Accounting and Auditing

The Role of Regulating the Accounting Profession and the Public Interest

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Abstract: The high quality services provided by the accounting profession are a function of the professional standards, of the personal value and competences, the regulation systems, all having to be coherent and back each other. All the activities that form the accounting profession are of equal importance, as seen through the eyes of the public interest. The scope of this paper is to underline the role of CECCAR in sustaining and promoting international practices at a high level, in regulating the activities and the conduct of its members, in developing and consolidating the accounting profession in order to serve the public interest.

Keywords: public interest; accounting profession; quality audit

1. Introduction

At a global level, the accounting profession is situated in a process of full reorganization and restructuring with the scope of adapting to the needs of global economy. As the leader of the Romanian accounting profession, CECCAR has a well defined agenda in the handling of this profession. As well as in other countries, in Romania the professional accountants, their client, the professional organisms and the governments seek to ensure that the accounting profession continues to provide high quality services and contributes to the rise and development of the global economy. Assuming responsibility for the public interest continues to be a main objective for the accounting profession in Romania.

The public interest, as a common benefit which all the citizens have from the accounting profession services, includes the effects of all the **regulating measures** meant to ensure the quality of the provided services.

While the individual members of the accounting profession have the obligation of attend to the public interest, the professional organism has a specific responsibility and an essential role, having in mind the **3 fundamental objectives:**

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- Education: the assurance of a continuous professional development of its members;
- Ethics: the conduct of its members;
- Quality: Certifying the services offered by its members.

In order to reach these objectives, the professional organism sustains and promotes the professional practices at high level, including through the means of regulation.

In our opinion, concerning **the role of regulations in the attending of the public interest,** the existence of regulations of the accounting services is based on **three main arguments:**

1. The difference in information between the consumers and the producers of services, who have the high level technical competences and the necessary expertise.

2. The external effects, as far as the respective services can have effects over the third party.

3. Some services are considered "public goods" having value for the entire ensemble of members within the society.

We all agree that **the regulation is necessary to certify** the fact that the accounting services are of adequate quality.

High quality services offered by the profession are, in the end, a function of the professional standards, competences and personal values and of the regulation systems, all having to be consequent and to support each other.

A professional accounting organism has to have its own **regulating structure**, appropriate for the national framework, which consists of:

- A normative act which acknowledges the professional organism as a legal entity which represents the profession and which can offer it legal power for the regulating of its members.
- A status and personal regulations;
- Admission demands and a registry of members;
- Rules of professional conduct and ethics based upon the Ethic Code of IFAC;
- Accounting and Audit standards;
- Disciplinary systems, monitoring systems for the members.

2. The Situation in Romania

1. CECCAR sustains and promotes high level international practices, regulates the activities and the conduct of its members, develops and consolidates the accounting profession in the scope of serving the public interest.

The Government Decree no. 65 from 1994 was and remains a European regulation, due to:

- It is a regulation through which independence from the state is sought;
- Protects the public interest, the issues of internal regulation being commissioned to the professional organism CECCAR;

- Regulates the accounting profession as a whole and the expert accountant as the professional with the highest level of education and instruction in the subject of accounting, with unrestricted access to all activities and services forming the accounting profession.

2. Romania was the first country of the former communist bloc in which **professional standards** were elaborated for each and every service delivered or activities provided by professional accountants, in this manner:

- keeping books;
- elaborating, examining and presenting the financial situations;
- establishing and reorganizing enterprises;
- evaluating enterprises;
- Internal audit;
- Statutory audit;
- the censor activity;
- fiscal consultancy;
- accounting expertise.

The normalizing role of CECCAR for its members and as a representative of the accounting profession is subordinated to the quality of the elaborated norms.

Professional elaborated norms can be presented, today, as examples to the accounting profession from south-east Europe. Practically, in this moment, we do not have any service provided by a professional which does not have working standards, reference standards and conduct ones in the field of professional services, published by CECCAR Publishing.

For the benefit of the accounting profession and of the public it serves, CECCAR continued to give special attention to the accounting normalization recommendations of the European organism as well as IFAC's, so that CECCAR translates and publishes every year The International Standards of Financial Reference IFRS and The International Public Sector Accounting Standards IPSAS.

3. For the continuous professional development The National Standard of Education no. 38 was emitted, which assumes the education demands from The International Educational Standards no. 7 and 8 emitted by IFAC and which is brought into force through the National Program for continuous professional development emitted for a period of 5 years.

In order to continue the normative framework necessary for education and respecting the International Education Standards emitted by IFAC, CECCAR provides national education and development programs of accountants from the entire economy, either members or nonmembers through the National Program for Continuous Professional Development. The educational program administered and laid out by CECCAR is based on the International Standards of Education emitted by IFAC. In this manner, the essential elements from the norms emitted by IFAC were incorporated in the personal norms and programs regarding education.

The role of CECCAR in the educational process is manifested throughout all the steps and at all levels. In this sense, CECCAR, through the measures taken, has managed to convince the university environment to adapt and incorporate in the educational program of the

students from faculties with an economic profile, essential elements from the International Educational Standards.

To improve the CECCAR education system, starting with 2010 the activities organized for the members were divided into 4 categories (CECCAR, *National Education Standard no.38*, Editura CECCAR, Bucureşti, 2011):

Courses for the continuous professional development;
Courses for exam preparation and obtaining some competences;
Courses for technical and ethical education of interns, seminars, vivas, round tables, etc.

4. In the quality domain, CECCAR is one of the first IFAC members which extended the International Quality Standards to all services provided by accounting professionals.

The normative acts based on which the quality audit is achieved over the accounting services provided by the CECCAR members are:

The international standards emitted by the International Federation of Accountants (IFAC);

The CE recommendation from 15 November 2000 (no. 2001/256/CE) regarding the minimum requests on quality control of the professional services;

CE methodology;

The Government Decree no. 65/ 1994 regarding the organization of the accounting expertise activity and of authorized accountants, republished;

The organizing and functioning rules of the Body;

The national ethic code of professional accountants.

The quality audit done by CECCAR over services provided by members regards, mainly, the accomplishment of the following objectives:

The offering to the public of a good perception over the quality of services provided;
The harmonization of the professional conduct of members;
Contribution to the good organizing of cabinets and of perfecting the working methods;
Appreciating the way in which rules and professional norms are applied and respecting the member obligations;
The development of solidarity in the profession, through favoring the contact between coworkers.

The quality audit has, as a reference, the professional standards emitted by the Body for every nature of provided service, rules and professional norms. As far as the organizing of the quality audit, there is a functioning department for the following of the application of professional norms and quality audit.

Quality Audit (Toma Marin,Potdevin Jacques, p. 125)is made up of:

The structural audit, meaning the knowledge of the organizing and functioning means of the cabinet;
The technical audit, meaning appreciating the way in which professional norms are applied, the working files corresponding to the selected missions being examined through survey.

The conformity audit, meaning the verification of the way in which the member obligation are respected, obligations referring to education, ethics, the payments of fees, the deposit of the annual activity rapport, the participation to activities organized by the Body.

At the end of the mission deployed on the basis of the audit guide, total qualitative points are established, as well as the quality class in which the audited cabinet is framed in.

The audit activity over the quality of accounting services is realized by quality auditors, experienced expert accountants, formed and instructed by the Body.

5. In the field of ethics, respecting the obligations of an IFAC and FEE member CECCAR transposed as early as 1996 and continues to do so, the articles of the IFAC ethic code in the national standard, The Ethic Code of Professional Accountants, which was constantly brought to date considering the modifications, brought to the IFAC ethic code. The last version of the ethic code was approved by the superior organisms of leadership of CECCAR and published by the Body's publishing house in the fifth revised edition, in 2011.

In the benefit of the Romanian accounting profession and of the public it serves this standard was put at the disposal, as always, of the members, all professional accountants that activate in the different branches of economy.

The ethic code establishes norms of conduct and formulates the fundamental principles which have to be respected by the professional accountants who work in the different entities and branches of the national economy as free lancers or employees.

It is in the interest of the accounting profession to make known to the users of services provided by accountants, that they are executed at the highest performance level and in conformity with the ethical demands associated with these services.

6. The members of the body are obliged to respect the ethical demands published by CECCAR (CECCAR, C*odul etic national al profesionistilor contabili,* 5th edition, revised, CECCAR publishing, Bucharest, 2011) In order to follow the way in which the professional and ethical standards are respected, the accounting profession organism has at its disposal all the necessary resources for an efficient system of investigation and sanction of the cases of non-compliance. A Regulation of the Discipline Committees exists.

The consequent non-compliance of these requests can have the consequence of an investigation of the members' conduct by the Department of Ethics and the Discipline Committees at a local and central level.

7. Professional standards of high quality are important because they offer a reference base for the members of this profession, the users of the accounting services but also for the regulating organism and an evaluation base of the members' conformity with the best practices.

CECCAR also has, under the responsibility of a vice-president of the Superior Council, The Committee of Small and Medium Practices, which has the mission of knowing and implementing at a national level all the standards emitted by the PMM committee within the International Federation of Accountants – IFAC.

8. The users' needs of accounting information at high quality standards make the professional organism preoccupied continuously of the protection and trust of the public interest in the accounting profession in Romania.

CECCAR will continue to develop the process of standardizing the national profession for services provided by members, development under all forms of the educational process of its members.

3. Conclusions

The accounting profession must remain unique, have unique rules at a global level and remain unitary, in the sense that all activities forming the accounting profession are of equal importance, seen through the eyes of the public interest.

Regulating must be qualitative in order to respond to the public interest, for this to ensure the fact that the accounting services are qualitative. It has to be: proportional, transparent competitive, non-discriminatory, precise, implemented consequently and justly and to be submitted to periodical examination.

