure 9. Long-short strategy for BET stocks-based portfolios

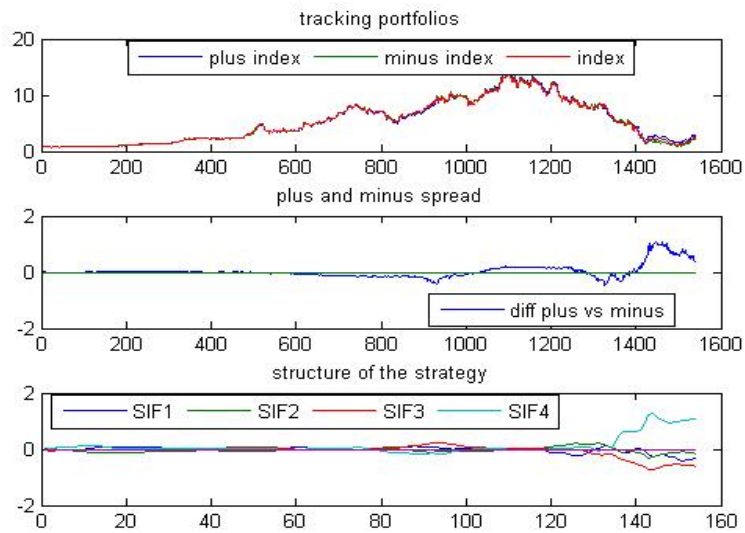


Figure 10. Long-short strategy for BET-FI stocks-based portfolios

Conclusions

This research has shown, in the first part of the paper, that portfolios that were built to track the index managed to accomplish this goal quite well, given that transaction costs associated to portfolios' rebalancing have been omitted. In the second part of the paper, where we attempted to create a long-short strategy for targeting two artificial indices, the cointegration analysis did not bring spectacular results.

As results have demonstrated, the strategy built on BET-FI stocks-based portfolios brings a higher return than the strategy built on BET stocks-based portfolios, precisely at the time when the shock occurs.

Probably, these strategies' results will be better if portfolios would have been based on stocks traded on mature capital markets, with a longer trade record than those available on Romanian stock market.

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The Management of the Citizen Oriented Applications

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Abstract. *The context of the knowledge based society is presented. The new user requirements in the context of the new society are analyzed. Basic concepts regarding the citizen oriented applications are presented. Issues specific to the citizen oriented applications are presented. The development cycle of the citizen oriented applications is analyzed. The particular elements for developing citizen oriented applications are described. The quality concept for the citizen oriented applications is defined. Quality characteristics and the costs of quality are defined and analyzed. A system of indicators for the quantification of the quality of the citizen oriented applications is developed. Ways of increasing the quality of the applications are analyzed. Issues as improving the users' training level, implementing new development techniques, advanced testing techniques and the requirement of audit are approached. The concept of optimization is defined. Optimum criteria are defined and analyzed. Ways of optimizing applications are described. Security requirements are enumerated and described. The particularities of the security requirements for the citizen oriented applications are analyzed. Measures for ensuring the security of the citizen oriented applications are described. A citizen oriented application for the analysis of the structured entities is developed. The application collects data regarding the behavior of the users. The collected data are used for verifying the hypotheses regarding the quality characteristics of the citizen oriented informatics applications.*

Keywords: citizen; application; knowledge; development; design; development cycle; quality; indicators; security; optimization; management.

JEL Code: M15.

REL Code: 10J.

1. Knowledge based society

Knowledge based society assumes the reorientation of the processes from the main valuing of the natural resources, the human factor and the informatics technologies to the valuing of knowledge.

Trends in the knowledge based society are:

- the appearance of knowledge workers; knowledge workers represent a new category of work force; these are persons that can interpret data from a certain domain very well (Huang, 2009, pp. 430-438); as they are very well prepared, they can find very good solutions for problems in a very short time;
- the development of the database technologies; in the context of obtaining various data both in structure and source, it is necessary the development of the database technologies to facilitate both the data storing and, mainly, the real time selections on complex criteria (Qinglin, Ming, 2009, pp. 439-442);
- the development of citizen oriented applications;
- online payments; the online payments systems have developed very much as the possibility of paying regardless the location is a necessity for virtual stores, companies and banks;
- the orientation of services towards the online form; many companies make the transformation of real processes in virtual processes.

The problem solving process in the knowledge based society is very complex and it assumes both the use of computing and communications technique and, mainly, of the previous gathered knowledge. The new approach in the problem solving process implies:

- the detailed analysis of the context assumes considering all the action possibilities on the studied problem;
- use of modern technology assumes adopting new instruments, techniques, methods for solving problems;
- making simulations on the basis of historical data is very useful for determining the causes that lead to certain problems and their effects;
- the project management is a very important activity for the good ongoing of the activities;
- consulting the domain specialists is an activity that brings many essential information for the problem solving process;
- automation of the processes is necessary for minimizing the time necessary for the problem solving;
- high quality results are the aim of every problematic situation;
- the low consumption of resources is an aim that can't always be reached.

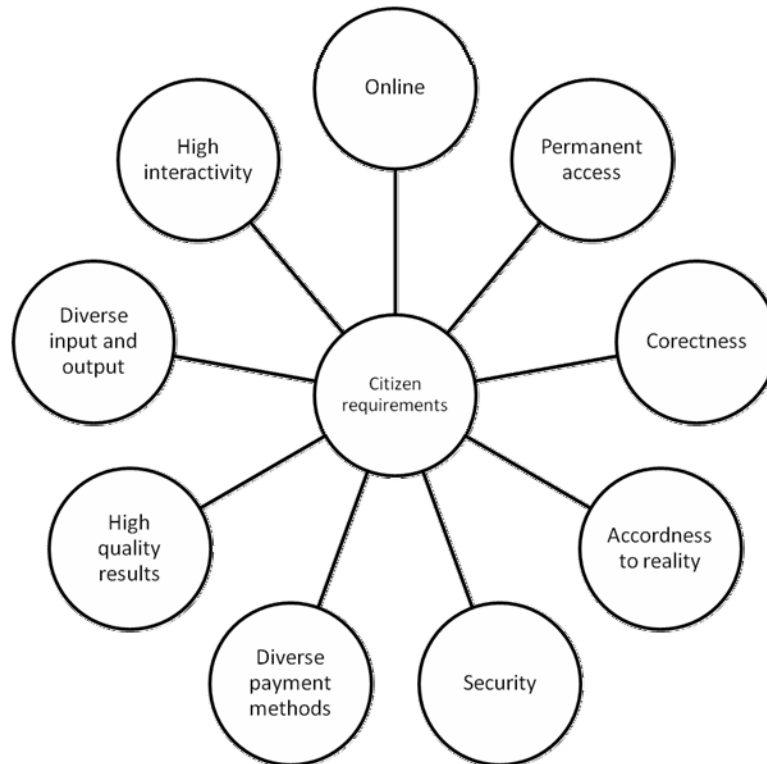


Figure 1. *Citizens' requirements*

The rapid evolution of technology and the approaching mode of events implies the appearance of new standards. The new society also leads to the increase of the users' requirements regarding the citizen oriented applications. Figure 1 highlights the users' requirements in the knowledge based society.

2. Citizen oriented informatics applications

In the context of the knowledge based society and of higher citizen requirements the appearance of a new category of informatics applications is necessary. The citizen orientated applications bring a new orientation as the citizen is considered to be the central element. These are different by the classic applications through:

- these are developed to solve the problems of the citizens, not the problems of the organization for which are developed;
- the target group is very large and very divers being formed by all the citizens;
- the applications are always available online;

- the citizen oriented applications aren't dependent on the hardware or software platform;
- the cost of use is very low or null;
- the quality requirements are much more strict than for traditional applications;
- localization assumes having the dialog with the user in his own language;
- the use of the applications doesn't assume previous training of the users (Yoon, 2009, pp. 471-476);
- are very often updated to reflect the changes in the environment;
- adaptation to offer the citizens a greater degree of satisfaction.

The structure of the citizen oriented informatics applications differ on the offered functionality and the domain they are created for. The citizen oriented informatics applications are with:

- simple linear structure; these are applications that, for problem solving, assume the following of a number of steps, in a preset order, without the possibility to go back to a previous step; the first step of the sequence starts up the processing and the last one returns the results for another application; for an informing application, the information is structured in a logic sequence of the steps that must be followed;
- linear structure and simple links between components; these assume the possibility of going back to the previous steps; these are applications for which the possibility of modifying data from the previous steps or repeating them is a must; for the applications with a high number of steps is unacceptable for the user to redo all the steps just because he made something wrong in the end;
- linear structure and multiple links; assumes the existence of links between components and the navigation is made between any of the connected components respecting limitations imposed for the correct functioning of the application; the navigation towards a step is not allowed without the fulfillment of the prerequisites; for the informing applications of this type, the navigation has no restrictions beside the logical links;
- tree structure and simple links; these are applications for which from a step the user can move in many directions; the simple links between modules allow the advancement only on vertical as the user is going away from the tree root; these type of applications is suitable for showing information on the basis of selection criteria;
- tree structure and double links; these assume the existence of bidirectional links between the components to browse the tree structure

both top-bottom and bottom-top; double links ensure the possibility to go back to previous steps;

- tree structure and multiple links; the pass from a component to another is made only in the limit of the good functioning given by the logic of the processing which the applications make; the tree structure with multiple links is the most complex of them all; this allows the development of complex citizen oriented applications.

The applications for virtual campus training must satisfy the requirements of the persons that access the educational system. For this, these must be flexible, maintenance free, secure, accessible, platform free, without additional costs, always available, adaptable.

Considering the very dynamic character of the virtual campus training domain, the requirements of the users quickly change and the applications, in order to be competitive, must evolve to fulfill them.

E-commerce is a very popular form of commerce as it has some clear advantages on the traditional commerce:

- no more stocks; virtual stores don't have stocks, or, if they do, these are very small (Harrison-Walker, 2001, pp. 139-172);
- geographic borders are eliminated;
- very low running costs;
- users' comfort;
- automation.

The e-governing applications are used in the relation of the state with the citizens for solving different situations in which they are partners (Ong, Wang, 2009, pp. 498-504). Issue of certificates and forms is made automatically. The e-voting applications are also very used in the e-governing process. These must be accessible from as many geographical points as possible.

Informing applications are those that guide the users to obtain information regarding a certain domain, state, process, object, phenomena. This type of application must be characterized by a clear structure allowing the user to reach, in as few steps as possible, to the desired result. The informing applications must not have using costs.

3. The development cycle of the citizen oriented applications

The distributed informatics applications are the result of a complex process that includes steps characterized by (Ivan et al., 2009): specific objectives in each of them, input elements, activities, resources (Bjørnson, Dingsøyr, 2008, pp. 1055-1068), techniques, methods, technologies, results.

The steps of the development cycle of the citizen oriented informatics applications differ when compared with the same steps of the classical applications because the focus is on the citizen orientation as the application must reflect the needs and preferences of the citizens.

Problem definition step assumes specialists with high experience in the knowledge of the theoretical aspects and also, very important, of the practical ones, from the domains with which the application interacts. Defining the problem means specifying data input, building formulas and models, identifying algorithms for the computing of indicators, expression evaluation, optimization, estimation, subset extraction, graphical representation and comparing of the aggregated values and the establishing of the form of representation of the final results that are, actually, the most important for satisfying the requests of those for whom the application was built.

Establishing the target group is the step in which the categories of persons that interact with the application for problem solving is set and the number of individuals is estimated.

The study of the target group assumes, in addition to the knowledge of their physical and intellectual traits, the knowledge of their experience in the work with other applications. According to this experience, the new application will try to integrate as many elements from the interface of the most used applications as possible so that the users will already be used with the comportment of those components.

Specifications elaboration is the step that assumes the existence of specialists of high performance with rich experience because the specifications must be (Liu, 2009, pp. 1565-1572) exact, complete, correct, deterministic.

Project building is the step in which experienced specialists in results interpreting and code elaboration start identifying processing functions, setting modules and their links, defining data structures and storing format, building matrixes of initial data – modules and final results – modules, establishing software and hardware necessary resources, estimating the workforce, elaborating a calendar specific to the development of the application.

A competent team has the capacity of associating the exact resource requirements to the application as the whole development process assumes allocation and leveling of resources.

Code elaboration is an activity through which a project is materialized and competed by developers with great experience in the chosen technologies, which possess the capacity of taking information from specifications so that the written lines of code represent standalone products whose quality is measured exactly.

It is preferable that the specifications contain enough programming elements, as operands definitions, so that the programmers take them automatically without inserting variations from a definition to other.

Server loading is preceded by an analysis made by a small group of specialists of the developing team. These have a complete image of the distributed application and the technologies it has incorporated. In this step are created the conditions for the activation of the components from the tree associated to the application.

Technical testing is preceded by autotesting. This means that the product already fulfills the requirements from the specifications (Pocatilu, 2004). Starting from the test datasets from the specifications, the behavior of the application is observed. The differences between what should have been obtained and what is obtained are signaled. The technical testing imposes the realization of all modifications in applications to fulfill the requirements from the specifications.

Sample testing assumes the establishment of the persons that, with specialized assistance, solve real problems using the distributed application. Building the sample is essential as the set of problems the application is tested with depends on it.

Documentation elaboration is an activity that is, erroneous, left for the end of the development cycle by the majority of the development team members. The documentation must be built simultaneously with the development process even if that is not the final form of it (Vinz, Etzkorn, 2008, pp. 813-825).

Implementation assumes the installation of the application on the client's server and the configuring for optimum functioning. The application server must support all the technologies that the citizen oriented application implements and offer enough resources to that the users don't wait for the results.

Maintenance is the process of updating the citizen oriented applications to reflect the changes from the economic, social and legislative environment and also fixing the defects that were discovered after the release. The modularity of

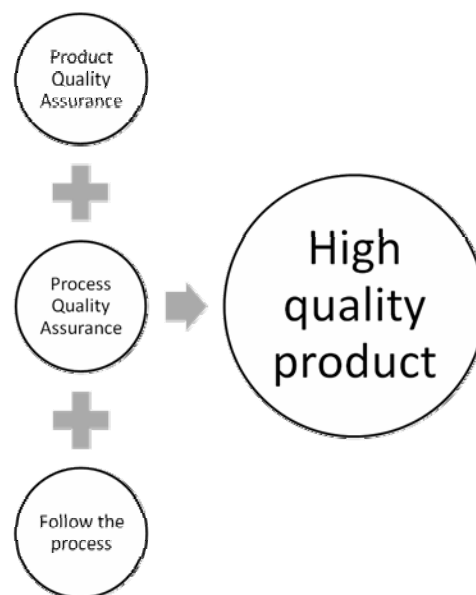


Figure 2. Ensuring quality in the development process

the application facilitates the updating process as the team members work in parallel on the modules leading to striking fast updates.

Software reengineering assumes the redefining of the application's objective so that it leads to increases of quality and performance, but the new objective is not totally different from the original one. The reengineering process takes place when the maintenance costs are very high or when the application can't solve a big part of users' requirements. Software reengineering affects all the components or only a part of them.

Removal from use is a rare process as many applications don't pass the maintenance and reengineering processes. Removal from usage is caused by the disappearance of the problem, very high maintenance costs, big difference between the features of the application and the users' requirements.

Figure 2 highlights the process of ensuring the quality of the development cycle of the software products.

Computer assisted development is very important for the software development companies. The software products for assisted development ensure automated reporting of actions and states leading to the creation of a central repository with all the situations that appeared during the projects the company carried on. The use of the central repository in solving the new situations, similar to the anterior ones, leads to the reduction of time for finding solutions. There are many informatics solutions for the automated management of the central information repository. A very important category of events for the developers is the central defect repository and their management. For very large projects the use of dedicated software for the management of defects is needed. Instruments like IBM ClearQuest or Bugzilla realize the automated management of defects. These go through different stages that represent the progress they have in the fixing process. These automated systems realize important time reductions as the testing process is one of the longest in the development cycle of applications. The defects can be reported many times, but using an automated system this thing is immediately detected and the defect is solved. In cases of similar defects the software highlights this thing and the already found solutions can be adapted to the new problem. Also, on the basis of this data repository simulations are made to forecast costs, risks, durations with immediate application in the company's new projects.

4. Quality characteristics system

For the citizen oriented applications the quality is an aggregated indicator of certain characteristics. The considered characteristics for the measurement of the quality depend on the correlation with the satisfaction of the final users.

There are characteristics that don't influence in a significant way the user experience.

Taking into account that the citizen oriented informatics applications mean resource allocation and work independent on owner and developer, these must have the quality characteristics from Figure 3 (Wu, 2009, pp. 1328-1332).

The quality level reflects the measure in which these characteristics fulfill the users' requirements (Grigoroudis et al., 2008, pp. 1346-1357).