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Milenium III Organizations and their Assets

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Abstract: Between organizations and technology has always been an inter-conditioning, that the economic progress requires some fashionable technology for organizations, while the organizations are supporting from the financial point of view, directly or indirectly, the technological progress. The informational technologies and communication offered few opportunities of which the organizations benefited at all levels of its structures. The informational system of accounting is subject to challenges as we face the novelties. This paper aims to highlight the trends of development of the organizations and the impact on the informational system of accounting of the new adopted challenges.

Keywords: organization; intangible assets; virtualization; organizational structures

1. Introduction

Since the early twentieth century there were a lot of classification criteria of the organizational structures that have evolved with the conceptual developments of the organizational theory. Thus, we can talk about a particular taxonomy of the organizations as are supporting Burdus and Caprarescu (Burdus & Caprarescu, 1999).

An organization is characterized by a so called organizational structure. This structure of an organization induces to the outside environment, as supports and Y-F. Livian (Livian, 2001, p. 53), an image of internal stability. An image between elements and of a structural ensemble that is not visible from the outside, but from the inside, only to its members. A significant contribution to the definition of organizational structure has H. Mintzberg in 1982, which supports the idea that it is*… the total amount of means used for the division of work in different activities and to ensure consistent coordination between activities.*

Thus, is reached at formal structuring of positions, functions, procedures, communication circuits, meetings, hierarchies, commissions, committees and others, as well as at informal structuring such as daily interactions, competences,

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cultural belonging, affinities, etc. Regarding the classification of the organizational structures we deal with well defined criteria, between which we distinguish:

Structuring on functions that corresponds to some small and medium sized organizations, where the productive side is slightly differentiated and where cropping correspond to the five functions discussed above.

Structuring after the divided criterion is recommended to the organizations of medium sized organizations for which the market and products are diversified. In this type of criteria we identify:

The geographical criterion in which the division is made on products, market, etc.;

Autonomy criterion assigned to the division;

Completeness criterion, that sent us to the functional architecture.

Structuring on projects or programs, this aims towards the orientation around the discontinuous operations, such as the activities from different sectors of activity, such as aviation, informatics sector, etc.

The matrix structure that takes into account two criteria simultaneously that leads to a hierarchy both vertically and horizontally.

The four structures that are put in relation on two coordinates by the J – L. Lemoigne in 1974 (Lemoigne, 1974), as seen in figure nr. 1.1. So, there are considered the degree of complexity of exploitation and the uncertainty degree existent in environment where the organization operates.

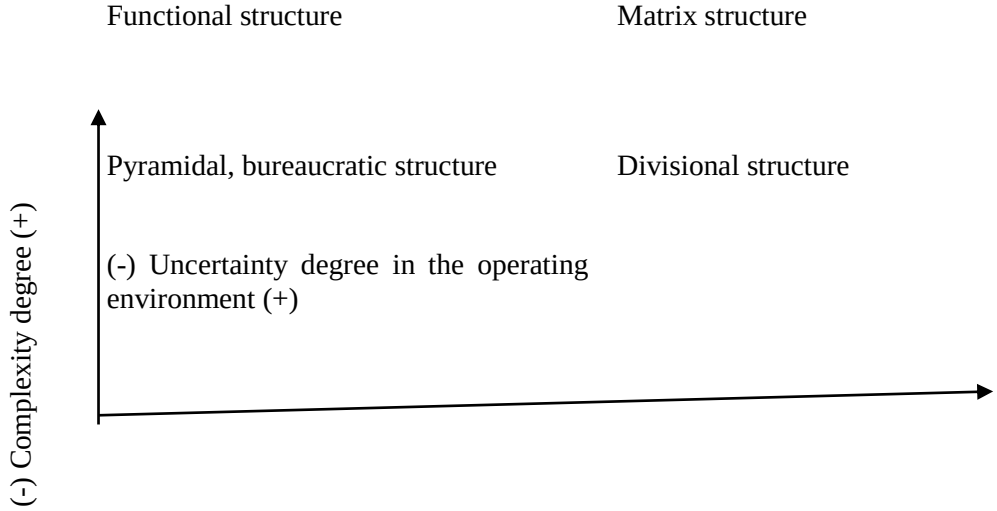

Figure 1.1 Representation of relations between the organizational structures

Source: (Lemoigne, 1974)

2. Organization an new informational and communication technologies

After building the firs electronic computer in the mid twentieth century and the development of informatics systems of management from 1970s, the organization had to regularly update their technologies to be competitive in the competitive battle to grab customers. The specialty literature[1] abounds that there will always be new technologies that will be assimilated by organizations and that the tomorrow organization will be totally different than the one of today.

Between organizations and technology has always been an inter-conditioning, that the economic progress requires some fashionable technology for organizations, while the organizations are supporting from the financial point of view, directly or indirectly, the technological progress.

The informational and communication technologies (ITC) are a collection of technological fields, such as informatics, electronics and communications, which develop simultaneously and interdependently (Tugui, 2003, p. 22).

The Department of Commerce and Industry of Great Britain in 1993 gave the following definition framework for the informational and communication technologies *"collection, storage and transmission of information as voice, image, text and numeric based on microelectronics, through combining the informatics with telecommunications "* (Lucey, 1993, p. 212) (Dumitriu, 2001, p. 28). This definition allows us to distinguish two obvious components, namely:

The actual informational technologies, which refers to the two components hard and soft;

Communicational technologies consisted of networks, wireless optical transmissions, ISDN, communications standards, etc.

In his paper "*Generalized informatics products for accounting*" (Tugui, 2003, pp. 32-41), Al. Tugui, lists the main technologies that are marking the economic and accounting field, as follows:

The Internet with its applications, including: Intranet, Extranet, groupware[2], Internet EDI (Georgescu, 2002, pp. 235-236)[3], email, e-marketing, e-learning, discussions on Internet (forums, meeting groups, newsgroups), chat (in real time), electronic commerce (e-commerce with the following business models : electronic store (e-shop), e-procurement , e-auction, e-mall, third part marketplace, virtual communities, etc), remote connectivity, virtual universes, capture radio and TV programs etc. We add to this informational and communication technologies found in vogue, such as: Grid Computing and Cloud Computing.

[1] Handay, C., (2000), Unimaginable future, in (Hesselbein, Goldsmith, Beckhard, 2000, pp. 274-278*)*
[2] Collaboratively working
[3] Electronic Data Interchange. For details concerning EDI see (Dumitriu, 2001, pp. 70-71)

Optical character recognition;

ATMs;

Electronic realization of meetings

Electronic management of documents;

Artificial intelligence and its applications;

Multimedia systems;

Tele-presence;

Web computers;

Speech recognition voice;

Digital television, etc.

At technologies listed above we add business intelligence, collaborative applications, ERP applications, virtual technologies for business, education and health, such as Second Life, which already gets momentum in the value creation process.

An organization subject to informational and communication technologies must agree to become increasingly virtual, as C. Handy[1] was stating, we can describe what they do, but we cannot see them.

In other words, the informational and communication technologies have provided some opportunities by the organizations that have benefited oat all levels of its structures. Among these are:

Digitization of some processes within the organization;

Facilitating the intra and inter organizational communication;

Appearance of valuable assets which contributed greatly to the overall value of the organization, as for example: chains of online stores.

Creating the premises and management conditions more efficient of the processes and resources available to them;

A more flexible of the organizations;

A more open to everything new;

A greater focus on its intangible assets.

[1] Handay, C., (2000). *Unmanageable future*, in Hesselbein, F., Goldsmith, M., Beckhard, R. Edts., p. 275.

3. Ideas to Take into Account for Passing To The Modern and Post-Modern Organization

The traditional organization, specific to the most part of the twentieth century is part of the analysis and the forecasting of the necessary qualities for the modern organization.

M. Hammer[1] makes a very fine comparison between the two organizations. Thus, the traditional organizational culture was based on the mutual understanding between workers and management as representatives of the holders of organizations. In turn, the understanding meant obedience and diligence at work in exchange for the work place. Currently the new organization starts from a customer which has changed lot in that it is only interested in results. Thus, instead of *the understanding* from the traditional companies appeared a favorable environment for *an exchange* of harnessing the opportunities, both for the employees and for management, to total commitment to show initiative in creating value for clients and finally for owners. In this way it offers freedom and personal development opportunities to all people involved in organization, from worker to manager, provided by customer's satisfaction.

Thus, we see that today most organizations wish to gain the trust of its customers and employees, in the conditions of a world characterized by more and more uncertainty and through changes without borders.

Now more than 50 years, in 1959, Peter Ducker was the one who argued that *the informatics procession of information leads to radical changes in organizations*. (Livian, 2001, p. 212) And we must admit that he was right.

In other 40 years, in 1997, Peter Drucker completed the *Introduction* at the *work The Future of the Organization*, published in 2000 and in Romania with the title *Organization of the future* with a remark made in a simple and clear way: *We are heading towards the new organizations*.

We want to accept or not the conclusion of P. Drucker, remains the option of each of us! But before accepting or not, it is necessary to put in a virtual balance the traditional and modern or post-modern organization next to the new trends already recorded and taken in the organizational theory along with which we add the pressure of the new technologies. Thus, we will get to the simple conclusion that P. Drucker was and this time right. However, there are and opinions[2] according to which the *new forms* of organization are not so new, and the innovative process of the late twentieth century is not so large compared to the late nineteenth century.

[1] (Hammer, 2000, *Soul of the new organization*, in Hesselbein, Goldsmith, Beckhard, 2000, p. 29)
[2] Pfeffer, J. (2000), *Will the organization of future the mistakes from the past*? in Hesselbein, Goldsmith, Beckhard, *Organization of future*, p. 41.

A proponent of diversity management, Th. Roosvelt Jr. (Thomas, 2000:241), believes that the future organizations cannot afford to keep the tight and outdated notions of diversity. Thus, Thomas establishes a set of qualities that the organization must cultivate within in order to prosper in the future, including:

Commitment to a common mission and vision (Thomas, 2000:245)

Efficiency;

Capacity of reflections and learning;

Self-empowerment while is looking for something new;

Multifunctional roles;

Performance Management;

Strategic thinking;

Cultural renewal;

Continuous searching and learning.

At their turn, Somerville and Mroz[1] offers a set of seven tips inspired from the examples of success companies, regarding the future organization, so that to obtain performance from all points of view, including of the owners, as follows:

Employing the organization in order to achieve a noble purpose;

Imposing of a responsible leadership;

Encouraging multidisciplinary teams;

Encouraging the organic partnership;

Promoting knowledge networks;

Catalyze of global search;

Adherence to change.

4. About the Assets of Modern and Post-Modern Organizations

Adam Smith, the classic of the political economy, argued rightly 400 hundred years ago, that a nation is even richer as it has a larger population. We wonder to what extent this statement remains valid today, in the conditions of new economy, and of the new informatics and communication technologies, which have brought and will bring many changes required by the future trends.

[1] Somerville, I., Mroz, J.-E. (2000), New competences for a new world, in Hesselbein, Goldsmith, Beckhard, 2000, p. 58-68.

In terms of technological progresses the human society has recorded three stages (Cornish, 2004, pp. 14-18), namely: *agricultural revolution* that began in the Near East 11.000 years ago, the *industrial revolution* marked by the replacement of water pumping technology from the British Mines with steam engines around 1750 and the *cybernetic revolution* started in 1937 with the first digital computer design and the construction/completion of it in 1944. Each of these three technological states has imposed specific assets, depending on what was most important, on the specific level of technological development.

The organizations specific the agricultural era, have put in the center of their attention the assets characteristic of that period. We refer especially to land and agricultural inventory necessary for work, including the work animals and constructions used in storage products. Of course, there were considered and other assets, such as money and precious metals and even slaves that worked that land.

However, not all these assets were incorporated into the accounting plan, but only a part of these which is related to the stock products and goods, to a part of farming stock and of course those who were in debt after selling those products or as a result of various forms of borrowing.

We notice so that there were assets of agricultural nature which were not took into account for their implementation in accounting plan. We support this idea with an example related to the arrangements of the agricultural terrains in order to irrigate them, which were not reflected in the wealth of the property people. The borrowing and lending institutions, as well as other organizations such as the religious ones or of shipping fell in the same trend of recording specific assets, indicating that it was possible not to have some assets specific to the agricultural organizations.

The organizations specific to the industrial age took first in account all specific assets of agricultural era to which were added the industrial equipments that have made their presence felt in manufacturing, factories and plants/ Over time, next to the industrial equipments there were included steam and electricity transport means, including the railways and roads.

Towards the end of the eighteenth century there are occurring certain assets of the patents, trademarks, concessions, which were not reflected in the accounting until the late nineteenth century. At the beginning of the twentieth century we find that with the traditional assets of the industrial era appear and assets of intangible nature that are found in the balances of the organizations. Thus we find an approach almost exhaustive from the accounting perspective of all the assets in physical form, to which are added and a part of the assets without physical form, such as: patents, trademarks, licenses, concessions and more.

The organizations specific to the cybernetic era, take into their portfolio all the categories of the assets specific to the agricultural and industrial era and adds assets with a pronounced intangible character of informatics nature. Thus occurred the

assets of digital nature, such as software, licenses, which are treated in accounting terms as any other intangible asset but and assets which are not recognized in accounting such as the virtual computer networks. In the last decades of the twentieth century arose specialized bodies in the treatment of intangible assets, but and standards of uniform application of the rules that are affecting them. Of course that and in this period are assets that are not recognized in accounting terms, which make their presence felt in turnover, but they cannot be clearly identified and assessed.

Even if we discuss of the cybernetic era, there are opinions according which the most precious assets for organizations are the people involved in these and which is the success recipe of any modern and post-modern organizations.

5. Conclusions and Proposals

The accounting has as main task to reflect the initial state of the patrimony, of the economic and financial processes and phenomena which is taking place within an organization in a reporting period, as well as of the final status of it.

In the conditions of extension that receives the assets of informatics nature, with major influences on the production processes and services, from the perspective of redesign and digitizes a significant part of the tasks related to supply, production, procurement, sale and subsequent collection, the informational system of the accounting is subject to some challenges to the extent of novelties with which we are facing. Among these challenges we have limited few that we think are important:

Daily extending of the informatics assets and hence of the virtual assets most often identifiable and generators of reliable economic benefits, imposes to accounting a continuous application of the specific test of recognizing the new occurred assets;

Virtualization of the own procedures, techniques and methods specific to the application of accounting technique. For example, the work in collaborative environment with the use of integrated applications and those of groupware category can lead to a better quality of the accounting information, increased data processing security, while reducing the risks of traditional or partially integrated methods;

Potential technologies that are in vogue (such as, electronic signature, cloud computing, etc.) may require radical reorganization of the data flow from the accounting recognition to the treasurer control , as well as and the necessity to update the rules for recognition of some patrimonial elements, including for those of intangible assets;

Successful implementation of some technologies of accounting and financial auditing could directly bring benefits both to the organization concerned, as and to the society as an entire, by limiting some illegal practices.

We believe that the virtualization of the processes and phenomena from within the economic entity will finally lead to an increase of the importance and share of intangible assets in total assets of the new organizations, which will help at the increase of the direct and indirect benefits, recognized by accounting. At the same time, we will find a greater evidence of the existence of intangible assets which cannot be drawn from the commercial estate.

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The Break - Even Point and the Leverage Effect – Instruments for Assessing the Economic and Financial Risk

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Abstract: The establishing by any company, depending on the domain of activity, of an minimum objective to be attained, so that the business should become profitable, is the aim principle of this article. In order to attain this goal, the assumed risk is considered, which implies the use of certain assessing instruments, as the break-even point and the leverage effect. This approach stands for a significant step in making strategic decisions, being a way to evaluating company security in case in which market conditions become unfavourable.

Keywords decision; return; benefit; loss; financial forecasting; risk

JEL Classification: D81; G32; M 41

1. Introduction

A way of assessing the proficiency of a company is achieved with the help of the break-even point which influence management decisions regarding the activity of production and trade.

The results of an enterprise are influenced by a series of economic and social events as depending on the nature of activity and its position in the economic environment. The increase of energy price, the increase of salaries, the development of competition, the appearance of new technologies, can lead the company to its *incapacity to adapt in due time and with the lowest cost to the variations of environment.* (Coșea, Nastovici, 1997, p. 30)

For a complete analysis of the financial proficiency of a company, the risk involved is considered, as any activity is subject to the economic (exploiting), financial and bankruptcy risk.

There are two possibilities for assessing the risk: the break-even point and the leverage effect.

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In order to attain a goal, any company must know its break-even point, as any change of result as a consequence of the variation in turnover is measured with the help of the leverage quotient.

2. Resources – Stages

2.1 The Evaluation of the Operating Risk

The economic risk appears in the moment in which the company is incapable of adapting in due time and with the lowest consumption of financial resources to the modification of changes in the economic and social environment.

The appearance of the economic risk leads to diminishing the result of the operating activity as caused by the increase in costs, by the expenses with salaries in total accordance with the turnover and other economic indicators.

The estimation of the operating or economic risk is achieved by using as instruments for analysing the break-even point and the leverage quotient.

2.1.1 The Operating Break-Even Point

Any activity involves a capital consumption which is subject to certain ***risks*** accompanying the ***return***.

The return is directly proportional with the risk degree, as the higher is the return expected, the greater is the assumed risk and vice versa.

The concept of ***break-even point*** is based on the analysis of ***variable costs*** and ***fixed costs***.

The break-even point is characterised by the return or the level of activity which the company must reach in order to cover the total of costs (either fixed or variable) so that it does not release any benefit or loss.

The comparison between the rate of turnover and the break-even point allows the determining of the result's nature:

If CA = Break-even point = Null result (dead point)

CA > Break-even point = Benefit

CA < Break-even point = Loss

A major objective of any business is to get over the break-even point. The break-even point allows the company to have the following possibilities mirrored by figure 1.

The break-even point emphasizes the minimum level of activity to which the company must be situated in order not to be in loss. Exceeding this level, the activity performed becomes profitable. The smaller the critical level is, the more reduced the economic risk (of exploiting) will be.

The determining of the break-even point can be performed in accordance with the informational necessities of the manager, in physical, value-related or day-accounted units, for a single products or for the entire activity of the company.