To get these characteristics to high levels, ensuring by this a high quality level, it is necessary to allocate resources. As the maximization of all characteristics leads to very high costs, usually, the minimum quality level of informatics applications is ensured through different levels of the aggregated characteristics.

For users the quality of the application must reach certain minimum levels. These minimum levels are also applicable for each characteristic. If the quality levels of characteristics don't reach the minimum values or the aggregated value doesn't reach its minimum value, then the users find different applications that fulfill the quality characteristics to solve their problems.

Quality characteristics
<ul style="list-style-type: none"> • Correctness • Completeness • Reliability • Maintainability • Selfconfiguring • Friendly • Flexible • Memorability • Portability • Precision

Figure 3. *Quality characteristics system*

5. Quality metrics

To be able to make a hierarchy for citizen oriented informatics applications it is necessary to define some indicators that measure the quality characteristics (Ivan et al., 2008).

The indicators have three properties (Pakes, 2008, pp. 463-470):

- sensitivity;
- non catastrophic;
- non compensatory.

The estimation of the quality characteristics levels by using indicators is very important because it enables a comparison between applications and sets an evaluation system for these (Ivan et al., 2008). The calculus of the quality indicators during the development of the informatics applications reveals the deficiencies and allows their fixing with low costs. The citizen oriented informatics applications ensure automated data recording regarding the users' behavior. The information are recorded at preset time intervals or at the moment the users access nodes of the tree structure of application. On the basis of these data indicators regarding problem solving duration are calculated.

The medium duration for solving the step i from the problem is given by the formula:

$$TMS_i = \frac{\sum_j^n t_{ij}}{n}$$

where:

- TMS_i - medium duration for solving step i ;
- t_{ij} - solving time for step i by user j ;
- n - total number of recorded users.

The indicator is important as it reveals which are the steps in the solving cycle that the users find hard to use.

For the citizen oriented informatics applications there are very important issues regarding:

- initial data characteristics; data correctness is a very important aspect and a module for validating the input data must be implemented by the application thus ensuring the correctness of the processing results; data completeness is also a very important characteristic; the correctness and completeness indicators are given by the formulas:

$$I_{cr} = \frac{NDEC}{NDET}$$

$$I_{cm} = \frac{NDEF}{NDEN}$$

where:

- $NDEC$ - the number of correct elementary data;
- $NDET$ - the total number of elementary data;
- $NDEF$ - the number of given elementary data;
- $NDEN$ - the number of necessary elementary data.

Taking into consideration that both the correctness and completeness of input data are of the same importance, the aggregated quality indicator for the input data is given by the formula:

$$I_{ACDI} = \frac{I_{cr} + I_{cm}}{2}$$

The closer the indicator value is to 1, the higher the input data quality is.

- characteristics of software applications; these are quantified by defining indicators regarding the correctness, completeness, reliability and portability.

The correctness indicator for applications is given by the formula:

$$I_{CRA} = \frac{NRCC}{NRTC} \times 100$$

where:

- NRCC – the number of cases for which the application returned the correct results for the test datasets;
- NRTC – the total number of test datasets used for the testing of the application.

The obtained indicator is given as a percent value; any application for which the value of the indicator is less than 100% must be rejected; the correctness degree of the citizen oriented informatics applications must be 100%.

The completeness indicator for applications is given by the formula:

$$I_{CMA} = \frac{NRSI}{NRSP} \times 100$$

where:

- NRSI – the number of processing situations solved by the application;
- NRSP – the total number of possible processing situations.

As in the case of the correctness indicator, citizen oriented informatics applications must be characterized by a degree of completeness of 100%; it is unacceptable that a citizen oriented informatics application doesn't implement all the processing situations the users can meet with.

The reliability indicator is defined by the formula:

$$I_{FA} = (1 - \frac{NCD}{NTC}) \times PMO - PEO$$

where:

- NCD – the number of defect computers in the network the application runs in;
- NTC – the total number of computers from the network the application runs in;

- PMO – the maximum performance obtained in the conditions when NCD=0; it can be measured as necessary time for a processing unit or as number of processing units made in a time unit;
- PEO – the effective performance for the considered NCD.

The indicator expresses the additional time or processing losses caused by the defection of a number of computers in the network; the closer to 0 the value of the indicator is, the more reliable the application is being less sensitive to the defection of the computers from the network;

The portability indicator is given by the formula:

$$I_{PA} = \frac{NPR}{NPC}$$

where:

- NPR – the number of platforms the application runs on;
- NPC – the number of platforms considered for the calculus of the indicator; to calculate a relevant indicator, the number of the considered platforms must cover over 98% of the target group.

If the value of the indicator is in the interval [0.78; 0.92] the covering degree of the platforms is good and the application is good. If the value is found in the interval [0.92;1] the covering degree is very high and the application is very good. For values that are not in these intervals the covering degree of the platforms is low and the application must be developed further to run on more platforms.

Let us consider the set $P=\{Windows, Linux, Solaris, BeOS, Mac OS\}$ made up by the platforms that cover more than 98% of the users' computing platforms. For the citizen oriented application for the analysis of the structured entities available online at the address www.vintilabogdan.ro the portability indicator is calculated on the basis of the data from Table 1.

Table 1

Platforms supported by the application for the analysis of the structured entities

Platform	Windows	Linux	Solaris	BeOS	Mac OS
Support	x	x	x	x	x

The value of the indicator is:

$$I_{PA} = \frac{NPR}{NPC} = \frac{5}{5} = 1$$

The value of 1 of the portability indicator shows that the application can be accessed by all users regardless the platform they use. The maximum value of the indicator allows no improvements for the application. If its value were lower than 0.78, the application should have been improved in order to support new platforms that increase the degree of user platform coverage.

- characteristics of the results defined through completeness, clarity and precision; for each of these characteristics quantifying indicators are defined;
- citizens' characteristics; the belonging of the users to the target group and the degree of satisfaction of the users are two of the most important characteristics.

The set of risks $R = \{r_1, r_2, \dots, r_n\}$ is considered. Each risk from the R set has associated a probability of occurrence. The probabilities are defined in set $P = \{p_1, p_2, \dots, p_n\}$. Also, each risk has associated a cost from the set of costs $C = \{c_1, c_2, \dots, c_n\}$. In this context the priority of solving the risks is given by the formula:

$$RS = \min_{i=1,n} \left(\frac{p_i}{c_i} \right)$$

where:

- RS - the risk selected for solving from the existent set of risks;
- p_i - the occurrence probability of the risk i ;
- c_i - the solving cost of the risk i .

To be able to create hierarchies and comparisons between the citizen oriented informatics applications it is necessary to use an aggregated indicator at the level of the informatics application that aggregates the other aggregated indicators. This indicator must reflect the importance degree of each partial indicator. For this, the aggregated indicator uses weights.

6. Ways of increasing the quality of the citizen oriented applications

The increasing of the quality level of the citizen oriented applications is made through the close analysis of the applications in current use, the identifying of defects and their fixing, fulfilling additional users' requirements, integration of modern technologies.

Although the citizen oriented informatics applications don't have as prerequisite the users' previous training, their experience with the application is greatly improved by it. Users' training for the use of the application must be logical, general and easy. The training process must be interactive and ensure the setting of elementary knowledge regarding the use of the application. Through the training process the users get new abilities (Krause et al., 2009, pp. 158-170).

The modern software development techniques are high performance instruments that shorten the time needed for developing an application and increase its quality level. Experienced developers benefit at the maximum of the possibility to use these instruments. Also, their use increase the value of the development team members.

To ensure the correct functioning of the informatics application, it is necessary that it is tested a long time to identify and fix the defects (Cai et al., 2008, pp. 1406-1429). Automated testing uses databases with datasets that are automated checked against the application and thus there are covered all the paths of the application with many test values (Cai et al., 2008, pp. 1558-1597).

The audit process assumes the testing of the application by an external to the company entity and the responsibility transfer from the developer to the auditor. If the application passes the audit process, the auditor takes on himself the responsibility for the errors that are discovered in the use of the application by users. In the case of the citizen oriented applications it is very important to do the audit process. In the opposite case, the developers make a low quality application that is patched after it has been used by users and problems were discovered. The audit process eliminates this approach and at the same time the risk of having an application that doesn't work correctly or doesn't fulfill the users' requirements.

7. Quality optimization for the citizen oriented applications

The optimization is the process of increasing the level of an entity in report with a considered criterion (Rosso, 2008, pp. 1-19). For the citizen oriented informatics applications many criteria for optimization are taken into consideration:

- cost; cost optimization assumes reaching a minimum quality level with the lowest costs;
- functionality; functionality optimization assumes offering as many functionalities as possible;
- performance; the optimizing of performance assumes the minimizing of necessary time for the application to make the processing and return

- results; performance optimization usually assumes the increase of resource consumption;
- interface; optimizing the interface assumes the inclusion of the important elements and the elimination of the ones with low importance;
 - database; databases must be built so that the access is as rapid as possible; using domain specialized databases increases the speed of data access;
 - the user path; represents the number of selections that the user must realize in order to finalize its problem;
 - users' satisfaction is represented by the degree in which the users feels satisfied after using the application to solve his problem.

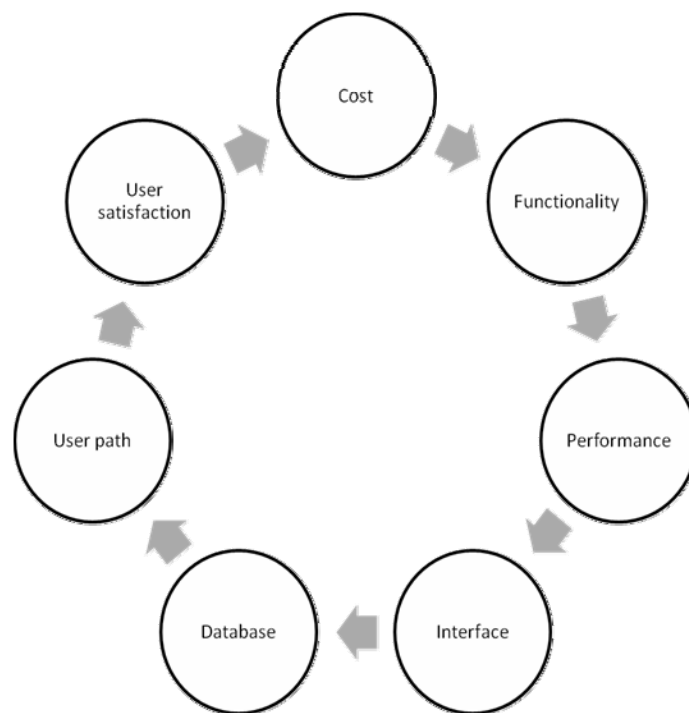


Figure 4. *Optimization criteria*

Informatics applications are optimized in report to many criteria simultaneously (Barreto et al., 2008, pp. 3073-3089). The applications optimized in report to a single criterion are not as successful as the ones optimized in report to many as the high quality regarding a criterion don't pay for the low quality of the others.

8. Security requirements for the citizen oriented applications

Citizen oriented informatics applications differ from the other informatics applications, determining a series of particularities because (Mellado et al., 2008, pp. 361-371):

- the applications are freely accessed because there are no more geographical borders and the users must be able to access the applications anytime without additional costs;
- the complexity of the citizen oriented applications is very high as these are distributed applications and their development overwhelms the classic approach;
- the users are many and diverse because the citizen oriented informatics applications reach their aim only if they are used by many persons;
- the processing fluxes are saturated given the large number of users and the complexity of the applications;
- the security level is uniform for all the branches of the tree associated to the application and there are no security breaches;
- the management of the database and the files of the application is made through procedures that exclude processing incidents.

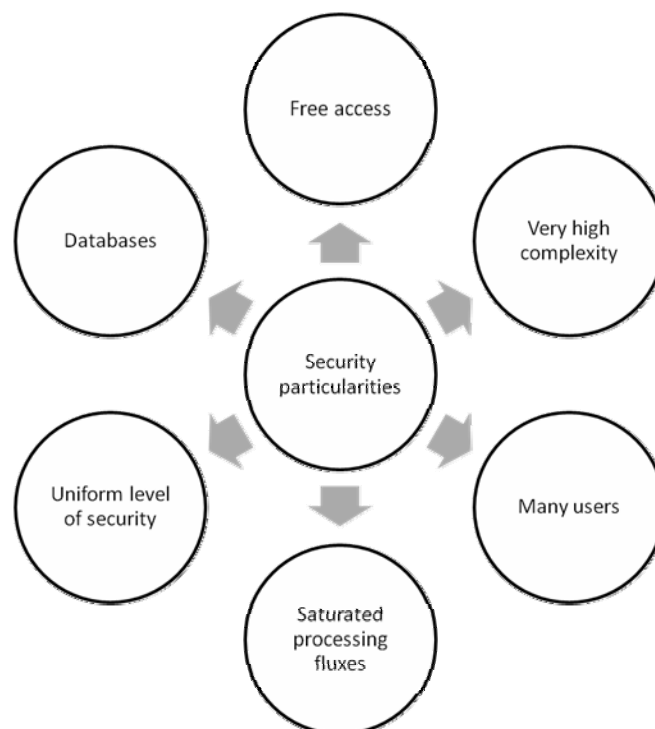


Figure 5. *Security particularities for citizen oriented informatics applications*

The security of the application is tightly connected with its quality. The quality characteristics are those that influence in a decisive way the security. The most important quality characteristics from the security's point of view are:

- reliability;
- maintainability;
- portability;
- integration.

If for classic applications these properties are not very important, for the citizen oriented informatics applications these have a special importance.

To ensure security, during the development cycle, for each component a special step is made. During this step the implementation of security techniques and technologies that are suitable for the considered component is made (Wolter et al., 2009, pp. 211-223).

The increase in security is made through:

- inserting components that eliminate vulnerabilities;
- inserting authentications; is made to give rights only to the users that prove they are part of the system;
- data restrictions are used to protect the data the application works with from the bad intended users and from the users without access rights;
- updates only by adding information are made to protect the data from the attacks made by system's users;
- developing software components that cover better the vulnerabilities through the training of the developers and awareness of the most frequent risks.

Increasing the security of the applications above a certain level is justified only if the costs implied by its lack are higher than the costs for implementation. Figure 5 highlights the main security particularities of the citizen oriented informatics applications.

9. The effects of the quality management of the citizen oriented applications

Considering the very high complexity of the citizen oriented applications, these have long development duration. The very high quality that these applications must possess increases the time necessary for the development. The project management must ensure the citizen orientation through the realization of adequate interfaces, complete testing, the study of the target group. For the calculus of the necessary resources for the implementation of the application are realized activity and resources lists. It is then realized the matrix activities-resources in which, for each activity, are marked the implied resources. The table activities-activities shows their precedence. In the case in

which there are activities that don't depend on others, these are made in parallel to save time. The matrix activities-persons shows which are the persons implied in each activity. The matrix persons-resources shows which are the resources needed by the persons. The calculus of the costs is made using many consumption possibilities: minimum, medium and maximum. Many version of developing the project are made: the realistic version, the optimistic version and the pessimistic version.

The management of the risks that appear in the process of implementation assumes the identification of the risks and countermeasures that must be taken to ensure a high level of quality (Söderholm, 2008, pp. 80-86). For each stage of the development cycle the risks are identified and measures of counteraction to eliminate them are found.

The quality-cost correlation is made by considering a project database. For these quality characteristics are identified. The level of the characteristics is analyzed correlated with the cost level and also the correlations of the variations. A statistical analysis is made to determine the correlation between each quality characteristic and the cost level.

The audit of the project management of the citizen oriented informatics applications is imposed by its high complexity and the implied costs. By doing the audit process the quality of the project management process is ensured.

To contribute to even better results in the future, the project of the citizen oriented informatics application is included in the project database (Thomas, Mengel, 2008, pp. 304-315). This thing is made in time from the starting of the project to document all the elements regarding its ongoing. Elements regarding the quality and complexity are analyzed. For these are calculated indicators that are insert in the project database.

10. Software structure for assisting the process of developing the structured entities

Structured entities are those that have a fixed structure defined by internal building rules (Ivan et al., 2009a). These can have a variable number of components, but only if they respect the base structure. The entities are verified using a series of rules and indicators that measure the degree in which the entities respect the rules are calculated. According to the information from Figure 6 the messages given to the users are:

- localized; localization allows users from different geographical locations to access the application and the messages they receive are in their own language;
- clear; the messages indicate the mature of the problem that appeared so that the users know what they must do to improve the situation;

- concise; shows the location of the problem that appeared and indicates ways of improving quality to the users;
- give suggestions on modifications to be made on the analyzed entity to satisfy the quality requirements.