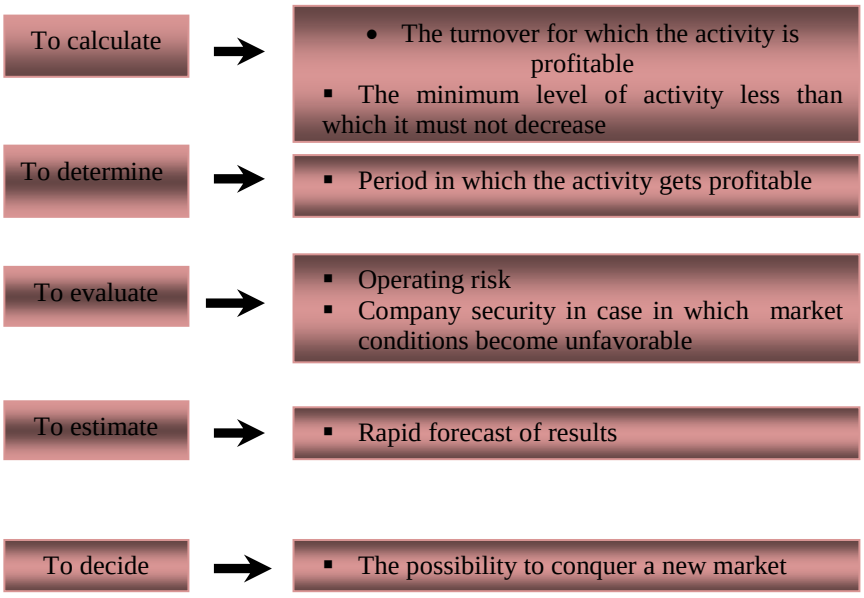

Figure 1 Possibilities to Surpass the Break-Even Point

Adapted from: Béatrice et Francis Grandguillot, 2010/2011, p. 87

Determining the Break-Even Point

A firs way for assessing the risk of operation is described in *table 2*, which is based on the security margin, the certainty level and the efficiency gain or the turnover index.

1. The break-even point is useful at first in **recovering expenses from incomes without profit**

(B=0):

$B = CA - CT = 0 \quad \rightarrow \quad CA = CT = Cv + Cf$

At the dead point B =0 → CA – (Cv + Cf) = 0 → MCV – Cf = 0

MCV = Cf, variable costs margin = fixed costs

If we compare the turnover rate to all the ratio elements, we obtain:

$\frac{MCV}{CA} = \frac{Cf}{CA}$ from which there results the critical turnover :

$$Critical\ CA = \frac{\text{Cf}}{\frac{\text{CA}-\text{Cv}}{\text{CA}}} = \frac{\text{Cf}}{\frac{\text{Mcv}}{\text{CA}}}$$

2. Determining the ***security margin (Ms)*** or the ***position indicator*** stands for the capacity of the enterprise to adapt to market requirements. A high value of the indicator indicates the lack of risk and the development of company activity in conditions of certainty.

$$Ms = CA - Critical\ CA$$

3. The determining of the ***certainty interval (Is)*** expresses the company capacity to adapt to market and competition environment requirements, and reflects the position of the turnover as to the break-even point. A high value of the indicator (over 20%) shows a comfortable situation protected by potential risks.

$$Is = \frac{CA - Critical\ CA}{Critical\ CA} \times 100$$

4. The determining of the ***efficiency gain*** (Se) and the ***turnover index*** expresses the level up to which the rate of turnover can decrease in order to attain the break-even point.

The more diminished is the rate of turnover, the more reduced is the turnover index, and the company enters the loss area, the financial and economic equilibrium being not maintained.

$$Se = \frac{CA - Critical\ CA}{CA} \times 100$$

The smaller is the index value, the easier it becomes for the break-even point to be attained by companies.

The Break-even point at C.N.F.R NAVROM Joint Stock Co. Galați is determined on the basis of the data from table 1:

Table 1 Operating Break-Even Point

Cr. No.	Indicators	Financial Period		
		2008	**2009**	**2010**
1	Turnover (CA)	**199.945.306**	**156.160.170**	**185.905.402**
2	Variable expenses (Cv)	69.112.028	56.148.502	78.803.620
3	Variable Costs Margin Mc (1-2)	130.833.278	100.011.668	107.101.782
4	Fixed expenses (Cf)	121.702.815	94.601.808	110.507.676
5	Critical turnover (Critical CA)	**186.004.608**	**147.722.998**	**191.820.302**
6	Security margin (Ms)	+13.940.698	+8.437.172	-5.914.900
7	Certainty interval (Is)	7,49	5,71	-3.08
8	Efficiency gain (Se)	6.97	5.40	-3.18

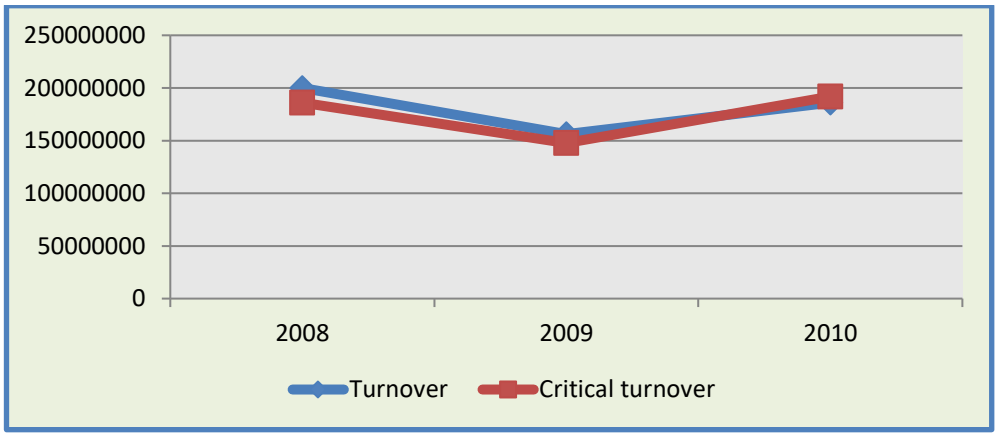

Figure 2 Graphic Representation of the Operating Break-Even Point

From this analysis, there can be drawn the following conclusions:

In the first two years, 2008 and 2009, the volume of activity was over the break-even point within the benefit area, there being recorded values higher to critical ones.

The situation becomes unstable, the certainty interval decreasing all along for the analysed period under the 10% level, which expresses the firm's incapacity to adapt the market, the operating risk being high, this leading to the continuous

diminishing in the industrial production and, consequently to diminishing the volume of merchandise offered to transport from 2008 until now. The lack of commodities has generated a harsh competition, which led to a significant decrease in tariffs, and finally to a continuous diminishing in profit.

The efficiency gain is diminished in 2010, when the enterprise enters the loss area, and the economic and financial equilibrium being not maintained.

2.1.2 The Operating Leverage Quotient

Another way to appreciate and assess the operating risk can be achieved on the basis of the **operating leverage quotient** (CLE).

The quotient estimates the risk to which the company is subject to, its incapacity to adapt in due time and minimum of effort to changes in the economic and social environment.

The appearance of the operating result is determined by the variable costs margin, the contribution of fixed expenses and by the turnover's getting close to the break-even point. The calculation of the operating leverage quotient is achieved in table 2 by taking over the data from table 1, according to the formula:

$$CLE = \frac{MCV}{Rexp}$$

The leverage quotient expresses the ***elasticity of the result*** obtained by the company as compared to the dynamics of the activity volume.

$$e = \frac{\frac{\Delta Rexp}{Rexp}}{\frac{\Delta CA}{CA}}$$

The bigger the volume of the activity exceeding the critical volume, the more reduced the value of the elasticity quotient, and the smaller the operating risk.

Table 2 Operating Leverage Quotient

Cr. No.	Indicators	Financial Period		
		2008	**2009**	**2010**
1	Turnover (CA)	199,945,306	156,160,170	185,905,402
2	Variable expenses (Cv)	69,112,028	56,148,502	78,803,620
3	Variable costs margin Mcv (1-2)	130,833,278	100,011,668	107,101,782
4	Variable costs rate (rcv)(2/1)	0.35	0.36	0.42
5	Rate of the variable costs margin (rmcv) (3/1)	0.65	0.64	0.58
6	Operating result (Rexp)	12,196,999	8,302,347	2,288,566
7	**Elasticity quotient**	**-**	**1.67**	**-16.42**
8	**Operating Leverage Quotient (CLE)(3/6)**	**10.97**	**12.39**	**49.28**

From the data presented, it results that the operating activity is subject to the maximum risk, because of the very high values of the index, which have exceeded the unitary value.

There may be noticed, yet, that in the first two years, the greater the break-even point, the more reduced the operating risk.

In 2010, the elasticity quotient is negative, which reflects a high operating risk.

The avoiding of the operating risk can be performed by an increase of the turnover and the commercial margin in a percentage higher than variable expenses, and the fixed expenses being maintained as relatively constant.

2.2 The Assessment of the Financial Risk

The financial risk is related to the financial structure of the company with respect to the currency risk, the indebtedness risk, the interest rate risk, the inflation risk and the insolvency risk.

The evaluation of the financial risk is achieved through calculating the financial break-even point and the financial leverage quotient.

2.2.1 The Financial Break-Even Point

The financial break-even point as an instrument for analysing the financial risk is established for a methodology resembling to the economic risk, with the difference that there are taken into account the expenses which concern interests. These are

considered as fixed expenses as compared to the rate of turnover up to a certain level of activity.(M. Muntean, 2006, p. 173)

Determining the Break-Even Point

Determining the financial break-even point is obtained through the calculation ratio:

$$Critical\ CA = \frac{\text{Cf} - \text{Dob}}{\frac{\text{CA}-\text{Cv}}{\text{CA}}} = \frac{\text{Cf} - \text{Dob}}{\frac{\text{Mcv}}{\text{CA}}}$$

Based on the data in *table 3*, there is calculated the financial break-even point for the company analysed:

Table 3 Financial Break-Even Point

Cr. No.	Indicators	Financial Perios		
		2008	**2009**	**2010**
1	Turnover (CA)	**199,945,306**	**156,160,170**	**185,905,402**
2	Variable expenses (Cv)	69,112,028	56,148,502	78,803,620
3	Variable costs margin Mc (1-2)	130,833,278	100,011,668	107,101,782
4	Fixed expenses (Cf)	121,702,815	94,601,808	110,507,676
5	Interest expenses	2,628,194	2,247,645	2,200,032
6	Critical turnover (Critical CA)	**181,987,805**	**144,213,246**	**188,001,465**
7	Security margin (Ms)	+ 17,957,501	+11,946,924	-2,096,063
8	Certainty interval (Is)	9.87	8.28	-1.11
9	Efficiency gain (Se)	8.98	7.65	-1.13

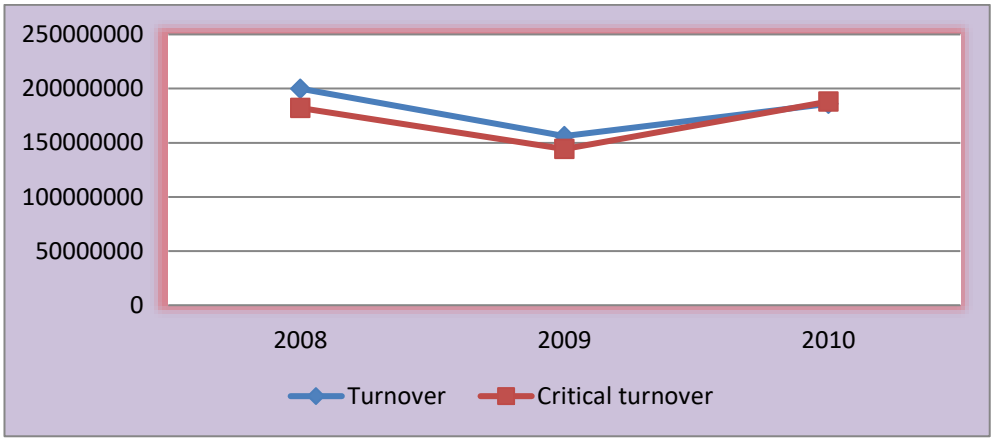

Figure 3 Graphic Representation of the Financial Break-Even Point

Subsequent to the performed analysis on the calculation of the break-even point or the critical turnover up to which the company can cover the total costs, so that no benefit is released and no loss at the deadlock, there have been noticed the following:

In the 2008-2009 period there was recorded a greater turnover than the critical one, which indicates that the company is in the benefit area, yet in 2010 the rate of turnover is outmatched by the break-even point, so that the company is placed in the loss area. In order to reach the dead point, the turnover must be equal to the break-even point. In the point in which the turnover line crosses the critical turnover line or the breakeven point, the dead point is obtained (see figure 3).

The certainty margin has a positive value in 2008 and 2009 which indicates the lack of risk in the performing of activity in good conditions, followed by a negative value in 2010, which indicates the presence of the financial risk;

As for the certainty interval, in normal conditions it must reach values of over 20%, yet in the case of the company analysed, the interval diminishes from one year to another, which implies a lack of adaptation to the requirements of the market and competition;

The turnover index or the efficiency determines the level up to which the rate of turnover can decrease up to reaching the break-even point. From the analysis, there can be noticed a more diminished level, which makes the break-even point more attainable.

2.2.2 Financial Leverage Quotient

This risk becomes evident by the sensitiveness of the net result to the variations of the exploiting result, and it is estimated by the financial leverage quotient (CLF).

$$CLF = \frac{Rexp}{Rexp - Chfin}$$

For the calculation of the financial leverage quotient, there are taken over data from the profit and loss account of NAVROM Joint Stock Co. Galați and is presented in *table 4*:

Table 4 Financial Leverage Quotient

Cr. No.	Indicators	Financial Period		
		2008	**2009**	**2010**
1	Turnover (CA)	199,945,306	156,160,170	185,905,402
2	Operating result (Rexp)	12,196,999	8,302,347	2,288,566
3	Financial expenses (Chfin)	10,119,851	8,821,664	9,113,492
4	Rexp-Chfin (2-3)	2,077,148	-519,317	-6,824,926
5	**Financial leverage quotient (CLF)(2/4)**	**5.87**	**-15.98**	**-0.33**

From the analysis of the results presented, it results that the values of the financial leverage quotient are different from one period to another. Except for 2010, when the result of the financial activity is profitable, within the two years, i.e. 2008 and 2009 respectively, the expenses on interests have a high influence upon company activity.

By the nature of the activity performed, the company is subject to different risks: the credit risk, the currency risk, the risk regarding the interest rate and cash.

2.3 The Evaluation of the Total or Global Risk

The evaluation of the total risk or the economic and financial risk is accomplished with the help of the total leverage quotient (CLT), thus describing the risk to which the company activity is subject to in maintaining a financial-economic equilibrium.

The calculation of the total leverage quotient implies the multiplication of:

$$CLT = CLE \times CLF = \frac{Mcv}{Rexp - Chfin}$$

In the case of C.N.F.R. NAVROM Joint Stock Co. Galați, there are obtained the following results from *table 5*:

Table 5 Total Leverage Quotient

Cr. No.	Indicators	Financial Period		
		2008	**2009**	**2010**
1	Exploiting Leverage Quotient CLE=Mcv/Rexp	10.97	12.39	49.28
2	Financial Leverage Quotient CLF=Rexp/(Rexp - Chfin)	5.87	-15.98	-0.33
3	Total Leverage Quotient CLT = CLE x CLF	62.98	-192.58	-15.69

The descending trend of the total leverage quotient reflects the reducing in the degree of global risk, but in the meantime, it is subject to risks because of the inefficiency of the operating activity, which affects the financial performance of the enterprise.

The economic crisis unleashed at a global level in 2008 and continued in 2009 did harshly affect the financial results of 2010, as a consequence of the continuous diminishing of the industrial production which led to cutting in the volume of merchandise offered to transport.

The lack of commodities generated a fierce competition, finalised within the harsh decrease in tariffs, which did considerably affect the year 2010. As a corrective step to reducing costs, a part of the transport capacities were withdrawn towards conservation and others were quashed. In the future, the company has in view the taking over of certain river transport activities in Brazil, Columbia, Sierra Leone in order to exploit the exceeding transport capacities.

3. The Leverage Effects within Financial Forecasts

Using the results of the financial period in 2010 from the profit and loss account, the leverage quotients from *table 5*, and estimating the increase of turnover with 10% in the subsequent period, there can be assessed the chain effects of this increase upon results forecasted within 2011 as a result of calculations performed:

The increase of the ***operating results***

$ELE = CLE \times \Delta rCA = 49.28 \times 10 = 493\%$

$Rexp_{2011} = Rexp_{2010} \times 5.93 = 2{,}288{,}566 \times 5.93 = 13{,}571{,}196\ lei$

The increase of the ***net result***

$ELF = CLF \times \Delta rRexp = 0.33 \times 493 = 162.69\%$

$Rnet_{2011} = Rnet_{2010} \times 2.6269 = 2{,}214{,}634 \times 2.6269 = 5{,}817{,}622\ lei$

The increase of the ***net result***

$ELT = CLT \times \Delta rCA = 15.69 \times 10 = 156.90\%$

$Rnet_{2011} = Rnet_{2010} \times 2.5690 = 2{,}2146{,}34 \times 2.5690 \cong 5{,}817{,}622\ lei$

If we replace with values resulted in 2011, we will obtain the following forecast quotients:

$$CLE = \frac{Rexp_{2011} - Cf_{2011}}{Rexp_{2011}} = 9.14$$

$$CLF = \frac{Rexp_{2011}}{Rexp_{2011} - Chfin_{2011}} = 3.04$$

$$CLT = CLE_{2011} \times CLF_{2011} = 27.78$$

Table 6 Financial Forecasts for the Year 2011

Cr. No.	Indicators	Achievements			Forecasts
		2008	**2009**	**2010**	**2011**
1	Turnover (CA)	199,945,306	156,160,170	185,905,402	204,495,942
2	Operating result (Rexp)	12,196,999	8,302,347	2,288,566	13,571,196
3	Net result (Rnet)	9,684,500	6,267,428	2,214,634	5,817,622
4	Fixed Expenses (Cf)	121,702,815	94,601,808	110,507,676	110,507,676
5	Financial Expenses (Chfin)	10,119,851	8,821,664	9,113,492	9,113,492
6	Quotient of the financial leverage CLE=(Rexp+Cf)/Rexp	10.97	12.39	49.28	9.14
7	The Quotient of the Financial Leverage CLF=Rexp/(Rexp- Chfin)	5.87	-15.98	-0.33	3.04
8	Quotient of the Total Leverage CLT = CLE x CLF	62.98	-192.58	-15.69	27.79

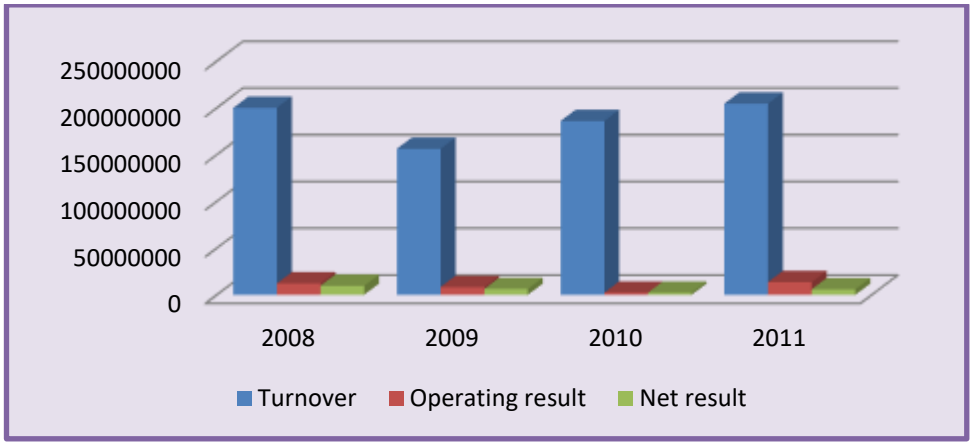

Figure 4 The Evolution of Financial Results

Subsequent to the research performed, it must be noticed that the increase in turnover with 10% does favourable influence all results (operating result, net result) by way of a chain of effects beneficial to the financial performance.