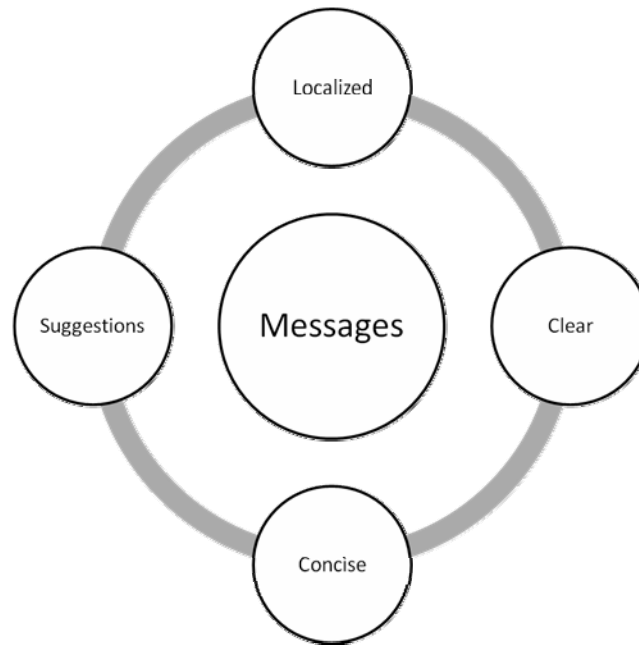


Figure 6. *Messages characteristics*

It is also offered the possibility of saving the messages and entities. The application implements a mechanism for data collection regarding users' behavior measuring durations, frequencies, actions. On the basis of the collected data improvements are permanently made to the application consisting in restructures, completing functionalities, completing incomplete modules, modifying or adding messages.

The application uses the class structured entity that stores the user's entity and ensures all the methods and functions necessary for the analysis. The graphical interface of the application allows the transfer of data between the user and the structured entity class. Also, after analyzing the input data, the structured entity class gives the user messages through the graphical interface. The application gives a score from 0 to 10. The score is obtained after the analysis of the following factors:

- the lexical density is defined as a report between the number of different words and the total number of words; the lexical density has

average values in the interval $[0.4, 0.6]$; for a value greater than 0.5, the application gives the maximum score for this component; for smaller values, the score is weighted;

- the number of citation in the text reported to the size of the text is also a very important component; the application gives the maximum score only if all the entities from the bibliography are cited in the text; in the contrary case, the score is weighted with the number of cited works;
- the relevance of the keywords reported to the text of the entity is also analyzed; the keywords are the ones synthesizing the essence of the entity and thus, these must be relevant for it;
- the correctness of the entity is determined through the comparison of the entity's words with the standard dictionary of the language it is written in; as the entities can have elements defined by the users, a degree higher or equal to 80% is accepted for the maximum score; if the correctness level is in the interval $[0.5, 0.8]$ the application gives a weighted score; if the correctness of the entity is lower than 0.5, the application gives the score 0 as the entity is not correct;

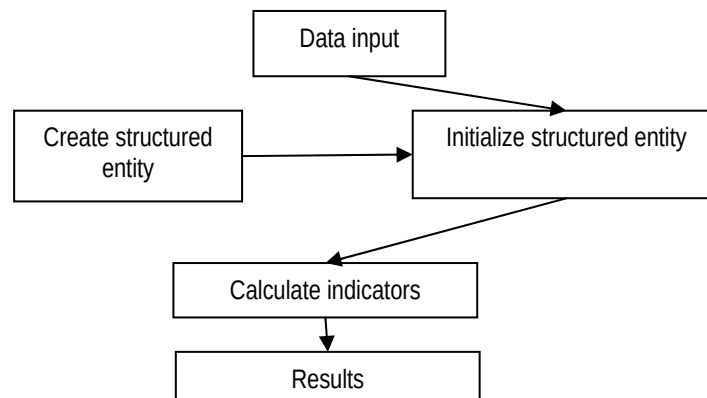


Figure 7. *The functioning of the application for the analysis of structured entities*

- the number of references reported to the length of the entity is very important to ensure that the author documented for its realization;
- the equality of the chapters is also a measure used by the application to ensure a unitary entity with parts relatively equal; for this it is used the medium value of the size of chapters from which these can derive with a predefined value;
- the figure and table citations indicate their necessity in the entity; if a figure or table is not cited in text, this means it is not necessary and it

can be eliminated; the application measures the degree in which the figures and tables are cited in text.

The score accorded to the entity is obtained as a weighted average of the influence factors. According to its importance, each factor has a greater or lower contribution to the final score. Figure 7 highlights the information flux and processing done by the application for the analysis of the structured entities.

The data processing durations are very important for the users. As the bandwidth is variable from user to user and the developer can't influence this aspect it is very important that the time necessary for the application to process data and show results to be very short. For the application for the analysis of the structured entities, available online, the durations necessary for different analysis are given in Table 2. All durations are given in milliseconds.

Table 2

Processing durations for the application for the analysis of structured entities

	Final indicator	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5
Minim	42	20	2	5	9	6
Maxim	105	68	7	9	12	9
Medium	55.7	28	3.4	6.8	10.5	7

The processing durations are automatically recorded by the application for the analysis of structured entities. The five considered indicators take part in the calculus of the final indicator. For the indicators the situations in which these can't be computed because of the data input or the logic of the algorithm are ignored. Only datasets for which the complete set of indicators can be computed are taken into account. The durations depend greatly on the dimension and complexity of the structured entities the users insert.

It can be observed that the lowest duration necessary for the application to compute the final indicator is 42 milliseconds. This response time from the server component is very small. The maximum time of 105 milliseconds is also unnoticeable for the client. The data are based on the information recorded after the analysis of 255 structured entities. It can be observed that the average duration for the computing of the indicators are low, as the final indicator has an average value of 55.7 milliseconds.

In order to improve even more the durations necessary for the computing of the indicators, it is necessary the optimization of the algorithms or the use of a programming language of higher performance. The improvement of these durations is not necessary unless an analysis of a very large set of entities is required. For a database with millions of records, a difference of a few milliseconds for each record can lead to hours for the whole operation.

Conclusions

In the knowledge based society is made the pass from the classic products and services to innovative products and services. Using knowledge in the process of production of products and services creates a superior level of quality necessary for market competitiveness and satisfying the users' requirements (Ivan et al., 2009b). The citizen oriented informatics applications have new quality characteristics compared to the traditional applications. The citizen oriented applications for the virtual campus have a great importance in the training process. The success of the training program depends decisively on the application that plays the role of a teacher for the users. The business to business and business to consumer are also citizen oriented informatics applications in the context of the market globalization. The citizen orientation is a vital aspect for the applications of e-government and e-voting. Through the implementation of such applications permanent cost reductions are made and also an efficient work flux is obtained. The citizen orientation imposes changes in the development cycle of the applications (Ivan et al., 2009c). The high level of the quality characteristics, security and the citizen oriented interfaces are obtained through changes at the level of each stage in the development cycle. For the quality quantification there are necessary procedures to measure the levels of the characteristics and indicators that reflect the aggregated quality level. For these, there are defined measurement procedures that ensure the comparability of the results. The indicators are built so that they respect as many indicator properties as possible. As the quality is defined through many factors, it can be improved through these. The training of the users, even though it is not a prerequisite, is very important for using the applications. The increase in users' training leads to an increase of their satisfaction. The modern development techniques have an essential role in the increase of the quality of software products and the decrease of the time necessary for the implementation. The testing is a very important process as it ensures the identification of the logic and functioning defects. The audit process realizes the transfer of responsibility between the auditor and the owner of the audited product. The optimization of applications must be aggregated and realized on report to the most important two or three criteria. The security of the application is given greatly by its general quality. The citizen oriented informatics applications present security particularities compared to the classic applications. The project for the development of a citizen oriented informatics application must be managed by an experienced manager and audited.

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Impact of Public Internal Financial Control on Public Administration in Croatia

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Abstract. *The PIFC /Public Internal Financial Control/ was developed by the European Commission. PIFC is set of principles internal financial controls system established for the purpose of controlling, auditing, supervise on the use of national budget and European Union budget and funds. Also, in order to support candidate countries in their internal control system reforms in the public sector. Therefore, it is expected for the candidate countries to establish and develop the system of internal financial controls according to the concept which was in that field developed by the European Union based on International Standards and the best practice of European countries. Since the year 2003 the Republic of Croatia undertakes intensive activities on the establishment and development of the internal financial control system according with the regulation of European Union. In keeping with the set concept, the Republic of Croatia undertook numerous activities during the past six years to create all the necessary assumptions for the establishment and development of the system, including: the adoption of the initial strategic documents; drafting of laws; the creation of organisational capacities and human resources; and the implementation of the system with budget users at central government and local levels. In this paper we will present phases of implementation PIFC in Croatian Public Sector. Through this phases we will show impact that PIFC has on development of New Public Management in Croatia and changes in organizational structure and human resource that are caused during this process. Also, we will give critical opinion of that process and problems which occur during implementation. In this paper we will present approach in implementation of PIFC in Slovenia and Bosnia and Herzegovina and compare this with implementation in Croatia.*

Keywords: public internal financial control; croatian public sector; reform; international standards.

JEL Code: 13G, 14J.

REL Code: G32.

1. Development of normative and institutional framework of PIFC in the republic of Croatia

Currently, in Croatia, intensive activities in preparation Croatia for the membership in the European Union are something that is most interesting. In that context, requirements for reforms in the public sector are more and more highlighted and expressed. The membership in the EU and requirements that candidate countries have to meet also carries some problems. "The problems that the public sector, in generally, and public administration, in particular encounter, are demography, IT or globalization and *Europeanization*. The *Europeanization* process points toward a variety of attitudes and social-economic and cultural behaviors that interpret, assimilate and use the regulations, best practices and communitarian norms in a different social and temporal context. In parallel or contrastively with the *Europeanization* process, the European integration constitutes a political process of adoption, by the national actors, of the new mechanisms and communitarian norms." (Matei, 2009, p. 72) "In regard to the public administration, the Europeanization may be seen as a two level process: *the European level* that refers to a distinct evolution for each particular governing system, a new set of public structures and processes which interact with those already established for the *Member States* that form the *second level*." (Matei, 2009, p. 74) So for the membership in the EU Croatia has to meet all the requirements of EU Commission and one of very important requirement is implementation of Public Internal Financial Control System in the Croatian public sector.

In the process of enlargement of the EU all candidate countries have to establish and develop their own system of internal financial controls in the public sector (PIFCS – Public Internal Financial Control Systems) and also implement mentioned system in the government units.⁽¹⁾ Adaptation of public internal financial controls system to the European standards, with the purpose of public administration reform and establishing of its administrative capacity, is for every government one of the priority areas in the process of approaching to the EU. The Republic of Croatia has undertaken a series of activities on implementation of PIFC in their public sector.⁽²⁾

In the pre-accession negotiations with the Republic of Croatia, the EU Commission stated that the negotiating chapter 28 Financial control requires significant adjustments to EU requirements. During year 2002, through the project CARDS 2002 "Development of internal financial control in the public sector and internal audit" began the process of introducing PIFC in Croatia. The project CARDS 2004 "Further development and strengthening of the internal financial controls system in the Republic of Croatia" continued the activities of

the previous project, with an emphasis on the development of FMC - Financial Management and Internal Control and the implementation of the PIFC in the local units.

Also, normative framework was amended and several strategic documents were adopted with the aim to organize and sustain the system of internal financial controls in the public sector. Development strategy of PIFC⁽³⁾ was defined and also it was several times redefined and adopted by the Government of the Republic of Croatia. With these strategic documents government of Croatia clearly pointed out importance and significance of the implementation of PIFC in Croatia and has made efforts to integrate the development of PIFC with other reform processes in the public sector in Croatia (Stepic, 2009).

With the Budget law⁽⁴⁾, in the year 2003, the liability of organizing internal audit and existence of the basic elements of financial management and internal controls was prescribed. At the end of 2006 Public Internal Financial Control Act⁽⁵⁾ was adopted in order to encourage greater development of PIFC and to strengthen legislative liability of implementation. Firstly, based on Budget law, and after based of Public Internal Financial Control Act, Croatia drafted the Regulation on internal audit of budgetary users and Regulation on implementation of financial management and control in public sector that helps institutional, organizational and operational implementation of PIFC.⁽⁶⁾

The intention of the overall normative framework is to improve public resources management and head of government units is for that primarily responsible. His primary task is to establish a system of internal financial controls and improve management within its jurisdiction, in his units. Insisting on the responsibility of head of government units leaders clearly defined that implementation of public internal control systems should contribute to improvement of management processes in the public sector.

In that system there are two basic components that are necessary to develop and implement in the public sector (for state and local level).

- financial management and control, and
- internal audit.

Establishment of system of financial management and control is the obligation of all budgetary users, regardless of their size measured by the number of employees and financial resources at their disposal. With this fact it is highlighted intention of the Act that all users of budgetary funds have an obligation to manage budget funds in a proper, ethical, economical, efficient and effective manner, its business must be aligned with the laws, regulations, policies, plans and procedures, protection of property losses caused by poor management, unjustified wear and use, and by irregularities and fraud by

strengthening accountability for the successful realization of the task and the obligation to timely financial reporting and tracking of business results.⁽⁷⁾

The head of government units has been recognized as responsible person for establishment of efficient and effective system of financial management and control. "For the public sector or public administration, effectiveness means, on one hand, to define previously an objective and, on the other hand, to measure (or at least, to estimate) the outcome obtained" (Matei, Dinu, 2009, pp. 3-5). While efficiency represents the main objective of the administrative reform, as well as responsibility and accountability towards the consumers. Head of government units can transfer his responsibilities to other people through all sorts of documents about internal organizations and work methods, but this does not exclude his liability. Namely, it is assumed that the obligations of the head of government are multiple and therefore he will not be allowed to do operational establishment in connection with implementation of financial management and control. So, he has the opportunity to appoint the head manager or coordinator to establish financial management and control. Transferring authority and responsibility for the operational establishment to the manager or coordinator does not exclude the responsibility of the head of government units. It can be concluded that if the head of government do not realize their own responsibility and need for the establishment of this system, and if he do not establish a quality communication with staff that is in charge for establishment (manager, coordinator), and with all other employees, he will not establish an effective system of financial management and control. The procedure of establishment of financial management and control is based on the application of International standards of internal control. Here are highlighted mutually related system components: control environment, risk management, control activities, information and communications, monitoring and assessment of the system.⁽⁸⁾

Establishment of the system of financial management and controls is a process that requires a certain amount of time with a clear introduction of the activities and shared responsibility for the final result. In accordance with the normative framework it is necessary to create a plan of financial management and control, and in this way determine the time and the human component in the execution of this task. The plan will indicate the deadlines within the system will be established, that is the deadlines within business processes of budget users will be listed, and then the business processes will be described with the use of flowchart diagram. Consequently, a map of the process will be formed and then will start with the identification of risks, which means the evaluation and ranking of risks with the purpose of managing those risks. Furthermore, internal controls will be estimated, existing and required controls will be

analyzed, and plans for the removing weaknesses of internal controls will be created and the period of monitoring of these plans will be determined.

In the establishing of internal audit, the following areas are highlighted:

- role and purpose of internal audit,
- way of establishment an internal audit,
- conditions for making internal audit – internal audit as a profession,
- way of achieving the independence of internal auditor or internal audit unit,
- standards and methodology of work internal auditor, and
- obligations of head of unit and cooperation with other bodies.

In accordance with the widely recognized role of internal auditor, it is defined the scope of internal audit in the public sector in the Republic of Croatia.

Internal audit⁽⁹⁾ a) is a part of comprehensive system of internal financial control in public sector, b) is an independent and objective activity that gives expert opinion and advices with the aim of adding value and improving budget users operating, c) helps budget user in achieving the goals using a systematic and disciplined approach of evaluation and improving the efficiency of the process of risk management, control and management.

Internal audit are obliged to carry out the budget users defined according to the following criteria:

- size, if they employ more than 100 employees (on the state level) or 50 employees (on the local level) and have annual expenditure and expenses more than 30 millions of Croatian kuna,
- and other criteria (local government units that have centralized functions) and
- all who are using the European union funds.⁽¹⁰⁾

The independence of internal audit unit and independence of internal auditors are prescribed as one of the essential conditions for performance their duties.

According to law it is prescribed that internal audit which is conducted in accordance with:

- a) International Internal Auditing Standards, and
- b) directives and guidelines that regulate the internal audit in Croatia.

The detailed guidelines that govern internal audit are: The Charter of Internal Auditor, Code of Professional Ethic of Internal Auditors and The Manual for Internal Auditors, which are made by central harmonized unit and which are authorised by Minister of Finance.