4. Conclusions

In conclusion, the approaching of the break-even point and the assessment of risks is an analysis necessary for stetting and elaborating the forecast horizon. The whole study is concluded with an inefficiency of the operating activity, which affects the financial performance of the enterprise.

The time horizon forecasted in 2011 was achieved by estimating a turnover increasing with 10%. Subsequently to the analysis performed, there was noticed an influence of turnover on results via a chain of effects beneficial to the financial performance, and in the case of leverage quotients there may be noticed a decrease, which reflects a reduction of the economic, financial and total risk.

As a rule, an analysis on the performance of a company aims at all non-financial and financial aspects of the activity, as the performance is not limited to only the accounting and financial results, maximum profitability, financial equilibrium and capacity to generate the cash necessary to the future functioning and expending. In order to be proficient, a company must take account of the future development perspectives generated by its material, financial, human, informational, and organisational resources.

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Financial Institutions and Services

The Role of the Funding System and Guarantee Credits Destined to Small Entrepreneurs in the Current Context -I

Georgeta Dragomir[1], **Mariana Trandafir**[2]

Abstract: Financing schemes do not limit only to covering the financing needs from their own funds or raised ones. Their role should insure that the economic development is impelled, ensuring the necessary funds, as a whole, but especially at the level of small entrepreneurs, much more exposed to the turmoil of the contemporary economy. At EU level it is recognized the important contribution that the SMEs bring to the economic development and growth, as they are creators of employment opportunities and key factors of local and regional prosperity. But the funding needs are increasingly higher and the access to financing is more difficult, mainly due to the lack, insufficient or limited availability of guarantees. In this context, the guarantee funds represent a solution, proven by the European economies and recently launched in Romania. Guarantees as financial instrument to develop and stimulate the entrepreneur are issued by specialized organisms, respectively by banks or guarantee founds. Guarantee founds are an active part in European business environment. The analysis in this paper is based on the study of official documents, reports of specialized bodies, statistics and examples of good practice, summarized and interpreted in comparison and in developments. The aim is identifying a series of issues that can lead to the influence of responsible factors – the public authorities, credit institutions, professionals – in order to come up with new practical solutions that would induce the guaranteeing process qualitative factors and to stimulate the financing process of small entrepreneurs.

Keywords: guarantee funds; SMEs; European practices; financial supervision

1. Introduction

World financial-banking phenomenon is manifested by a set of markets, techniques and tools that offer to investors a wide range of products and they facilitate the profits, but it also multiplies the risks, with rapid dissemination. Financial-banking system's role is not limited only to cover financing needs of the temporarily available funds. It should seek to boost economic development, ensuring the necessary funds but at the level of big companies and small entrepreneurs, more

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exposed to the turmoil and dynamic phenomena context in the contemporary economy. Moreover, if the necessary investments in a particular period or in a disadvantaged area (emerging economies, economies affected by financial crisis, etc.) are massive, then the savings that need to be financed are totally insufficient or they shift, because the offered output does not cover the risk. The role of financial of monetary intermediaries becomes predominant and it leads to a system known as "debt economy" of entrepreneurs to banks and banks to the central bank. In the debt savings the risk relates to financing companies, and in the case of implications arising from unforeseen circumstances, the risk is borne by the state, the central bank providing liquidity to banks in difficulty in order to prevent the risk of system. (Corduneanu, 1998) The effects are reflected directly or indirectly on the economy, either by cost (interest, risk premiums, excessive taxation, etc.) or by limiting funding and the offered guarantees lose some of their value and credibility. The economy has more to suffer, mainly the small and medium businesses that lose all chance of funding.

In this respect, it supports the idea of a need for the reform of financial intermediaries or to find alternatives, so as to achieve a more effective financing of economic development. There is unprecedented innovation and the diversification in products and financial services, and also of the bodies that manage them.

The current global crisis has absolutely affected all areas of activity – we are talking of food, energy, climate, financial, economic and social crisis - and a direct consequence represents a more difficult access to funding and fewer foreign investments. The financial and economic crisis triggered in 2007 produces the most dramatic effects, even greater in the emerging and developing countries, especially in those where there is the lowest income.[1] Insufficient capital was the most frequently cited reason for entrepreneurial failure in both the transition region and the Western comparators, and even more so in the transition countries. And the underdeveloped financial systems of the country are considered one of the possible causes, along with de Bureaucratic impediments.[2]

2. Context, Developments, Concepts and Approaches

The materialized market deficits in high dependence on the bank credit, accompanied by the limitation and cost of credit, the high level demands of guarantees, the negative reactions towards risk and low interest towards small projects, insufficient solvency and liquidity, the lack of funding in the initial stages

[1] European Parliament, Committee on Development, Report on the financial crisis and economic crisis on developing countries and on development cooperation (procedure 2009/2150 (INI), March 9, 2010.

[2] http://www.ebrd.com/downloads/research/transition/tr11.pdf , Transition Report 2011 al EBRD

and of concepts relating to capital are just some of the real problems faced by the economic agents in our times, in Europe and Romania.

The financial crisis was transmitted mainly through financial channels. In addition, financial integration seems to have fuelled the credit boom preceding the financial crisis. This credit boom and the related stocks of private foreign debt are widely believed to have made the transition region so vulnerable to the financial crisis, and are in fact strongly correlated with extent to which output declined in the region during the Crisis. (Berglöf, Korniyenko, Plekhanov, & Zettelmeyer, 2009)

In Romania, financing was maintained mostly through bank loan, and the risk of a credit crisis it manifests dangerously; credit is the major investment of banks, while other forms of investment are reduced, motivated by a still symbolic representation of the debt securities and specific markets.

In this context, a real use for business environment represents the innovation of guarantees. On this level, the credit guarantee organizations have emerged as a result of the association of small entrepreneurs in an attempt to find solutions to difficult access to financing, a situation exacerbated under the crisis conditions.

In most cases, this phenomenon has been reinforced by the government intervention, that was very aware of the important role played by SMEs in the national economies, by the important contribution to the economic development and growth.

At the EU level it is recognized more explicitly the role of SMEs, "as creators of employment opportunities and key players in the prosperity of local and regional collectivities. Dynamic SMEs will strengthen Europe to the uncertainty caused by the current globalization".[1]

Guarantees as a financial instrument for development and stimulation of entrepreneurship, are issued through specialized bodies, namely banks and guarantee funds. Banks or guarantee funds have as activity also guaranteeing loans and other financial instruments which may be obtained by economic agents.

Although we have not identified an overarching definition, in practice the credit guarantee funds are bank and non-bank financial institutions whose role is to undertake the credit risk of credit entities, by guaranteeing to a portion of debt service of a debtor in the case of the failure of its payment.

[1] Commission of the European Communities, Communication from the Commission to the Council, The European Parliament, The European Economic and Social Committee and the Committee of the Regions**,** Brussels, 25.6.2008, COM (2008) 394 final, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0394:FIN:EN:PDF

For the acceptance of the International Monetary Fund[1], guarantee funds are institutions that provide customers against losses that affect the financial companies or that can be generated from certain contracts. The mission of the guarantee funds refers to: risk sharing between the lender and the fund; targeting a segment of specific activity; supporting some viable and of impact projects.

Credit Guarantee Funds represent instruments of stimulating investments for small and medium enterprises (SMEs) by partial taking over the risks that the credit institutions are facing. At the same time, they represent a form of protection against very high risks, which involves the lending of SMEs, particularly in medium and long term.[2]

The origin of mutual guarantee coincided with the emergence of organizations in France "Societes de Caution Mutuelle/Societies of Mutual Caution", established under a law in 1917. Since 1929, similar societies have developed in Belgium as well. Later in the reconstruction process of Europe after World War II, the system developed in Germany and Italy, although the evolutions were different. Thus, in Germany, these associations have developed rapidly, being supported by the state, while in Italy, they have known a real development triggered only after the oil crisis in 1973. In Spain, these companies have emerged as an economic policy instrument and as a means of promoting the industry since 1977, in the context of the transition beginning towards a democratic society.

Currently, the mutual guarantee societies in Europe present a great heterogeneity.

It may be noticed the existence of regional organizations of guarantee, among which the European *Association of Mutual Guarantee* (AECM), founded in 1992, an international, democratic, open, independent, non-profit organization having its headquarters in Brussels, whose members are part of the guarantee private sector, as well as the public one. The AECM carry out lobbying activities at EU's level in support of Guarantee Bodies. From the volume of European guarantees, the AECM accounts for about 10%. In accordance with its constitutive act, the AECM's main objectives are: strengthening and developing the role of guarantee and, in particular the mutual guarantee, as a financial instrument to facilitate the SME access to financing; to stimulate the exchange of information and know-how between members; promoting and harmonizing the legal guarantee of schemes and communicating ideas, of proposals submitted to the Party involved in economic policies, including the EU. In 2009, the AECM member organizations had a portfolio of guarantee total 70.4 billion Euros and issued a total of 34 billion Euros

[1] IMF, Monetary and Financial Statistics Manual, 2000; http://www.bnro.ro/
[2] http://garantinvest.md/pdf.ro.pdf, Financial guarantee an efficient instrument of entrepreneurial development, 2006

in new guarantees.[1] All credit guarantee funds in Romania, including counter-guarantee fund are members of AECM.

The European guarantee agencies are established and supported by the public institutions or they operate as nonprofit organizations with sole purpose of supporting private initiative and / or public by compensating the lack of guarantees towards banks, based on the national counter guarantees and / or supranational ones offered and funded by the European Commission.

The guarantee system works either by guaranteeing a percentage share of the total credit also without exceeding a certain level, or by establishing a coverage guarantee, in absolute terms, the a relatively small nominal value, which gives a dispersion of risks and discourages big firms.

The KBN - European Business and Innovation Centre Network considers the following elements as being essential to the success of credit guarantee funds: sufficient initial capital and careful financial management; detailed and rigorous defining of acceptable risk level; the capacity of risk assessment; high degree of independence; segmentation of different types of accepted risk, appropriate monthly risk tracking; close cooperation and regular communication with banks; investment guarantee level limited to a maximum of 75%; participation to financing from the debtor's part.[2]

The International classification of guarantee systems based on the fact that there are two general models of guarantee: 1. *Guarantee companies* (mutual guarantee companies, Guarantee Companies) 2. Guarantee programs (specialized institutions guarantee, institutions run by public administration bodies)

Table 1. Specific compared issues between guarantee companies and programs[3]

Indicator	**Guarantee** *(Romania -* **Societies**	**Societies** *FRGC, FGCR)* **Mutual Societies**	**Guarantee *Programs*** *(Romania - FNGCIMM)*
Decision on creation and origin	Social agreement	Social agreement	Government/Administration
Legal scope	Private	Private	Public
Legal personality	Legal societies	Specific legal societies	Public and in developing banks, developing agencies, public entities, specific funds for covering

[1] http://infoportal.rtv.net/articol~din-economie~info-2259621~investitii-garantii-reusita.html
[2] http://infoportal.rtv.net/articol~din-economie~info-2259621~investitii-garantii-reusita.html
[3] Fundación ETEA para el Desarrollo y la Cooperación, Pablo Pombo González, Horacio Molina Sánchez, Jesús N. Ramírez Sobrino, María José Vázquez de Francisco The European Framework of Guarantee Systems/Schemes: Main Characteristics and Concepts, Working Paper, July 2006; http://garantinvest.md/pdf.ro.pdf, personal processing of data.

Indicator	**Guarantee** *(Romania -*	**Societies** *FRGC, FGCR)*	**Guarantee *Programs*** *(Romania - FNGCIMM)*
	Societies	**Mutual Societies**	
Decision on creation and origin	Social agreement	Social agreement	Government/Administration
			risks.
Capitalization	Corporate capital	Corporate capital	Budgetary resources
Origin of resources	Mixed: pub. and/or priv.	Mixed: mostly priv.	Public
Situation and evolution of resources	Increases with activity	Increases with activity	Limited
Temporality of resources	Non-Temporary	Non-Temporary	Temporary
Participation in management by micro and SME's	No / Yes	Yes	NO
Supervision Regulation (call for capital, provisions)	Yes	Yes	According to institution
Corporate purpose/exclusivity of the guarantee activity	Guarantee exclusive	Guarantee exclusive	Issuance of guarantee for SMEs together with other activities (in the case of public bodies the guarantee activity may be exclusive)
The purpose of the activity	Profitability	Aid members	Aid members

For guarantee companies there is a clear distinction between guarantee companies whose activity seeks a profit and mutual guarantee companies, where the goal of helping the members has paramount importance. Although both meet the specific legislation, there is a major distinction between them, which can occur even in the name of guaranteeing entity.

In the case of guarantee programs, there is a major difference depending on how the guarantee activity is conducted. Thus in some cases there are specialized public institutions, which carry out self guarantee management, while in other cases, the guarantee management is held directly by the bodies / departments of public administration.

Joint actions on the direction of supporting the development of small entrepreneurs find more and more partners at European level. Thus, South East Europe is directly approached for the development of an environment appropriate for innovative entrepreneurship, by the Network project which starts from a core group of already existing cooperation partners addressing innovation and technology support to micro, small and medium sized companies (MSME) having as starting point the

credit guarantee organizations.[1] It identifies the current policy issues of credit guarantee development in Eastern Europe and recommends how governments can address specific actions in order to improve the environment particularly for small and medium-sized enterprises. The main goals are the creation of a technological platform as a common language in the credit organization tools which collects SMEs information in the same way as in the Europe; Creation of common standards and operative methodologies among different credit guarantee schemes in order to foster cooperation among SMEs and promote their development and internationalization.

Including the European Court of Auditors, in the Special Report no 4/2011 "The Audit of the Guarantee Fund for SMEs", shows that the access to credit represents a problem for SMEs in Europe. Based on its findings, the Court has made a number of recommendations, such as, in the future, the Commission would establish more measurable specific target levels in order to achieve the objective of facilitating the monitoring the achievement of the financial objectives' instrument. It also states that there should be provided adequate measures in order to ensure a more effective allocation of EU funds in favor of those SMEs that have viable projects, but if there was no such instrument, it would have not been able to obtain financing.[2]

3. Aspects on Good Practice from the European Space

In the methodological approach, we investigated several models of practice in Europe, models that we present below.

In *Germany*, for example, there is a system with regional companies, with multi-sectorial feature, present in all provinces, with non-profit status and ownership among the financial institutions, of insurance banks and Chambers of Commerce and a partnership at national level. This organization gives them independence, flexibility in decision making and risk taking. There are relationships with banking system and they are commercial partners of the state, supporting its programs, including social directions, such as creating new jobs. In the German model it predominates however the guarantees for creating new companies.

The Guarantee companies have a double purpose: the development of SMEs by facilitating credits guarantee; "to sensitize" the commercial banks to grant small credits by optimizing the capital requirements, costs and provisions.

The counter-guarantee, recognized by competent authorities as subsidy, is provided by the State and Federal Government, so that risk sharing takes place in chain.

[1] http://www.cadses.net/ , GO Network – Guarantee Organizations Network
[2] European Court of Auditors, The Audit of the SME Guarantee Facility, Special Report no 4, 2011, http://eca.europa.eu/portal/pls/portal/docs/1/7932726.PDF

In *Spain*, the regional structure prevails, with a tendency, however, towards one company per region. Some sectorial organizations also operate.

In *Austria*, the national guarantee mechanism has a direct coverage by the state. The activity is provided by limited liability companies that have a similar status to that of a bank and it deals with, under a special law, by the guarantee of private investors (individuals, companies, institutional investors, SMEs). Without specific agreements, it collaborates with all commercial banks and it supports private investors offering consultancy, training and tools to guarantee specific life cycles of companies, for credits and participants on the capital market. It supports investors including business internationalization, ensuring 50-100% of the value of the credit, but with a limit of amount.

In *France*, it has been developed a model based on the coexistence of two companies' networks: one is the Multi-professional type (SOCAMA companies) and the other is a national network of sector type.

In *Italy*, the guarantee scheme for SMEs is provided by mutual guarantee companies (private companies whose shareholders are the SMEs) and national and regional funds for counter and direct guarantee (public sector). Thus it is achieved a double cover: a sectorial and geographical one. Mutual guarantee companies are specialized on activity sectors (crafts, industry, trade and tourism, agriculture activities) and it supports the SMEs which are members in accessing credits, on more favorable terms regarding the costs and size, based on the agreements with commercial banks. On this basic structure, it is overlapping a broad range of networks of unions and associations operating in the regional context ("regional regruppaments") and two federal structures at national level, one in the industry domain and another in trade.

If in Belgium it prevails the short-term guarantees, in Italy there is a variety of entities specialized in long term transactions.

The State intervenes in supporting the guarantee institutions by different means[1]: promoting legislation in this respect, often targeting their creation as well; monitoring and control of guarantee systems operation; tax incentives; capital contributions, nonrefundable aids directly provided to guarantee funds, reinsurance and share of risks and losses of these companies. Thus, in Germany, the credit guarantee companies, defined as the banking law, are exempted by a series of taxes, including income tax. In Spain, the guarantee companies pay tax at a lower level compared to other companies, being all together exempted by other taxes. In France, the credit guarantee companies pay income tax, but they are exempted from taxes for risk provisions set on medium and long term. In Italy, the credit guarantee organizations are exempted from taxes on reinvested profit.

[1] http://garantinvest.md/pdf.ro.pdf.

In Bulgaria it stands the USAID Guarantee mechanism by which the Loans Development Authority (IDA) provides guarantees to municipalities as debtors of the United Bulgarian Bank, which guarantees 50% of loans. A total of 13 municipalities have turned to this tool so far. In Macedonia there are similar mechanisms as in Bulgaria.[1]

4. Prudential Approach at the Level of the European Community

The European officials, that the European Commission have signaled the more extensive presence in the market of financial product and services of the so-called parallel sector banking or "shadow banking", with the importance of non-bank lending functions that create new sources of funding.[2] Possible entities included in this system are: financial companies and firms of real-estate values that provide credit or *credit guarantees* or make changes in liquidity and / or date of payment without being regulated as banks - insurance and reinsurance companies issuing or *guaranteeing credit products*; money market funds (MMF) and other investment funds; special purpose entities engaged in liquidity transformation and / or date of payment, etc.

Financial Stability Board (FSB) estimated the size at the global level of the parallel banking system to about 46 000 billion EURO in 2010, increased compared to the 2002 value of 21 000 billion EURO. This value is 25-30% of total financial system assets and half the bank. At the international level, the share of assets held by European jurisdictions increased from 10 to 13% for intermediaries in the UK, from 6-8% for the Netherlands, from 4-5% for intermediaries in Germany and the 2-3% for those in Spain. Intermediaries in France and Italy maintained their previous share of assets held in the parallel banking system to the international banking system, that is 6% and 2% respectively.