Ministry of Finance is responsible for coordination of establishment and development of this system. Directorate for harmonization internal audit and

financial control is responsible for implementation of coordination. This Directorate has changed its constitution and has adjusted it to the further development of the system of internal financial controls. Emphasis of the new constitution from 2009 year is placed on developing methodologies and standards of internal audit and control, on the coordination of education and quality assessment, as well as international cooperation, primarily with partners in the European Union.⁽¹¹⁾

Understanding the importance of education employees in the state administration with the needs and obligation of constitution of the internal control in public sector seminars, workshops and lectures are organised. There are also prepared manuals and instructions that provide the adoption of a common methodology of work and reporting those persons who are involved in the system of financial management and control and internal audit. Certification of internal auditors is conducted.⁽¹²⁾

2. Progress in implementation and future directions of development of PIFC

A short study will be presented for the purpose of understanding how PIFC develop in Croatia. That study is conducted at the beginning of the introduction of PIFC.

During the year 2005, empirical research has been conducted on a sample of 101 budget users through a questionnaire⁽¹³⁾, which was aimed to investigate the presence, organization and functioning of the internal and external control in the public sector in Croatia.⁽¹⁴⁾ Below are summaries of survey results presented in the part of analysis of internal control systems for budget users.

The part of mentioned research dealt with the issues of understanding the importance and function of internal controls. In the questionnaire there was a question about understanding what the internal controls are (definition). From the given results it can be concluded that the respondents are not fully familiar with the contents of internal controls and that there is no complete understanding of the differences between various forms of supervision, particularly between internal controls and internal audit.⁽¹⁵⁾ This conclusion suggests the need to educate employees to understand the importance and function of internal controls, particularly the role of all employees in that process.

It turned out that in development of comprehensive system of internal financial control emphasis was placed on the development of internal audit and that internal control systems development was neglected. Internal auditors receive task (by the standards of internal controls and rules of the profession) to evaluate internal control, but budget users have not defined them. The fact is that the project CARDS 2002 "Development of PIFC and Internal Audit" was

primarily aimed to develop internal audit. CARDS 2004 "Further development and strengthening of internal financial controls in the Republic of Croatia" continued activities of the previous project with greater emphasis on the development of financial management and internal control. This has helped to solve misunderstanding about who is responsible for establishment of internal control systems and on what way it is needed to establish implementation of internal controls system.

Also, empirical research dealt with the question of the extent to which the control environment is "ripe" and ready to establish internal controls system. In the part of the willingness to accept the internal control system, research results indicates the need for precise delimitation of authority and responsibilities, and delegating responsibility to lower levels in order to create preconditions for the establishment and survival of internal controls system. In doing so, it is equally important to change management philosophy and styles and to educate all employees to understand what internal controls really are. Only on that way it is possible to establish the internal control system by budget users.

In choosing answers about what is considered to be the main reason for the absence or no implementation of internal control procedures here are presented most frequent reasons:

- The employees do not have the knowledge and skills for the implementation of internal controls.
- Lack of documented and regulated control procedures for each individuals at all levels and in all parts of the organization.
- Lack of supervision on the work of head of government units and lack of accountability for the head of government units for the introduction of internal controls.
- Lack of documented demarcation of authorities and responsibilities between employees.
- Lack of understanding of internal control procedures.
- Inadequate organizational structure and unclear internal communication.
- Inappropriate requirements of head of government units for professional competence of employees.

The study confirmed the existence of some form of control and partial control in some parts of process or in the whole process.

In response to question about areas that have developed some form of control by the frequency response, here is presented following scale of positive responses:

- Control of non-cash and cash business transactions (72.53% of respondents).

- Payroll accounting (70.33% of respondents).
- Procurement, ordering and payment of invoices (61.54% of respondents).
- Control of the accounting system and accounting reports (54.95% of respondents).
- Document management (21.99% of respondents).
- Control of the acquisition and disposition of capital assets and stocks (15.38% respondents).
- A small share in responses has information technology control (6.59%) and portfolio management (2.19%).

According to the mentioned areas in which the control methods are present, it is obvious that the control is significantly developed in some areas. Most of them are based on inherited (traditionally) controls and on the obligations to control that are imposed by certain laws and regulations.

In most cases existing control system is not established taking into account the goals that the organization wants to achieve. Existing controls are mostly “inherited” and are not systematically set up, and mainly relate to the control of legality and regularity, and almost no one on the control on the economy, efficiency and effectiveness.

Empirical research has shown that the main barriers in the implementation would be the control environment and insufficient educated and motivated employees, especially management structure. Above was confirmed during the implementation.

“It is notable that the established internal financial control systems are still not fully integrated into existing management processes, and often represent *supplement* to existing management processes.”(Stepič, 2009) Therefore, the strategy emphasized the need of cooperation and communication between internal auditors and management structure with the aim of using auditor findings and to be truly added value. Avoidance of parallelism in terms of parallel structure of governance and oversight is not fully successful. Parallelism is noted in the existence of two internal control systems: the national funds and the European Union funds. Procedures to withdraw funds from the pre-accession EU funds, based on clear legal regulations, impose the development elements of management controls. Knowledge and experience gained for the management of EU pre-accession funds is not integrated and used for the management of national (budgetary) resources.

Wider control environment is important for the development of internal control systems in public sector. Control environment should encourage, but not restrict the development of internal control system, and it includes: a strong and central responsibility of the Ministry of Finance for financial transactions,

uniform accounting standards and clear and transparent reporting, defined responsibilities and competence of employees, a strong state audit and other forms of external oversight.⁽¹⁶⁾ In the Republic of Croatia was initiated a series of reform processes in these areas, especially in the budget area that is an assumption of an effective internal control system.⁽¹⁷⁾ It is important to strengthen financial management and control processes that are crucial for the quality management of budget funds. Budgetary reforms are going in the direction of strategic planning and development of planned and programming stages of the budget cycle. Also, they put on greater emphasis on achieving goals and achieved results for the invested budget funds. Emphases in the spending of budget funds by using program planning are on the defining of program objectives and performance indicators, which requires the development of accounting framework in the area of cost accounting and management accounting. Strengthening the internal control system in the processes of planning and programming, execution, accounting and reporting is the backbone of development and guarantee the successful implementation of internal financial control system.

Broadly set out concept that is aimed at the all business processes showed difficulties in the application and is deciding to focus on the basic budgetary processes as the most important area of control. For these processes, particularly in terms of budget execution through treasury system, there are standardized and regulated procedures, which assume that perform on the same way by all users. "Towards to achieve more efficient use of limited audit resources and the fact that some equivalent processes taking place in more or almost by all budget users, in the next budget period it will be organized so-called enforcement *horizontal* audit." (Stepić, 2009) Furthermore, it anticipates enforcement of *vertical* audit which include process audit more interrelated budget users. Between those budgetary users, business process is conducting on a way that a part of activities is conducted by one budgetary user and a part of activities of the same process is conducted by another budgetary user. These strategies of work of internal audit are in the direction of better use of existing human resources and accelerating the process in terms of achieving the benefits of the implementation of Public Internal Financial Controls.

From the beginning of establishing internal financial control system, results that were achieved in the field of legal regulations, development of methodologies and standards of work, training staff and the partial establishment by a certain number of budgetary users are obvious. These activities have been successfully fulfilled according to the criteria for reconciliation which were set out in Chapter 32 - Financial Control. According

this chapter, Republic of Croatia performs reconciliation with the European Union in the area of internal financial control system.

While, on the one hand, performance indicators are obvious in meeting the criteria for access, on the other hand, improvements in management of budget funds that result with implementation of this system for budgetary users are not sufficient. Therefore, the development is strategically focusing on the need that internal financial control systems are fully integrated into existing management processes and especially in the budgetary processes.

3. Comparation of approaches in implementation of PIFC in Bosnia and Herzegovina and Slovenia

3.1. Experience of Federation of Bosnia and Herzegovina

Bosnia and Herzegovina is administratively divided into two entities, the Federation of Bosnia and Herzegovina and the Serbian Republic and the District Brčko. Federation of Bosnia and Herzegovina is administratively divided into 10 cantons which are making out from 79 municipalities. The Serbian Republic has 62 municipalities while the District Brčko is a single entity⁽¹⁸⁾. From the previously mentioned administrative structure in Bosnia and Herzegovina it can be shown that it is very complex territorial structure that has high level of autonomy of individual components of Bosnia and Herzegovina. Also, it has high level of fiscal decentralization of public functions and services.

The above-mentioned structure in Bosnia and Herzegovina makes difficult to adjust only one approach in development of PIFC.

The entities have legislative and executive autonomy, which in some matters belongs also to the cantons, and result of that is a different legal framework and regulation of the same area. However, there was series of attempts at harmonization of regulations in the Bosnia and Herzegovina on the legislative level to create the preconditions for legislative and economic integration of all territory of Bosnia and Herzegovina and integration into the EU. Below, for the purposes of this paper, we will follow the legislative framework at the level of the Federation of Bosnia and Herzegovina and we will not illustrate the differences between mentioned entities.

Legal framework of public expenditure is based on the Budget law.⁽¹⁹⁾ All levels of government, budgetary and extra-budgetary users are financed from the budget fund. The Budget law introduces the obligation to structure the system of internal controls and internal audit. Budget users are obliged to regulate the system of internal control in accordance with international standards of internal control and by doing so they will ensure the carrying out of activities within the core business. Ministry of Finance makes the

instructions for setting up and maintaining systems of internal control. Budget users are obliged to adopt regulations on internal controls. Also, liability for setting internal audit is prescribed.

During the year 2008, the next step is done and the Law on Internal Audit in the public sector in the Federation of Bosnia and Herzegovina is adopted. This act provides normative framework for the development of internal auditing in the public sector. The establishment of the Central Harmonization Unit was defined with the aim to coordinate and supervise the functioning of the internal audit and as a strategic and methodological help to develop the profession. Central Harmonization Unit has an obligation to implement training programs and certification of internal auditors. Before the establishment of normative framework, there was a certification of the internal auditors through the Institute of internal auditor (professional association of internal auditors). It follows that the need for the development of internal financial controls has recognized profession, which in this sense inform, educate and adopt international standards in this area before this became a legal obligation.

It can be concluded that the emphasis is placed on development of internal audit, which has developed certification and normative framework. However, realization of the necessity of implementation of internal financial control must reach public management in order that this process is indeed successful. There is justified fear that the system of internal control is not recognized as an important management concept that is necessary for the improvement of the budgetary process.

3.2. Implementation of PIFC in Slovenia

Republic of Slovenia is from the 1st May of year 2004 member of the European Union, but before Slovenia joined to the EU it had to implement public internal financial control system in the government units. The process of implementation of PIFC in Slovenia began in September 1999 with the new Public finance law. Slovenia has not adopted a separate law on PIFC as it is the case in Croatia, because PIFC was implemented within the Public finance law. According to the Amendments on the Public finance law from year 2002, the public internal financial control system in Slovenia was updated in a way that strengthened the role of the central body for the development of methodology and coordination of financial management and control.

The public internal financial control covers on a unified system based management, controls and internal auditing, provided by direct and indirect spending centre, with the purpose to manage its operations and ensure achieving of objectives in accordance with the principles of legality, expedience

and transparency. Internal controls cover the system of procedures and methods for management of risks, which might threaten:⁽²⁰⁾

- achieving of set business objectives;
- transparency of operations in accordance with laws, regulations and managerial instructions;
- economic, efficient and effective use of resources;
- safeguarding of resources from losses resulting from negligence, misuse, inefficient management, errors and fraud;
- accurate, complete and reliable reporting.

So in Slovenia, internal auditing is an independent, objective assurance and consulting activity designed to improve the budget spending centre's activities. Internal auditing helps the budget spending centre accomplish its objectives by bringing a systematic and disciplined approach to improve the effectiveness of risk management, internal controls and governance processes. Currently, in Slovenia, there are about 360 state internal auditors, while in Croatia there are around 220 state internal auditors. It can be concluded that Croatia should follow Slovenia as an example in implementation of PIFCS in their government units.

Also in Slovenia, the Budget Supervision Office is a central body of the public internal financial control system responsible for development, harmonization and supervision of the financial management and internal control system as well as internal audit of direct and indirect budget spending centers on the central and local level.⁽²¹⁾ Therefore, the Budget Supervision Office has taken the role of the Central Harmonization Unit.

In the field of spending of the EU funds the Budget Supervision Office performs pre-accreditation reviews, independent control of expenditures, certifies declarations of expenditures and issues winding-up declarations. It regularly reports to the European Commission on irregularities regarding the use of EU funds, acts as the contact point of the European Anti-Fraud Office (OLAF) and coordinates activities referring to the protection of EU financial interests.

Conclusion

In recent years, Croatia is intensively preparing for accession to the European Union, and therefore is taking a series of activities to comply with the requirements of the European Commission. Also, one of these activities is establishment and development of PIFC, which implies a reform of public administration and its administrative capacity. For this activity Croatia has 6 to 8 years, but normally this process last 15 to 20 years and from this it can be concluded that this demands extreme effort to develop PIFC in such sort period.

Until today, Croatia has done very much according with requirements of the EU. Development Strategy of PIFC was several times defined, also Public Internal Financial Control Act was adopted in order to strengthen the legal obligations of implementation.

Empirical research in the year 2005 about functioning of external and internal controls in Croatia has shown that public administration is not familiar with the contents of internal controls and internal audit and that public administration does not have appropriate knowledge and skills for implementation of internal controls in the government units.

Strategy of Development Public Internal Financial Controls⁽²²⁾ adopted in 2009 years is based on the fact that in the period up to year 2009 a normative framework and created organizational capacity is established and that future development should focus on strengthening the role of internal controls in management processes and a stronger connection with other reform processes.

Experience of our neighbors is useful source of information that can help Croatia to accelerate its path towards the European Union. This primarily refers to the Republic of Slovenia, which has successfully done public administration reform and has implemented PIFC in the public sector of Slovenia. While Bosnia and Herzegovina could learn from the experience of Croatia how to improve its potential for negotiations on the future membership in the European Union.

Notes

- (1) Analyzes of internal and external control systems in the EU member states and candidate countries for membership in the EU has led to the conclusion that there are present large differences in the methods, organization and procedures of implementation of control. The fact is that the control system of one country may not be applicable or equally successful in other countries. Based on these insights, the European Commission formed opinion that the area of financial control, in order to more clear and comprehensive definition of the term internal control in the public sector and with a desire to avoid mistakes and misunderstandings including the coverage of this term, uses the term PIFCS (internal public financial control systems) - system of internal financial control in the public sector. To avoid terminological confusion term PIFCS should be understood as a coherent and unified system of control which content includes internal audit and internal control, i.e. FMC - financial management and internal control. The above mentioned term has first of all the aim to define systems, processes and methods, and not the institutions that carry out internal control or the organization itself and ways of implementation.

- (2) Knowledge about theoretical framework and consequently the distinction between the terms internal audit and internal controls that was partially implement into normative framework of the development of PIFC in Croatia distinguishes the following basic components: financial management and internal control (FMC - Financial Management Control) and internal audit. Defining terms of internal control and internal audit, the question linked with demarcation between them and the content differences appear. A problem of demarcation scope of internal control and internal audit in the public sector in some way is minimized, and emphasis is put on the overall control through the definition of PIFCS – public internal financial control system.
- (3) Development strategy of internal financial control (PIFC - Public Internal Financial Control) in the Republic of Croatia was adopted at the session of the Government on 15 June 2005. This is an enhanced version of the document which was first adopted at the government session on 2 September 2004. Third strategy for development of internal financial controls in the public sector was adopted on 22 September 2009 www.mfin.hr/adminmax/docs/PIFC_Strategija_konacno-15092009.pdf
In November 2007, for the local level was made the strategy of an independent development of internal financial control in the public sector for the Croatian local and regional (regional) government, which refers to the period 2007-2010
- (4) See Official Gazette (2003) Budget law. Zagreb.
- (5) See Official Gazette (2006) Public Internal Financial Control Act. Zagreb.
- (6) In the year 2004, for the first time on the basis of the Budget law the Regulation on internal audit of budget users (Official Gazette 114/04) was passed and it was amended and supplemented in the year 2005 by Regulation on internal audit of budget users (Official Gazette 150/05). On the basis of the Public Internal Financial Control Act the regulation on the internal audit of budget users (Official Gazette 35/08) was adopted and also Regulation on the implementation of financial management and control in the public sector (Official Gazette 35/08).
- (7) According to the Article 6 of the Act, see Official Gazette (2006). Public Internal Financial Control Act. Zagreb. Official Gazette, 141
- (8) As a framework for the development of financial controls, in the Public Internal Financial Control Act, are determined the International Internal Control Standards. All activities related to financial management and controls are established in accordance with the COSO model, which was adopted by the Committee of Sponsoring Organizations of the Treadway Commission. According to the COSO framework, internal control consists of five mutually related components that are implemented and explained through articles/provisions 9. to 14. of the Public Internal Financial Control Act.
- (9) According to Article 16, The Law on system of Internal Financial Controls in Public Sector, Official Gazete, No. 141/2006.
- (10) According to the Regulation on the internal audit of budget users, Official Gazete, No. 35/2008.
- (11) Constitution and scope of work is defined by the Regulation on Internal Organization of the Ministry of Finance [www.mfin.hr/hr/zakonodavstvo?id=11&type=zakon].
- (12) Professional authority to conduct an internal audit is issued by the Minister of Finance. Training is conducted at the Ministry of Finance by the Directorate for harmonization internal audit and financial control.
- (13) The survey was conducted during year 2005. The analysis has taken 101 returned and completed survey questionnaire which can be considered from the standpoint of research requires a significant level of data collected. Surveys expressed relative, 58.62% of budget

users financed from the state budget, 36.21% of budget users financed from local budgets, and 5.17% of extra-budgetary users. Most common are the bodies of local government (46.53%), and after that are institutions (27.72%) and government bodies (24%). According to the number of employees that are budget users who have mostly up to 50 employees (62.8% of respondents), after that 50-100 employees has 20.88% of respondents, from 101-200 employees and from 201-500 employees has 6.59% respondents, and finally more than 500 employees has only 3.3% respondents. Annual revenue is with the biggest relative frequency in the range of 1-5 million kuna has 28.89% of respondents, ranging from 5-10 million kuna has 18.89% of respondents, and more than 50 million kuna has 26% of respondents. The total value of the property which has a budget user is correlated with an annual income and the biggest relative frequency is in the range of 1-5 million kuna has 24.39% of respondents, 5-10 million kuna has 15.85% of respondents, 10-20 million kuna has 12.19% of respondents, and more than 50 million kuna has 19.51% of respondents.

- (14) Full results are published in the paper: Vašiček, V. (2006) The scope and organization of internal control in public sector. IX Consulting Internal Audit and Control, Poreč, October 2006. Zagreb: Croatia Board of accountants and financial professionals.
- (15) In defining what internal control are, 34.94% of respondents answered that this is an internal audit department that specializes in testing and evaluation of the totality of the functioning of business processes and provides the opinion for improvement of mentioned process, 10.84% respondents answered that it is the internal control department in which the officers are engaged with control activities, 33.74% of respondents recognized that the internal control are integrated system of control procedures built into the business processes of the organization, while 8.44% of the respondents defined control procedures as only partial controls that are integrated in certain business processes
- (16) According to Allen, R., D. Tommasi (2001) Managing Public Expenditure, A Reference Book for Transition Countries. Paris: OECD, SIGMA Program, p. 263.
- (17) Normative framework of the budgetary system reform is made by the Budget Act of 2003, and continued in Budget Act of 2008. Legal framework introduces more advanced approach to budgetary planning and programming, accounting framework and reporting, budget execution through treasury system, controlled borrowing and successful management of public debt and deficit, etc.
- (18) Source: the Statistics Agency of Bosnia and Herzegovina, www.bhas.ba/new/BiHStats.asp
- (19) Budget Law of the Federation of BiH, Official Gazette FBiH 19/06, amendments 78/08 and 4/09.
In the FBiH, all regulations are published in each of the official languages: Bosnian, Croatian and Serbian.
- (20) See www.unp.gov.si/en/public_internal_financial_control/
- (21) See www.unp.gov.si
- (22) Third serial Strategy for Development Internal Financial Controls in Public Sector was adopted on 22nd of September in 2009. [www.mfin.hr/adminmax/docs/PIFC_Strategija_konacno-15092009.pdf]

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International Trade under Crisis Constraints

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Abstract. *Competitiveness of the world nations is due to the trade liaisons between these nations and proves how the economies manage the present, in the crisis conditions, but merely, their future. The entire world is now under the globalization features and the international trade is the main vector of this wholeness.*

The process of formation of regional economic entities is not opposite to that of globalization process. It is a complementary one. The entire world is already entered in recession, starting with the most developed countries.

Therefore, for all economies, including Romania, the main goal is to discover and to apply the most appropriate measures and policies in order to reduce the decline and to assure, at the same time, the competitiveness of national economic entities. The international trade must go on and create possibilities to a sustainable development of all components of the commercial circuit.

Keywords: international trade; globalization; crisis; competitiveness; knowledge-based economy.

JEL Code: F13, F41, G01.

REL Code: 10D, 10J.

Following the present phenomena and circumstances, the international trade is characterized by a series of highly important processes, such as:

a) The economic competitiveness of countries is ever fluctuating, being influenced almost decisively by the impact of actual crisis' features and by the evolution of the technical progress and by its implementation in the economic and social life.

The technical progress has deepened the international and technological labor division, emphasizing the intra-industrial and intra-product-like specialization, which has differentiated even more the economic development level of the countries.

b) The polarization of the trade exchanges, so that each country, by its geographic position, might have special trade relationships with its neighboring ones, in the first place, due to the existence of certain cultural, historical and political elements. This process is more and more highlighted by the broadening of the economic integration of the economies into economic regions or areas, which has freed the trade barriers.

The result obtained by the European Union has determined the states from various regions worldwide to follow its example (NAFTA in North America), MERCOSUR in Latin America, AFTA in South-East Asia etc.), even if the main objectives of the integration have not been fulfilled.

c) The strengthening of the financial markets involves, at a national level, a more severe control over the capital, acting as constraints upon the decision-makers in the field of trade policies, the errors being sanctioned much more rapidly.

d) The problems concerning the necessity of the environment protection must find their well-determined place within the working out process of the trade and economics policies, protecting thus two major trends:

1. One, of the supporters of the globalization process, which believe that only the market, by its free mechanism of self-regulation, of the balance between resources and needs, may solve the ecological issues and the entire exchanges between firms and their environment by means of negotiation and economic compromises;

2. The other one, the opponents of the globalization believe that the institution of market is the cause of the lack of balance and of the negative effects that manifest at the level of the environment, while protecting the nature is possible only by extra-economic means.

We do not believe any of these opinions to be fully true considering that for certain natural resources or certain ecological issues one may resort to the market to solve the problems, while for other one shall prefer the extra-economic ways.

The instruments of the trade policies will remain the same, also taking into account the possibility to appear new ones, adjusted to a reality that cannot

be anticipated. In the last decade of the 20th century, the main concern of the world trade policies was the liberalization of the economic and commercial activities. In fact, more or less, all the governments have taken measures to strengthen the role of the private companies and to eliminate the barriers that rise in the way of the commercial exchanges.

Analyzing the evolution of the international trade in the last two decades one may outline and forecast several features for the future:

First, the faster growth tendency of the world trade in comparison with the world output will remain steady, especially since certain premises have been created, capable to stir the world trade, such as: the existence of more open and more competitive markets, with a fully developing trade, the growth of the direct foreign investments, a low inflation rate, the reduction of the budget deficits in many countries and so on....

Secondly, the growth and the diversification of the services trade will continue, while their role in the states' economy will be more and more important and the implementation of the new technologies and of the modern telecommunication means will allow the development of this particular economic sector.

As well as this, the weight of the raw materials will continue to drop concomitantly with the increase of the manufactured products, with high level of inclusion of the technical progress. This evolution will determine the intensification of the growth process of the poorly developed countries' dependence, whose foreign trade is based on raw materials or on the products that are in the first working stages.

As a counter-weight, the intensification of the concerns regarding the integration of the different states within the free-trade areas might intensify the international cooperation related to the global trade, and a decrease of the external debt of the poorest countries (but these assumptions in normal conditions of the international development).

The *regionalization* tendencies have increased concomitantly with the tendencies of the globalization. *Regionalization* and the preferential agreements it supposes have come up either as a source of the fragmentation or as a negotiation weapon, or even as an intermediate way of the liberalization of the exchanges. In some specialists' opinion (Petiteville, 1997), regionalization has come out because the fear of a global failure of the multilateral negotiations has lead to a search for those solutions that might guarantee the liberalization of the regional trade.

However, *the globalization and the regionalization have to be seen as two complementary processes*. The regionalization should not lead to the fragmentation of the global system in blocks of opposing interests, but to the creation of economic and commercial areas within an open world economy. This can be taken as a transition process and not as an alternative for the

globalization. The option of the states to take part in cooperation action within the regional economic groups must be subordinated to the national interests of superior revaluation of the material, human and technological potential.

One can righteously assert that since the beginning of the present century we witness to a “de-tensioning” process of “de-tensioning” the relations between *globalization* and *regionalization* (both of economic nature) in the meaning that both processes become “cooperating”, complementary and decisively influence world economy flows and structure. They even speak of *world economy management*, a distinctly important aspect under the conditions of ever more numerous and powerful inter-actions and integrative processes manifesting in today’s world. As great experts in the field asserted, Paul Krugman⁽¹⁾ being one of these, *economic integration took much the lead ahead the political one*, so that economic realities (punctually world economy integration) have developed much faster than managerial capacity to administrate new economic and technological forces within *knowledge-based economy*.

Presently, we’re witnesses of a thing inconceivable even half a century ago: *every world states trade (therefore, participate to world’s economy flows) but moreover, consume a significant part of their national income within international exchanges*. What I attempted to outline in the present article are *the economic springs (more precisely of the real economy)* that determine the significant inter-state relationships in the present epoch, the fact that international trade activity is considered the main form of present globalizing manifestation.

Globalization, of which I was saying it shows multidimensional manifesting forms: economic, social, political, and cultural, is very exactly depicted through analyzing *international trade* and the whole train of the aspects that define it:

- a. Intensifying economic relations between world’s states, in a context of space-time “compression” of such relations;
- b. De-localization and over(trans)-territoriality;
- c. Strong manifestation of technological innovations and, totally, of revolutionary IT&C technologies;
- d. Creation and good-functioning global markets.

What I have attempted in the present paper was depicting techniques and devices determinant for an efficient and as equitable trade. The problems one should comprehend are linked also both to the fact whether out of globalization manifestations, by means of commercial relations, *the poorest and least developed may gain, if elements of opportunity evaluation and equity may arise too* (Sen, 2002).

Moreover, I attempted to underline the importance of regulations of international bodies in the field through permanent analysis of the nature of a reasonable anticipation of the trade policies of all states participating to

international trade as well as the impact of these relations on the well functioning of regional and multilateral commercial system.

I outlined the role and functioning of the world's main economic region, European Union, due not only to the fact that Romania is part, since January the 1st 2007, of this economic region and must integrate as fast and harmonize its norms and procedures with the community's ones.

Then, the *present depression* is considered by very many experts, and not only by them, as being artfully created and maintained, *a crisis appeared on the order of the forces that lead*, in fact, today's world. Only one name and example in this respect is that of David Rockefeller, for a long time President of Chase Manhattan Bank, who developed, within an operational militarized system, his abilities of a leader and creator of an information and influence network. He is considered to be one of those who planned world globalization at today's dimensions.

But, the crisis itself has so far had only a moderate impact on world trade. The first two economies of Europe – Germany, which is powered by exports, and France, have determined a business confidence falling down during this period. The consumers in these countries, but also in the other rich states, are cutting their spending, due the level of prices (raw materials in the first place) and to the fear of lowering pensions and to the situation of their financial assets.

Therefore, several European economies are slowing or falling into recession, provoked by the pricking of housing “bubbles”, or the financial crisis in the cases of Ireland, Spain and Great Britain. Speaking about Europe, we must say that the trade between European countries accounts for one third of the world total. As a result, the WTO is likely to revise down its projection of trade growth this year from the six-year low of 4.5 percent it forecast in April 2009 when it reviews the figure next month.

And last but not least, for Romania situation becomes ever harder. Lowering with the decline situation of our whole exterior trade of this year's January when *imports decreased by one third*, and *exports by about one quarter*, Romania's trade deficit being diminished with 60.3%. The most important diminishing in import were registered from relations with extra-EU countries of about 45%, and also with EU member states an important decrease was also registered of about 34.1%.

In export, the situation is as complicated, taking into account the Leu's continuous depreciation face both to Euro and to US Dollar. Thus, export decrease on non-EU relation was 38%, while in export with the other 26 states of EU the diminishing was smaller, around the value of 19.1% As to the import and export structure, we can notice that transport machineries and equipments are situated on the first place, in both activities, with average values around 35%.

On the other hand we have to be cautious about the prognosis of our external trade achieved by the National Statistics Institute⁽²⁾ *that point out permanent in deficit FOB-CIF commercial balance*⁽³⁾ face to the previous year, with values with about (-)25, (-)26 thousand million Euros. Everything depends, in assuring the continuity of external trade activity, on the concrete assistance the state can lend to the companies that carry out exports as well as through permanent and loyal informing exchange with the other OCDE members through which international trade flows should be monitored and operative measures of correcting and supporting all those in difficulty, but without infringement contract obligations the economic agents had signed.

Notes

- (1) Paul Krugman (born 1953), professor at Princeton University, USA, is the 2008 laureate of the Sveriges Riksbank in Economic Sciences in Memory of Alfred Nobel. He was awarded for „his analysis for trade patterns and location of economic activity”.
- (2) Data from „*Almanahul crizei 2009*” (*Crisis Almanac 2009*), p. 26.
- (3) In international trade conditions, the most defavourable situations are the following (in use by the Romanian agents): FOB for imports and CIF for exports, because the importer, in the first case, pays the fees from the port (or place) of loading, and the exporter, in the second one, pays all the fees until the port (or place) of discharge in the buyer's country.

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The Management of Operational Risk Specific to Non-banking Financial Institutions in the Context of Actual Financial Crisis

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Abstract. *The current financial crisis is not a singular event in the history of crisis episodes. The essential difference between past episodes of financial turmoil and the actual crisis is the unprecedented severity, the pace of contagion and its global size. Financial markets have been seriously disturbed, threatening the robustness of financial institutions and their ability to meet current needs to properly manage the risk. One such risk is operational risk, which has become an important source of loss not only for credit institutions but, especially, for non-banking financial institutions (NFI). In this context, the main purpose of this study is to present the best techniques and methods of managing this risk, less addressed problem in the literature from our country.*

Keywords: non-banking financial institutions; financial crisis; financial lease; operational risk; corporate governance; internal audit; internal control; SOX.

JEL Codes: G01, G32.

REL Codes: 7J, 11B.

1. The financial leasing under actual crisis impact

Although not expressly included as a BASEL II requirement in the capital compliance calculation for the Non-Banking Financial Institutions, the operational risk is an important source of loss for this industry in the context of the financial crisis from Romania. The leasing market (as a majority activity of the Romanian NFIs) was shattered by over EUR 100 million in frauds during the years 2007-2009. Operational risk management inside the Romanian NFI through the adoption of a Corporate Governance that would harmonize the sometimes conflicting interests of the shareholders and managers, through the assimilation of new control and internal audit methods, may prevent situations that brought certain NFI's to the edge of bankruptcy. On the other hand, the role of the Central Bank in the risk management surveillance must increase, in full coordination with the new surveillance institutions settled on European level, for the purpose of anticipating and preventing systemic crises similar in size with the current one.

The Romanian non-banking financial institutions sector developed as a competitive alternative to the classical bank financing. The importance of the non-banking financial institutions in the Romanian financial system was on a constant upward trend. The increase by more than 10 times of the financing volume between 1998 and 2004 was correlated with the increase of the population income, as well as with the economic boost and the alignment to the European standards. In 2006 the Romanian National Bank incorporated these institutions within the financial sector which operated under its direct regulation and surveillance. Starting from this date, the Non-Banking Financial Institutions (the shadow of the banking system)⁽¹⁾ have undergone the banking registration and surveillance rigours, adopted the banking financial accounting and reporting, and adjusted their loan and operational norms according to the prudential requirements of the Central Bank. Although many NFI's are registered in the NBR Registers under the multiple loan activities category, most of them function according to the financial leasing system. A very large weight in the total activities performed by the NFI's is held by the financial leasing (78.7%), in slight decline compared to the year 2007. Following this regulation, the financing granted by the NFI's increased up to more than EUR 4 billion in 2008, the year in which the weight of the net assets of the NFI's inside the total net assets of the entire financial system reached 11.2 %.

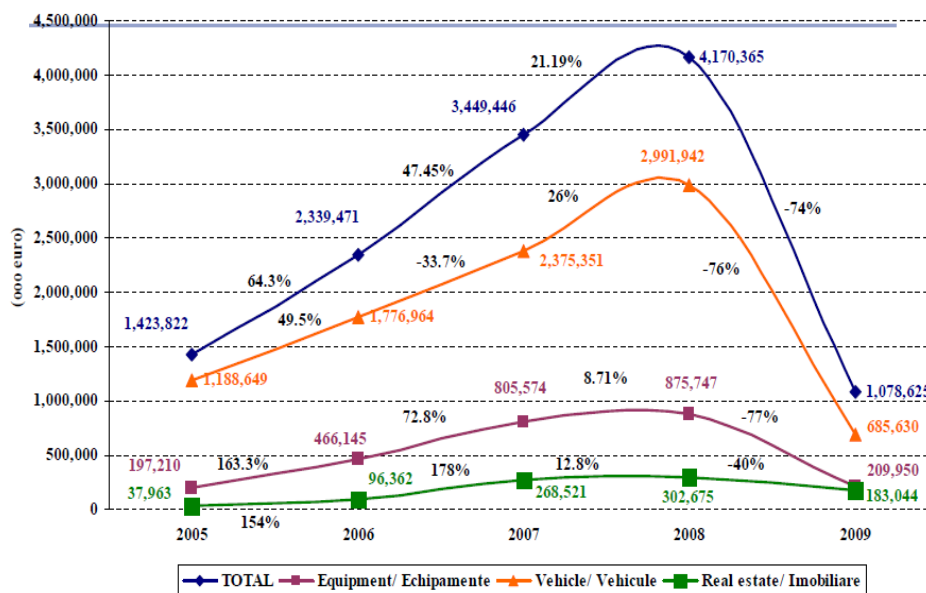
Table 1

The evolution of weight of financial sector in GDP⁽²⁾

<i>Financial Intermediaries</i>				% in GDP	
	2004	2005	2006	2007	2008
Credit Institutions	36.6	44.6	50.6	61	62.4
Insurances Companies *	1.9	2.2	2.5	3.0	3.0
Pension Funds	0	0	0	0	0.2
Investment Funds	0.2	0.2	0.3	0.3	0.2
Financial Investments Companies**	1.3	1.8	2.3	2.8	1.2
Non Banking Financial Institutions (NFI)	3.6	4.5	4.7	7.2	8.4
<i>Total</i>					
* total assets ** estimates					

The majority of the NFI's developed inside the large banking groups: BCR leasing IFN, Unicredit Leasing IFN, OTP Leasing IFN, BRD Sogelease IFN etc. At the same time, a special category was represented by the NFI's belonging to the large vehicle constructors Porsche Leasing IFN (Audi-VW-Porsche Group) or RCI Leasing IFN (Renault-Nissan-Dacia Group). Last but not least, a small category is represented by group of independent leasing companies held by the local shareholders (Ager Leasing IFN or International Leasing IFN).

In the period before the financial crisis hit the Romanian market starting with the fall of 2008, a fierce competition started between NFI's to gain "market share", which led to the creation of very risky financing products with an impact on the solidity of the loan portfolios. The financial crisis tremendously hit the NFI sector and the collapse of the leasing-type financing was catastrophic, reaching almost 74% between September 2008 and September 2009. The sales numbers for the year 2009 brought the industry on the level of the year 2004.



Source: Asociația Societăților Financiare – ALB ROMANIA.

Figure 1. Romanian Leasing Market Evolution during 2005-2009⁽³⁾

During this financial crisis the clients could not fulfil their current payments and the leasing companies accumulated stocks of tens of thousands of recovered vehicles. The decrease in car sales reduced dramatically the profits of the leasing companies in the years 2008 and 2009. This information spread it out along with news about major frauds in the leasing financing. The most illustrative example is Marfin Leasing IFN SA, where most of the EUR 50 millions losses in 2008 had been generated by fraud. The same fraud mechanism was used in other important leasing companies, yet not with the same extent. Currently 16 NFI's are undergoing insolvency procedures and 18 NFI's are cancelled from the General Registered opened by the National Bank. The only Non-banking Financial Institution with an important asset size (registered with the Special Register of the NBR) which started the insolvency procedure by January 2010 is ARAD LEASING IFN SA. From a size point of view, this company held total assets of approximately RON 93 millions in 2007 and of approximately RON 60 millions in 2008. During the working committees of ALB⁽⁴⁾ the fraud mechanisms have been analysed, as well as the fact that almost all the leasing companies have been "tricked" to a certain scale by such fraudulent clients. In most of the cases, they were very much aware of

the procedures, norms and internal limitations and they were usually supported from the inside of the leasing companies.

We are talking about the famous case of the construction machines (crushers, excavators, draglines) sold by a company located in Baia Mare several times to some leasing companies. 8 leasing companies have been cheated during the year 2008 by the aforesaid company by fictive sales to other companies that had agreements concluded with the machines supplier. In fact, the legal representatives of the “beneficiary” companies acted in agreement with the suppliers, the financing companies being misled with respect to the existence of the purchased goods. The fraud level reached EUR 100 millions in 2008. Some of the most widely spread fraud methods applied to the leasing companies have been the forgery of the documentation required to obtain financing, the forgery of balance sheets and profit and loss accounts or the sale of the assets acquired in leasing.

All these frauds were possible with support from the inside of the leasing companies. The correlation of the bonuses granted to management, sales agents or other “decision makers” rather with the financing volume than with its quality created a shallow climate for their granting and favoured the use of false documents for this purpose. The operational risk is therefore crucial in the continuation of the activity of a NFI. Ignoring the importance of this risk by the management is suicidal and may lead to catastrophic consequences.

An additional risk was represented by the non-deductibility of VAT, which amplified the level of frauds by 19%, to which 16% is added for non-deductible VAT-related expenses. ANAF followed closely the issue of the leasing frauds and the fiscal laws changes rapidly in order to prevent the VAT deduction for goods that have not been in fact delivered.

The NFI bankruptcy spectre is more and more menacing and it's not entirely due to the loan risk (exponential increase of the number of bad debts), but to the operational one as well. Although the market is affected mostly by the dramatic decrease in car sales and the issues related to leasing contracts reimbursement by the clients affected by the financial crisis, the operational risk is an important element in the management of the risks undergone by the activity of a NFI.

2. Implementing the Corporate Governance in the NFIs, method for operational risk management

In this context we believe that the financial losses registered by the Romanian non-banking institutions raise with maximum urgency the issue of assimilating and implementing the principles of the Corporative Governance in their activity.

First, the NIF managers and the shareholders or other interest holders must have a common vision on the objectives and skills of the Corporative Governance. For a good Corporative Governance the management departments must direct and control the organisations in the owners' interest. They must also be liable in front of the company owners and act in accordance with their mandate. They will also be held liable in front of the company owners and they must act according to their mandate. Good Cooperative Governance means therefore more than observing codes and regulations; it implies the adoption of a wider range of rules. Recent events prove that many non-banking financial institutions lacked these good governance rules. It is high time that the management boards concentrated on implementing these rules, not only on acknowledging them. Rumours have spread about shareholders who allegedly try pursuing the former executives in court for the frauds caused to the respective NFI (see the latest management changes on the level of some large NFI's).

Secondly, the Management boards of the NFI's must set an example. They must set the correct tone and act accordingly; following with extreme care the application of some healthy ethic to the organisations' activity. We must not forget the impact that the organisations have on employees and on the society in general. There are many NFI's that lack a Business Ethics Code that mentions special limitations especially in terms of conflict of interests. The management boards must set clear objectives, responsibilities, adequate structures and committees, policies and delegated authorities. They must put at the executive managers' disposal the necessary resources in order to reach the objectives of the organization through daily monitoring of the operations and progress made in reaching them. A fundamental role of the management Boards is to direct and control. Control means monitoring. Changes, such as the "Sarbanes-Oxley Act" in the USA (refereed to in the present study) meant to guarantee the fact that the non-executive managers will create the necessary challenges and will monitor at the same time.

Thirdly, the executive managers' rewards promote performance and transparency in an organization. Rewards must be in line with the individual performance, so as to lead to the results increase and the prestige of the organization. The management boards must understand the risks faced by the organization, ensure that the risk level is acceptable and request for answers from the executive management whenever necessary. Many of the frauds committed inside the NFI's are due to the fact that performance was analysed through the "market share". There was fierce competition in creating exceedingly "competitive" financing products for the unspoken purpose of attracting as much financing as possible. As a result, financing was granted to

anyone, in any amount and in any way. Ridiculous financing products such as “zero down-payment” or “ID loan” did nothing but create the illusion of some increase of diversified portfolios, which were in fact very risky and sub-guaranteed and this became obvious. The performance schemes must be based on healthy principles and be applied accordingly. The incentives and promotion packages inside the NFI’s brought significant rewards, but also contributed to the creation of a short-term thinking. The lack of long-term thinking discouraged a prudent risk management and affected the other interest holders. Risk and reward management must be tightly connected with the incentive system. Profits accompanied by a high level of risk for an organisation must bring a smaller bonus than the similar profits which imply a lower risk level. Reward offering should be avoided or deferred until the profit is effectively reached (Mark, 2009).

Fourthly, organisation risk management and control are different objectives that must be treated independently from the rest of the management fields. This is not an easy task: the Management Boards and their audit committees receive a large volume of risk-related information from the internal and external auditors, the management and from other sources (Moxley, 2008). Not all of them can be found in a useful form, since managers tend to make sure that the information sent to the non-executive managers does not lead to raising too difficult questions.

Management boards do not always understand the organisation risks because the information is adjusted before reaching them. Internal auditors play a very important part here. Shareholders must play a much more important role in holding the management boards liable so as to eliminate the need for additional regulations. The risk management manner is an essential element in determining the capital value. The executive managements of the NFI’s should stop humiliating themselves in order to ask for additional contributions from the shareholders in order to adjust capitals.

Many of the risk management means, such as the risk-related value, are based on the assumption that the efficient market theory is working, when in fact this doesn’t always happen. The efficient market theory implies the existence of a normal evolution of a resource and does not take into account a risk evolution that might not be linear. The risk-related financial reports should draw attention on the numbers uncertainty in a more explicit way and should be relevant for a field professional. The scenario analysis may lead to highlighting some imperfections of the risk management procedures.

For Greenspan (2007, p. 252), the solution is to self-discipline the companies through appropriate corporative governance policies and internal controls; if deemed necessary, the inefficient staff may be replaced and the

shareholders must exert their influence through the management board. Should management fail to coordinate their activities and catastrophic loss occur, the salvation can come, according to Greenspan, from the market, under the form of a change of control over the corporation (change of ownership) through the take-over mechanism. In this scenario, the company control is transferred to some new owners who can capitalize the company resources more efficiently. This may lead to the corporation dissolution (if its separate components are more valuable than the whole), a process that reflects the “creative destruction” brought in foreground by Joseph Alois Schumpeter⁽⁵⁾, an Austrian liberal economist and Harvard professor. This “destructive creation” means that if the shareholders in their turn are not dedicated and attentive to the way their company is managed, more skilled shareholders will come up to replace them.

3. Internal control and audit consolidation – an important tool for operational risk management

The experience inside some multinational companies, especially the ones listed in the New York Stock Exchange (NYSE), represents a support to the best practices promotion with respect to internal control and audit related to the so-called SOX (the Sarbanes Oxley Act). The regulations can be used not only in the companies with mandatory SOX requirements, but may also serve as model for any company that wishes to relate to an internal control best practices framework. An important aspect is represented by the fact that a company ensuring an efficient internal control system eliminates or diminishes substantially risks such as unauthorised, inexact, incomplete accounting records or even fraud, thus increasing their market competitiveness (Mihăileanu, 2008).

As a response to the public pressures following the famous bankruptcy cases of Enron and WorldCom in the year 2002, the United States Congress took measures that would prevent the re-issuance of the corporative scandals by formulating the Sarbanes-Oxley Act whose object is the enactment of the corporative governance. The purpose of this regulation was to created high quality norms for the NYSE listed companies (both for shares and bonds). This act also applies to the foreign companies listed in this exchange and is mandatory for their management, as well as for the law, audit and accounting firms. The SOX regulation has 11 chapters treating on the institutions, rules and procedures that the companies must observe and it was deemed having a positive effect (in spite of the implementation costs) in re-establishing public trust in the capital market, consolidating the financial activity control on a corporation level and, generally speaking, consolidating the internal control and audit system inside the companies. Frauds have been and still are an expensive business. The common ground of these frauds refers to the fact that the

management made wrong, illegal or immoral decisions to conceal mistakes or take personal benefit from the companies. The internal control system imposed by SOX must be audited on the one hand by the internal auditor and on the other hand it must pass the “sufficient control” test of the external auditor.

Regulations may be used not only in the companies where SOX requirements are mandatory, but may also serve as model to any company, including NFI's, that wishes to relate to an internal control best practices framework. A significant aspect is represented by the fact that a company that ensures an efficient internal control system eliminates or diminishes substantially risks such as unauthorised, inexact, incomplete accounting records or even fraud.

In our opinion, two of the best practices procedures offered by the Sarbanes Oxley Act may be applied to the Romanian non-banking financial institutions, namely: whistle blowing and the Risk Control Matrix – RCM.

Whistle blowing

The procedure is applied mainly when the shareholders are away from the management act (multiple offices, branches, etc.). It was enacted by SOX and resides essentially in the announcement of a fraud or abuse by the employee of a company. The issue of the announcement made by an employee has first of all an ethical nature, as sometimes the legal and financial control systems implemented by the companies are not able to seize the moral impact of the decisions and behaviour that the managers/employees make/show in relation to the social-corporative responsibility. Thus, any NFI worker may report to an e-mail address provided by the Audit Committee any illegal civil and/or penal activities, deontological and/or disciplinary deviations, the violation of the labour health and safety norms, any vicious management, internal and external frauds and immoral deeds. In this way, the NFI shareholders, through the reports of the Audit Committee, can also have at their disposal other type of information, different from the one coming from the executive management, which is generally adjusted; thus, they can make much better decisions for the management structures of the business in which they invested. However, the Audit Committee must filter and investigate very carefully such information prior to submitting it to the shareholders.

Risk control matrix

Essentially, such a matrix splits the activity per processes and assigns “process owners” to each of them, who are usually the heads of departments. These processes are divided into sub-processes. For instance, in a leasing company a process can be named: contract progress, whose process owner must

be the head of the operations department. A sub-process of the aforementioned is the invoicing operation of the capital and interest instalments, as well as of some other amounts according to the leasing contract, establishing the risks appeared in its progress (example: amounts are not correctly invoiced according to the leasing contract. It is a risk type defined by the internal auditor together with the process owner. The risk mitigation controls are defined as in the attached template (Table 2)

Table 2

Model for risks and controls evaluations on the operation process - fulfill the contract – sub process invoicing

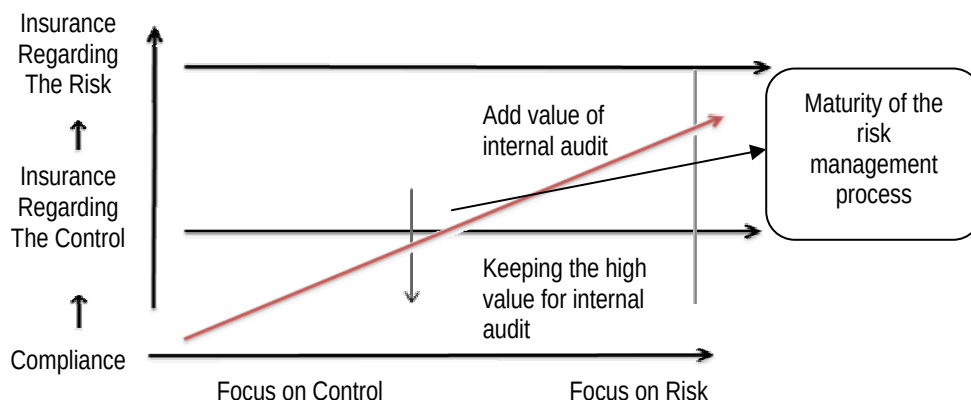
O.3					Risk Grade					
LEASING SERVICES					Medium - High					
Invoicing										
The process from issuing the invoice till the customer gets it										
No	Risks Descriptions	Controls	Risk Grade	Note	Control Check	Level of Control	Freq.	1 st Control	2 nd Control	Owner
1	Not all the invoices at deadline are issued and sent to the debtor	Report for invoices that have to be released	High	To be generated from ERP a report with all due amounts that to be correlated with invoices to be released	Existence, Completeness, Presentation & Disclosure	Manual Prevent Control	periodically	Operation Officer	Operation Coordinator	Operation Coordinator

In 2007, little before the break-out and spread of the financial crisis, PricewaterhouseCoopers drew up a study concerning the design of an internal audit model, whose objectives are the identification of the main future trends of this activity.⁽⁶⁾

The main conclusions of this study are, in our opinion, the following:

- the internal audit departments will have to adopt an internal audit approach through a risk-centred professional reasoning if they want the internal auditors to still be key elements in the risk management and in management consultancy;

- The results of the study indicate five identifiable trends – *globalisation, risk management changes, technological progress, organisational abilities and talent, as well as the change of the internal auditor role*. All this will have a strong impact on the internal audit in the following years. It's essential to understand these trends, as well as their implications, so that the internal audit is able to provide the necessary help to the general management in the risk identification and management and in the end the internal audit function really contributes to adding extra value to the organisation;
- The results of this study also indicated the fact that the potential value of the internal audit function depends on two major factors: the nature of the internal audit primary activity and the relative maturity of the risk management processes inside the organisation. These correlations are captured in the below graph.



Source: PriceWaterhouseCoopers, 2007.

Figure 2. *The model of internal audit*

Starting from the premises of an active involvement of the internal auditor in the risk management processes inside the companies, we believe that the level of these risks should have been maintained within reasonable limits, which might be translated into the fact that the internal audit might have contributed to the early identification of the risks that subsequently generated the stream of negative phenomena starting with the summer of 2007. Thus many question marks appear: why did this not happen and what prevented it from happening? How should internal audit react in fighting the negative effects of the crisis?

Risk management is a complex process which starts with the implementation of an assigned infrastructure for this process and continues with the risk identification, analysis and evaluation, the establishment of some concrete fight and reduction measures for potential losses as a result of the occurrence of these risks (Dedu, Stanciu, 2008).

In this context, we might say that the premises for an efficient management of the potential risks that may threaten corporative life are ensured. Still, the events occurred since the summer of 2007 showed that the level of control over the key risks that are likely to become real menace was far from being kept at acceptable levels, the result of this being the stream of negative events that cascaded with much worse consequences than the different categories of specialists could have estimated.

Also, one of the causes that led to the break-out of the global financial crisis was the exaggerated level of bonuses accompanied by the assumption of some huge risks by the financial institutions. This is why the issue of incentives in the financial and banking sector became the subject of law projects in several countries (Great Britain, Sweden, France etc.) to implement both fiscal measures for the additional taxation of such bonuses or even the right of the surveillance authorities to ask the financial institutions to renegotiate the excessive salary packages and the power to set fines in case of non-observance of these requirements.

The connection between the manager's incentives and risk management is not always obvious. During the past few years the financial innovations, inappropriately regulated and monitored products, made possible the accumulation of short-term large profits at the same time with taking very high risks. There were no incentives meant to connect remuneration and prizes to the obtaining of medium and long-term profits. This encouraged the managers to take risks that either they didn't understand or they neglected in order to increase the prize-related profitability.

The remuneration and internal risk management policies may be de-correlated. The *de Larosière* report considers that the remuneration incentives must be better aligned to the shareholders interests and the long-term profitability in the organisation level. Especially the first ones must be established in a multi-annual framework and their payment must be done along the cycle. The *de Larosière* report suggests that the surveyors have the obligation to check the compliance of the remuneration policies of the financial institutions and the power to impose changes or additional capital requirements inside Basel II Pillar 2 if no corrective actions are taken. It is expected that such a measure is in line with the principle of competition and dynamism stimulation and is really welcome (Isărescu, 2009).

Conclusions

The present study brought under debate the need for the Romanian non-banking financial institutions to implement the corporative governance principles as an important risk management measure, especially related to the operational risk. Corporative governance must be assumed and promoted by the NFI management. This will create solid ethical values, as well as a process control climate through the adoption of the best internal audit and control practices. This is why we believe that part of the Sarbanes Oxley practices and procedures, as it has been mentioned, may bring superior advantages to the organisations that adopt them, thus creating a efficient management of the potential risks that may threaten the corporative life of the NFI's.

Also for the purpose of adopting such governance, a correlation between the management bonuses and the effective due profit obtaining must exist. Moreover, the performances to which these bonuses are correlated must be medium and long-term in order to prove their solidity. At the same time, the surveillance authority, namely the National Bank of Romania, may intervene and decide on the modification of some manager bonus packages that could lead to major distortions in the NFI management.

A weak corporative governance and an environment in which the internal control and audit are rather just needs imposed by the NBR requirements, where the companies' fundamental objectives are the ones for which management bonuses are paid, exposed the Romanian NFI's to operational risks with hardly quantifiable consequences.

We will not be very surprised if important names on the leasing market go bankrupt or, more elegantly, are sold as pieces of the portfolio or even as the NFI itself in a desperate attempt to limit the shareholders' losses, especially those of the large banking players on the Romanian market. The year 2010 appears to be even more difficult ...

Notes

- (1) "The shadow banking system" is the expression used by Roubini, Nouriel in "The Shadow Banking System is Unraveling", Financial Times, 21 September 2008 to define financial non banking sector in United States.
- (2) See Financial Stability Report for 2008 p. 15, National Bank of Romania.
- (3) See National Conference of ALB, November 2009.
- (4) ALB – Asociatia Societatilor Financiare din Romania - Financial Companies Association in Romania is the largest professional association of non banking financial institutions in Romania grouping the major leasing belonging to banking groups present on the Romanian market as such: UniCredit Leasing, BCR Leasing, BRD Sogelease or Alpha

- Leasing, large captive firms worldwide automobile manufacturers Porsche Leasing, RCI Leasing or independent NFI's – such as Ager Leasing or International Leasing.
- (5) Joseph Alois Schumpeter (1883-1950) was an Austrian economist. In the neoclassical period, he popularized the term “creative destruction through competition”. Schumpeter had an important contribution to the world economy as a pioneer of the theory of economic development (1912). Between 1919 and 1920 was the Austrian Minister of Finance, between 1925 and 1932 received a chair at the University of Bonn, Germany Central Europe Because of the Nazis, he moved to Harvard in the United States, where he taught between 1932 and 1950.
- (6) Pricewaterhouse Coopers, “Internal Audit 2012- A study examining the future of internal auditing and the potential decline of controls centric approach“ 2007.

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Testing the Nonlinearity of the Phillips Curve. Implications for Monetary Policy

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Abstract. *This paper studies the nonlinearity of the Phillips Curve and its implications for monetary policy. To investigate the trade-off between output gap and inflation volatility we used a backward-looking model type. The data for our empirical analysis is obtained from the Area Wide Model (AWM) Database (from 1970 to 2008 for Euro area) and National Institute of Statistics (from 2000 to 2009 for Romania) and has quarterly frequency. The results of econometric tests indicate a significant estimated coefficient of the output gap for Romania, compared with the Eurozone; we find no significant evidence of nonlinearity of the Phillips curve in the European Monetary Union. This suggests that the optimal choice for European Central Bank should be a fixed inflation targeting, while the National Bank of Romania's monetary policy strategy should aim a flexible inflation targeting.*

Keywords: monetary policy; Phillips curve; output gap; inflation; nonlinearity.

JEL Codes: E52, E58, C22.

REL Codes: 8J, 8Z.

1. Introduction

It has been of great importance to macroeconomic policy makers identifying the Phillips curve, which posits a negative relationship between inflation and unemployment. As unemployment is countercyclical, the relationship between inflation and the output gap becomes positive. The Phillips curve helps the policymakers decide on policy with inflation and output. Hence, the estimation of the Phillips curve has been applied to economies like the US, Australia, the UK, Turkey, and China, in recent years. Rumler (2005) has estimated the new Keynesian Phillips curve (NKPC) for nine euro-area countries: Austria, Belgium, Finland, France, Germany, Greece, Italy, Spain, and the Netherlands.

Our purpose in this paper is to investigate the nonlinearity of the Phillips Curve in the Euro Area and Romania and its implications for monetary policy. Empirically, nonlinearity tests have a major implication for knowledge of monetary policy transmission mechanism. The trade-off between inflation and output is best explained by curvature of the Phillips curve. The effects of uncertainty on inflation or output become very important if the Phillips relation is non-linear. In this case, the shape of the Phillips curve is central to the conduct of monetary policy.

Lately, many recently study of the possible nonlinearity of the Phillips curve have been done. The short-run trade-off between unemployment and inflation is traditionally assumed unchanged over time. Nevertheless, many theoretical models of price-setting behaviour suggest that economic activity has a nonlinear effect on inflation. Testing for nonlinearity is important on technical, empirical and economic policy grounds. The evidence from nonlinearity tests has crucial implications for knowledge about the monetary policy actions. The theoretical arguments in support of a nonlinear specification are, for example, capacity constraints, agents confused by a price shocks, menu costs, downward nominal wage rigidity or oligopolistic market. As each of these arguments implies a particular nonlinearity in the Phillips curve, from a policy perspective the choice of a source of nonlinearity is not neutral. Indeed, on the one hand, the output cost of fighting inflation will vary with the shape of the Phillips curve, and, on the other hand, given the monetary policy transmission lags, stronger or weaker incentives for preemptive policy tightening will exist to counter expected inflationary pressure (Baghli, Cahn, Fraisse, 2007). A convex Phillips curve implies that inflation may fail to decline in response to a shortfall of excess demand, but pick up significantly should demand exceed a certain threshold: the marginal reaction of inflation to a spending stimulus, for example coming from monetary policy, is therefore

path-dependent. An extreme form of convexity is an asymmetric curve, where inflation reacts to excess demand only if the latter is above a certain level. It is worth noting that, in fact, the relationship initially proposed by Phillips was, indeed, a curve.

Regarding the USA and other industrialised economies, Debelle and Laxton (1997), among others, suggest a convex Phillips curve is appropriate, while Gordon (1997) argues in favour of a linear curve and Stiglitz (1997) even of a concave one. In the Euro area, the evidence on the functional form of the Phillips curve is particularly scant and controversial, partly reflecting the challenges associated to gathering appropriately harmonised and long time series of data for this economy compared, for example, with the US.

Aguiar and Martins (2005) test the linearity of the Euro area Phillips curve using data from 1970 to 2002 and find that there is not enough statistical evidence for rejecting the null of linearity. However, Dolado et al. (2005) suggest that nonlinearities may be present, working on data from 1984 to 2001. In particular, in their specification the square value of the output gap enters significantly and with a positive coefficient in the equation, suggesting a convex Phillips curve.

Musso, Stracca and Dijk (2007) found no significant evidence of nonlinearity in the curve, in particular in relation to the output gap. They concluded that the Phillips “curve” is, at least in the Euro area, indeed a “line”. The main policy implication of their study is that there is at least no convincing evidence of the existence of a “free lunch” for monetary policy, whereby the central bank is able to stimulate economic activity without creating inflationary pressure.

2. Model

We consider a standard Phillips curve with backward-looking component represented by a distributed lag on past inflation such as :

$$\Delta\pi_t = \sum_{k=1}^k \alpha_k \Delta\pi_{t-k} + \rho Z_t + \delta Z_t^2 + \varepsilon_t$$

Where Δ is the first difference operator;

π_t = inflation rate ,

$Z_t = \ln(Q_t) - \ln(Q_t^{pot})$ = output gap,

ε_t = disturbance term,

Q_t = real GDP,

Q_t^{pot} = potential real GDP

In this equation, the second output gap in the quadratic functional form describes nonlinearity of the Phillips curve. The quadratic functional form is a first approximation of the convex relationship. Higher values of δ imply greater convexity of the Phillips curve.

2.1. Data

The data for our empirical analysis is obtained from the Area Wide Model (AWM) database (for more details on the AWM database see Fagan et al., 2005) and National Institute of Statistics and has quarterly frequency. The sample periods are 1970:1–2008:4 for Eurozone and 2000:1–2009:4 for Romania. We used the main measures of inflation: GDP deflator for the Euro area (data are seasonally adjusted) and HICP for Romania. Regarding real GDP, data are also seasonally adjusted.

Phillips used an unemployment rate in his study but recently an output gap has been frequently used because of problems in measuring NAIRU and natural rate of unemployment. For these reasons the output gap is used in this study. There are many ways to measure potential output; in this study, to estimate potential output a Hodrick-Prescott filter is used. Real GDP and output gap are presented in the appendix (Chart 2, 3).

2.2. Empirical results

In equation we include three lags. Using correlogram table we find that the first three lags of inflation have significant coefficient, which indicates a strong inertial tendency of prices. Model results are given by:

Romania:

$$\pi_t = 0.239713 + 0.996373\pi_{t-1} + 0.251548\pi_{t-2} - 0.300762\pi_{t-3} + 0.25498Z_t + 0.186256Z_t^2 + \varepsilon_t$$

(0.086134) (0.149009) (0.234581) (0.124297) (0.013916) (0.091979)

$$R^2 = 0.989553$$

$$AIC = -5.692063$$

$$SCH = -5.430833$$

Euro Area:

$$\pi_t = 0.260704 + 0.4008064\pi_{t-1} + 0.377399\pi_{t-2} + 0.158136\pi_{t-3} + 0.0899572Z_t - 0.039293Z_t^2 + \varepsilon_t$$

(0.161467) (0.081719) (0.082732) (0.081737) (0.031198) (0.013541)

$$R^2 = 0.838499$$

$$AIC = -8.316414$$

$$SCH = -8.197050$$

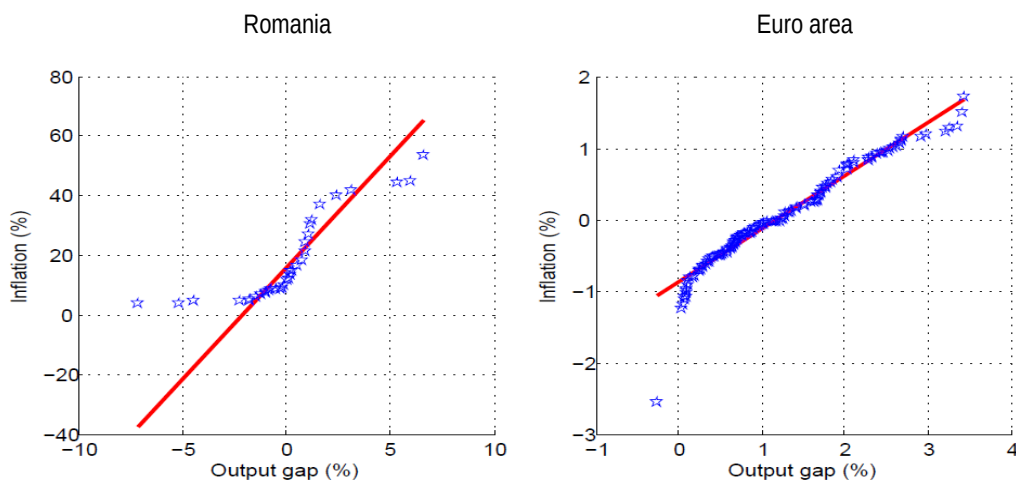
where heteroskedasticity-consistent standard errors are given in parentheses, below the estimated parameter, R^2 is R squared; AIC , SCH is Akaike, respectively Schwarz information criteria.

Diagnostic tests reports for Romania show instability and nonlinearity for this model. For most tests, the p-values are below conventional significance levels. Estimation and test results are reported in Tables 1 and 2, which shows that the adjusted R^2 values are quite high for both models (0.98 and 0.83)

The coefficient of the output gap variable ρ deviate significantly from zero as measured with t-test when White's heteroscedasticity corrected standard errors are used. According to statistical tests, both model are concludent and can be further analysed.

In the Euro area, the estimated parameter of the quadratic output gap term δ does not deviate significantly from zero. Moreover, the estimates of the second output gap in the quadratic form variables are not significant. In both economies the sum of the output gap coefficients is positive, which indicates a positive relationship between inflation and output gap. Our results confirm what other studies have shown, especially that achieved by Musso et al. (2007).

The results of the estimated equation through the ordinary least squares method are presented in tables 1,2 (see appendix).



Note: The graphs show the quarterly output gap and inflation measures for the period 2000 – 2009 (Romania) and 1970 – 2008 (Euro area). The solid red line shows the least squares of the inflation-output gap trade-off.

Figure 1. Shape of the Phillips curve (Romania vs. Euro area)

3. Implications for monetary policy

In recent decades, maintaining the price stability has become the primary objective of central banks in the world. A growing number of countries use a flexible inflation targeting strategy, in which inflation is stabilized around a small target in the medium term (rather than strict inflation targeting regime, which tries to stabilize inflation soon horizon as possible). Monetary policy can achieve average inflation equal to the target in an attempt of finding the best compromise between inflation variability and the output gap. It is well known that monetary policy can not completely stabilize either inflation or output gap. On the other hand, increased credibility by anchoring inflation expectations in the target will reduce inflation variability and the output.

Despite the fact that an analysis of the functional form of the Phillips curve is fraught with empirical difficulties, the policy implications of this question are extremely important. Most central banks use the Phillips curve to forecast inflation and set the interest rate. It is known that monetary policy operates and impacts on the economy quite differently under nonlinearity and, thus, the central bank policy should be conceived and conducted differently if enough evidence of asymmetry is found. If, for example, a policy-maker who is uncertain on whether the Phillips curve has a linear or alternatively a piecewise linear form, then, in the first case, the policy-maker is confronted with a trade-off between stimulating demand and creating inflation, while in the latter case there is the possibility of pushing demand at least up to a certain limit without causing a significant increase in inflation. Therefore, a careful empirical modelling of the functional form of the Phillips curve is of paramount importance.

A responsible central bank should have clearly defined the objectives of monetary policy. The general consensus among academics but also practitioners is that the primary objective of monetary policy should be price stability. In practice many central banks have this objective specified in their statutes. However, inflation is not the only concern of a central bank; simultaneously, the same central banks try to stabilize output too. Output's inclusion among the objectives of the central bank is beneficial. The problem is how important should be stabilization of GDP compared to stabilizing inflation in the objective function of the central bank. Svensson showed that by increasing output's share in the loss function, deviation of inflation from target will be more persistent. Consequently, if inflation is brought to target over a longer period means that the deviation of GDP is more important in the objective function of central bank.

The trade-off between inflation variability and output-gap variability and the choice between strict and flexible inflation targeting have been discussed extensively in the monetary policy literature. The central banks aim to stabilize inflation around the inflation target but also, to some extent, stabilize output around potential output. Acknowledging that, because of the trade-off, unpredictable shocks, uncertainty and unavoidably imperfect control, there will always remain some variability in both inflation and the output gap.

Since the objectives of macroeconomic policies are different (economic growth, low unemployment, price stability, currency stability, balance of payments, etc.) and the number of actors involved is large (government, central bank, unions, employers, European institutions and/or supranational) central banks should clearly define their objectives for improving credibility. Practical experience shows that credibility has to be earned over time. In most new inflation-targeting regimes, especially when initial inflation is high and a period of disinflation is required, inflation expectations are high and credibility is low. An idea that makes a lot of sense is that in a new inflation-targeting regime, the central bank should initially put more weight on reducing and stabilizing inflation and be a less flexible inflation targeter in order to more quickly achieve credibility. The cost would be more output-gap variability in the beginning of the regime. The benefit would be an improved trade-off and lower variability of both inflation and the output gap later on, when credibility has improved and the central bank can afford to be a more flexible inflation targeter.

In terms of nominal and real criteria for accession to the European Monetary Union, disinflation process must be done considering that the real economy must grow in order to achieve a high rate criterion GDP/capita. In addition, any reaction too aggressive of monetary policy generates an increase in volatility's output gap, which results in slow economic growth process. An activist approach to monetary policy, short-term oriented, examines whether monetary policy measures can be taken to stimulate GDP and employment, some of them considering the control of inflation as given.

Since the adoption of inflation targeting regime, domestic macroeconomic environment has been encumbered by a multitude of structural changes and shocks from factors outside the scope of monetary policy influence. In this context, concern for the sustainability of disinflation has involved a focus of the NBR for complementary objectives, notably maintaining financial system stability and mitigate external imbalances arising along the way. Critical importance of these objectives has been highlighted by worsening financial crisis and global economic and propagation of its effects on the national economy since the fourth quarter 2008.

Inflation targeting in Romania was less orthodox, soft type, for several reasons: monetary duality of the economy – with large euroisation, high interest differential, premature liberalization of capital account and under conditions of imperfect markets (of a monetary transmission mechanism immature), NBR was unable to disregard the exchange rate dynamics. Interest rates were sometimes very low in the money market with the desire to discourage speculative capital, while the central goal was to get disinflation, so to not leave excess liquidity in the market. We have a relatively small economy at the scale of Europe and excessive currency fluctuations may not only cause financial instability. In terms of the dilemmas that may have a central bank, we had to reconcile disinflation with the need to discourage speculative high capital inputs, markets imperfections allowing a central bank practice "less clean". We practice inflation targeting in a hybrid formula that allows for flexibility.

Currently, many analysts believe that NBR should reduce the interest rate monetary policy more aggressively, their main argument being that the economy has dropped dramatically in the last year. Those who share this vision implicitly assumes that the central bank must intervene to stabilize production close to its potential. In practice, central banks, including NBR, set their short-term interest rate according to inflation and output gap. However, those who claim that BNR should aggressively reduce interest neglect uncertainties about expectations formation and inflation inertia, but also weakness of the Phillips curve partly due to uncertainties related to output gap. The current output gap in Romania (2009) is surprisingly high, maintaining firm proposals to reduce interest rates. But the output gap suffers from some major shortcomings that make it necessary to take it into account very cautiously (potential GDP can not be calculated with reasonable accuracy and econometric estimates capture contemporary late-year changes). Stabilizing inflation around the target would also stabilize the output gap at the relevant level for wellbeing.

National Bank of Romania should not have any problem in establishing the interest rate to levels that ensure achieving the inflation target agreed with Government. The law states that NBR has two objectives: price stability and financial stability, so no specific order to stabilize production. NBR should consider output gap with caution and correlated with other variables when tries to achieve the two objectives.

Conclusions

The results of the paper support the assumption of a nonlinear Phillips curve in Romania, while the Phillips curve in the Eurozone appear to be linear. Some analysts of the European Central Bank have reached the same conclusion in a recent study (Musso et al., 2007). They found no significant evidence of

nonlinearity in the curve, in particular in relation to the output gap. Their conclusion is that the Phillips curve is linear in the Euro area.

In both economies we find a strong inertial tendency of prices. In Romania's case, compared with the Euro area, we found a considerable influence of the output gap, in the quadratic form, on inflation, which suggests that the central bank's monetary policy strategy should be a flexible inflation targeting, while the European Central Bank should aim a strict inflation targeting.

Regarding Romania's economy it is important for policy makers to adopt appropriate economic policy measures in order to stabilize the economy, in the context of current crisis. In this respect the Romanian National Bank has slightly reduced the benchmark interest rate, to not conflict with the objective of achieving the inflation target. Thus, it is necessary a coordination of the two macrostabilization policies for the central bank not be constrained to pursue several objectives.

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Appendix

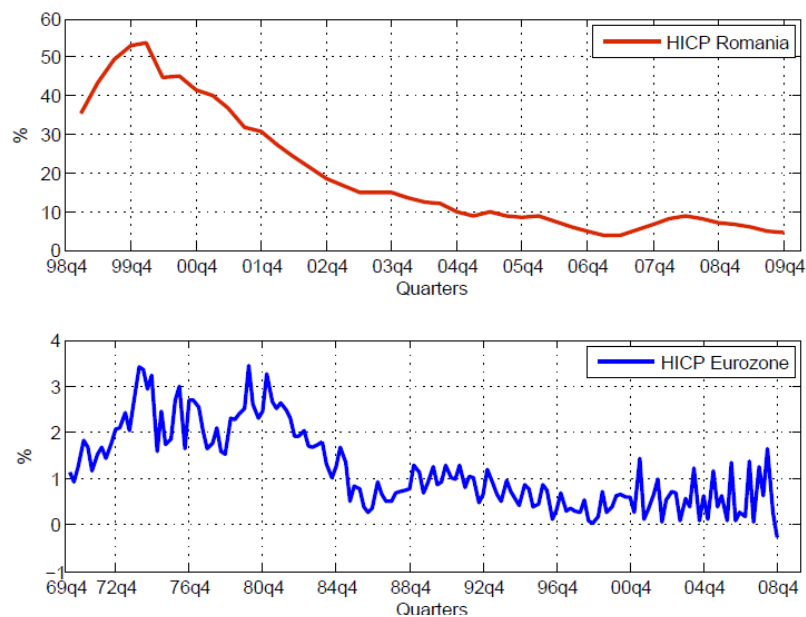


Chart 1. *HICP (Romania, Eurozone)*

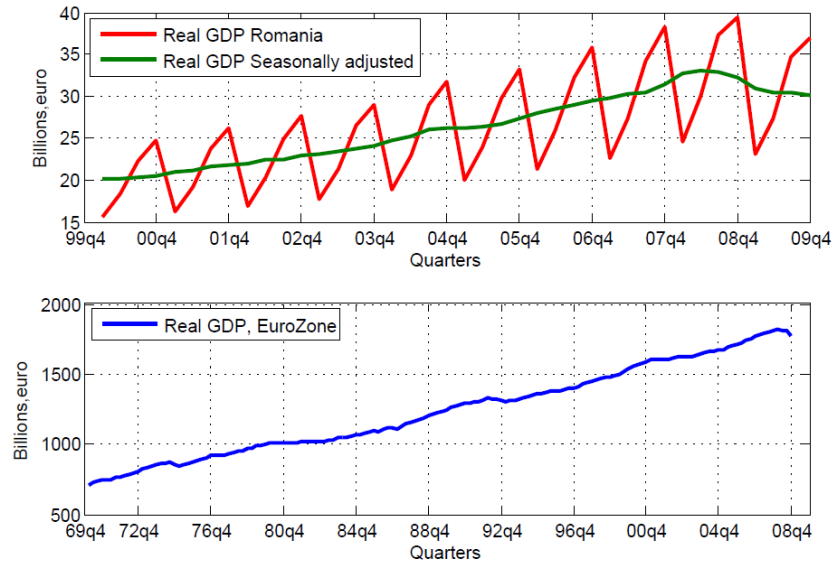


Chart 2. Real GDP (Romania, Eurozone)

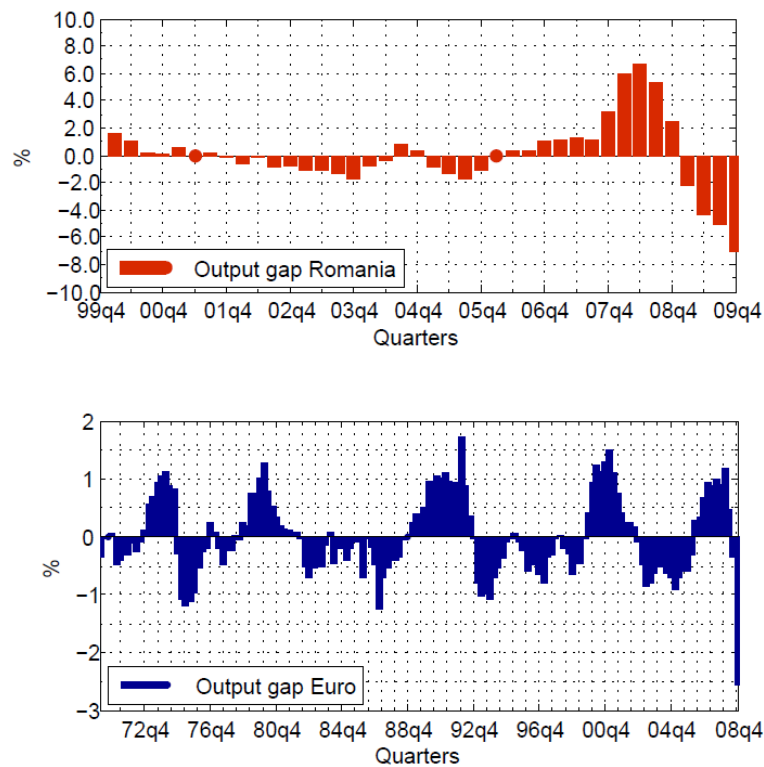


Chart 3. Output gap (Romania, Eurozone)

Table 1

OLS estimation results of the Phillips curve (Romania)				
<i>(Dependent variable is DLHICP; D denotes difference & L denotes log)</i>				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.239713	0.086134	2.783012	0.0091
DLHICP(-1)	0.996373	0.149009	6.686685	0.0000
DLHICP(-2)	0.251548	0.234581	1.072332	0.2918
DLHICP(-3)	-0.300762	0.124297	-2.419698	0.0216
Z_t	0.025498	0.013916	1.832193	0.0765
Z_t^2	0.186256	0.091979	2.024976	0.0516
R-squared	0.989553	Mean dependent var	4.769390	
Adjusted R-squared	0.987868	S.D. dependent var	0.118517	
S.E. of regression	0.013054	Akaike info criterion	-5.692063	
Sum squared resid	0.005283	Schwarz criterion	-5.430833	
Log likelihood	111.3032	F-statistic	587.2913	
Durbin-Watson stat	2.341282	Prob(F-statistic)	0.000000	

Table 2

OLS estimation results of the Phillips curve (Euro area)				
<i>(Dependent variable is DLGDP_Deflator; D denotes difference & L denotes log)</i>				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.260704	0.161467	1.614591	0.1086
DLGDP_Deflator(-1)	0.408064	0.081719	4.993490	0.0000
DLGDP_Deflator (-2)	0.377339	0.082732	4.561007	0.0000
DLGDP_Deflator (-3)	0.158136	0.081737	1.934688	0.0550
Z_t	0.089572	0.031198	2.871022	0.0047
Z_t^2	-0.039293	0.013541	-2.901730	0.0043
R-squared	0.838499	Mean dependent var	4.618456	
Adjusted R-squared	0.832968	S.D. dependent var	0.009080	
S.E. of regression	0.003711	Akaike info criterion	-8.316414	
Sum squared resid	0.002011	Schwarz criterion	-8.197050	
Log likelihood	638.0474	F-statistic	151.6036	
Durbin-Watson stat	1.926668	Prob(F-statistic)	0.000000	

Table 3

Correlogram of HICP (Romania)						
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. *****	. *****	1	0.945	0.945	38.454	0.000
. *****	** .	2	0.867	-0.244	71.649	0.000
. *****	** .	3	0.762	-0.258	98.011	0.000
. *****	. * .	4	0.642	-0.144	117.22	0.000
. ****	. .	5	0.523	0.022	130.35	0.000
. ***	. * .	6	0.416	0.077	138.88	0.000
. **	. * .	7	0.308	-0.132	143.72	0.000
. *	. * .	8	0.205	-0.105	145.92	0.000
. .	. .	9	0.111	-0.011	146.58	0.000
. .	. .	10	0.029	0.056	146.63	0.000
. .	. .	11	-0.039	0.017	146.71	0.000
. * .	. * .	12	-0.099	-0.119	147.30	0.000
. * .	. .	13	-0.142	0.038	148.56	0.000
. * .	. * .	14	-0.164	0.139	150.29	0.000
. * .	. * .	15	-0.166	0.086	152.14	0.000
. * .	. * .	16	-0.145	0.074	153.61	0.000
. * .	. * .	17	-0.112	-0.073	154.53	0.000
. * .	. .	18	-0.071	0.030	154.91	0.000
. .	. .	19	-0.025	0.050	154.96	0.000
. .	** .	20	0.000	-0.226	154.96	0.000

Table 4

Correlogram of HICP (Euro Area)						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
. *****	. *****	1	0.876	0.876	121.26	0.000
. *****	. ***	2	0.860	0.396	238.77	0.000
. *****	. *	3	0.818	0.083	345.86	0.000
. *****	. **	4	0.827	0.236	456.13	0.000
. *****	* .	5	0.775	-0.089	553.65	0.000
. *****	. .	6	0.769	0.055	650.20	0.000
. *****	. *	7	0.757	0.111	744.40	0.000
. *****	. .	8	0.745	-0.003	836.39	0.000
. *****	. .	9	0.717	-0.019	922.02	0.000
. *****	* .	10	0.670	-0.180	997.45	0.000
. *****	. .	11	0.664	0.046	1071.9	0.000
. *****	. .	12	0.638	0.003	1141.2	0.000
. *****	. *	13	0.639	0.088	1211.1	0.000
. *****	* .	14	0.583	-0.147	1269.8	0.000
. *****	. .	15	0.573	-0.047	1326.9	0.000
. *****	. .	16	0.538	-0.026	1377.7	0.000
. *****	. .	17	0.526	-0.001	1426.5	0.000
. *****	* .	18	0.472	-0.079	1466.1	0.000
. ****	. .	19	0.452	-0.054	1502.7	0.000
. ****	. .	20	0.440	0.062	1537.5	0.000
. ****	. *	21	0.438	0.106	1572.4	0.000
. ****	* .	22	0.395	-0.083	1601.0	0.000
. ****	. .	23	0.367	-0.042	1625.8	0.000
. ****	. .	24	0.356	0.016	1649.4	0.000
. ***	. .	25	0.325	-0.056	1669.2	0.000
. ***	. .	26	0.304	0.033	1686.6	0.000
. ***	. .	27	0.279	0.023	1701.5	0.000
. ***	* .	28	0.267	-0.067	1715.1	0.000
. ***	. .	29	0.248	0.021	1726.9	0.000
. ***	* .	30	0.217	-0.079	1736.1	0.000
. **	. .	31	0.194	0.047	1743.5	0.000
. **	. .	32	0.176	-0.014	1749.6	0.000
. **	. .	33	0.166	0.010	1755.2	0.000
. **	* .	34	0.135	-0.077	1758.8	0.000
. **	. *	35	0.136	0.116	1762.6	0.000
. **	. .	36	0.111	-0.035	1765.1	0.000