The parallel baking activities can form a useful segment in the financial system that is: it offers investors alternative to bank deposits; it channels resources to specific needs in a more efficient way, because of their more specialized degree; it represents alternative sources of financing for the real economy; it is a potential source of diversification of risk outside the banking system.

On the other hand, this important financial area, which includes the guarantee companies, is concerned in terms of prudential regulation and supervision, given the potential risks to financial stability in the long term, of systemic nature. At the microeconomic level, a low degree of regulation and supervision of this sector

[1] Guide loans to local government and the situation in the countries represented in NALAS, http://www.acor.ro/documente/materiale_proiecte/ghid%20ro.pdf

[2] 52012DC0102, CARTE VERDE SISTEMUL BANCAR PARALEL/*COM/2012/0102 final*/, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0102:FIN:RO:HTML

compared to the rest of the financial sector it may cause the migration of a considerable segment of the traditional banking in the parallel system.

In response to the calls that have been addressed within the G20 in Seoul in 2010 and at Cannes in 2011, the FSB deals currently with developing recommendations on the supervision and regulation of this activity. The stated objective is that of responding proactively and to ensure that all financial activities contribute to the economic growth.

In this context, we mention the regulatory proposals of the European Parliament and Council on the prudential requirements for credit institutions and investment companies,[1] approved by the Economic and Social Committee[2], which can be considered including the parallel banking sector, i.e. the entities of credit guarantee.

In terms of micro-prudential, the new framework requires a larger capital and of better quality, larger and diversified reserves of capital, better risk coverage, introducing a minimum rate of leverage (3%) as a means of protection against risk-based regime and a new approach in terms of liquidity.

4. Conclusions

The international classification of guarantee systems identifies two general guarantee models that is: the guarantee companies, which can be mutual guarantee companies and guarantee firms, each with its specificity; guarantee programs, the second basic component, which can be the specialized institutions or institutions run by guarantee public administration bodies. This classification cannot be rigorously correct and applied in the current reality. In many cases, the two models coexist as a result of a model specific to each country and the historical evolution of guarantee activity or it is the interplay between models and subdivisions.

In Europe, guarantee credits have a number of common lines, including: specialized bodies provide consultancy, training and guarantee instruments; the main purpose is to support the development of SMEs by facilitating the credit guarantee and sensitize the commercial banks to grant credits; the State is an active presence by supporting the guarantee institutions through various means, directly or indirectly.

The development of guarantee funds has become a necessity; the European responsible people provide strategic guidance, and the national governments are directly involved, being aware that these financial institutions could solve several problems that the small and medium enterprises are facing. The funds grant

[1] COM(2011) 452 final – 2011/0202 (COD)
[2] 2012/C 68/07.

guarantees where there are not sufficient and take from the risks and the monitoring costs. In addition, the guarantee funds can offer professional assessment of projects and consultancy for financial management of SMEs.

One of the directions of action is hiring specialized banks, guarantee funds or companies of insurance / reinsurance in credit risk taking, with their recognition by the authorities.

The need of involving third specialized parties in guarantee and counter-guarantee is supported by the complexity, turbulence and dynamics of the phenomena from the contemporary financial and banking market.

Guarantee entities are included by the European officials in the so-called *parallel banking sector*, with bounded with important contributions to the financial activity worldwide, but as well with the risk to financial stability. In this context, the proposals for regulation at European level, on prudential requirements for credit institutions and investment companies must be analyzed los from the perspective of the results of credit guarantee funds, so as to achieve a greater coverage in monitoring the financial risks.

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Guarantee Funds of Credits in Romania - Necessity, Features and Networking - II

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Abstract: In the current context, marked by financial crisis, economic recession, lack of liquidity and low capitalization, the access to financing is more difficult, mainly due to the lack, insufficiency or limited availability of guarantees. Guarantee funds represent an innovative solution, proven by the European economies and recently launched in Romania. Taking over the international experience in order to facilitate the SMEs' access to financial resources has become a necessity in Romania, which was reflected by the creation of three specialized financial institutions in granting guarantees domain. These are bodies with private or public capital, which relate, based on agreements with commercial banks. After a period of exposure to major risks from the lack of regulatory activity, the guarantee funds, along with other non-banking financial institutions are absolutely governed by rules of the NRB, according to the banking law and special laws. The analysis in this paper is based on the study of several official documents, reports of specialized bodies, statistics and examples of good practice, summarized and interpreted in through comparison and developments. The aim is to identify a number of issues that may lead to sensitize the responsible factors - public authorities, credit institutions, and specialists - to come up with new practical solutions that would stimulate the financing process of small entrepreneurs.

Keywords: guarantee bodies; guarantee costs; benefits

1. Introduction

Guarantee funds are an active presence in European business environment, while in Romania they have a relatively small but growing activity, which indicates the development potential of this segment in the Romanian financial system.

The role of the financial - banking sector, leasing, factoring, credit guarantee funds, etc. - becomes increasingly important given the need for the development of SMEs through the easier access to bank credit.[3]

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[3] BNR role in Romania in providing non-financial and financial stability, Study Notes, No. 17/2006.

Despite the positive trends in the recent years, the number and volume of credits from the banking system, SMEs, especially the micro and small enterprises, continue experience difficulties in accessing funds, which actually drifts, not from lack of funds, but because of insufficient size or quality of the presented collateral. Causes such as lack, insufficiency or limited availability of guarantees (assets that represent guarantee cannot be sold easily), the limited experience in business environment, the lack of information, poor managerial efficiency, weak business presentation in the context of the financing demand, limit the funding access of SMEs; it proves the need for enhancing the role of guarantee funds.

2. Responsibilities and Necessities in the Current Context

According to the Romanian National Bank, a credit guarantee fund represent the bank or non-bank financial institutions, whose role is to take the credit risk of a credit entity by guaranteeing a portion of debtor's debt service in the case of incapacity for payment. (Neagu, Mărgărit, & Dimitriu, 2005)

Under the law,[1] the non-bank financial institutions may perform credit activities, including the issuance of guarantees, assuming guarantee commitments, assuming commitments of funding and other forms of financing according to the nature of the credit.

After a period of exposure to major risks from the lack of regulation, the National Bank of Romania (NBR) acting as the guarantee funds activity, along with other non-bank financial institutions (leasing companies, mortgage companies, pawn shops, credit unions, companies of consumer credit, etc.) to be absolutely regulated - both in terms of adequate protection of the population and to ensure equal competitive conditions between these institutions and commercial banks, in the context of substantial expansion of funding provided by this type of non-banking, non-governmental financial institutions.[2] Currently, the regulation and supervision is based on banking law and on special laws and the IFNs are monitored by the NBR, even if the guarantee funds do not attract deposits, but use their own resources for their conducted activity. (Neagu, Mărgărit, & Dimitriu, 2005)

Frequently, especially in adverse conditions at national and international level, the SMEs have difficulties in submitting guarantees at the levels required by the banks (usually located between 150% and 200% of the requested credit), an aspect generated by also the fact that, given that most of the SMEs activate in areas such as trade and other services (over 80%), they have relatively small number of fixed assets, being unable to provide the required guarantees. If a particular enterprise is

[1] Law no. 93 of 8 April 2009 published in Official Monitor, Part I, 21 April 2009, article 14.
[2] NBR, Annual Report, 2005.

at a point in the impossibility of paying the debt to a bank it can resort to such a fund subsequently returning the amount plus a fee.

There are two types of guarantee funds after which it the activity is carried out. The first situation requires that the bank to turns to credit guarantee funds for which it does not have enough guarantees from the company requesting the credit. In the second instance, the demand comes from the investor even before contacting the credit institution.

The Monetary Authority of Romania said that the establishment of credit guarantee funds available to SMEs (National Guarantee Fund for Small and Medium Credits, Credit Guarantee Fund and Romanian Rural Credit Guarantee Fund) is a first step in solving this situation.[1] But there are necessary further measures for this system to become fully functional.

The study achieved by the National Agency for Small and Medium Enterprises regarding the needs of SMEs, has showed that about 40% of companies have said that a real need would be to develop a system of guarantees. (Veselin, 2005)

Especially this need has increased during the crisis, an expert study on the evolution of entrepreneurial SMEs, whose work is well known (suppliers, customers, company of friends, etc.) during October 2008 - March 2011, shows that 39.22% between the companies has reduced their business, 24.02% of companies have gone bankrupt or are in circumstances bankrupt, 27.25% of companies operating at the same parameters, and the 9.51% of economic agents have boosted their economic activity.[2] The biggest problems we have been working in construction companies (59.72%), trade (47.13%), transportation (39.37%) and services (41.34%).

3. The Implementation and Developments

In Romania, taking the international experience to facilitate the SME access to financial resources becoming a necessity, which was reflected by the creation of three specialized financial institutions in granting guarantees:

1. The Romanian Loan Guarantee Fund (FRGC);
2. Rural Credit Guarantee Fund (RCGF);
3. The National Credit Guarantee Fund for Small and Medium Enterprises (FNGCIMM).

[1] NBR, Creating the necessary framework for the Market development of some banking products/services (BNR study) 2003-2004, http://www.bnro.ro/studii-4010.aspx.
[2] National Council of Private Small and Medium Enterprises in Romania, http://www.immromania.ro/impactul-crizei-economice-asupra-activitatii-imm-urilor-3575.htm.

These funds are organized as joint stock companies, which gave them great flexibility in decision making. After the shareholder structures, there are private bodies - RCGF and FRGC (main founders of these organizations are credit institutions and financial companies) or public, such as FNGCIMM's case. It is the sole shareholder FNGCIMM of the Romanian state, represented by the National Agency for Small and Medium.

1. *The Romanian Loan Guarantee Fund* (FRGC) is the first guarantee fund created in Romania, its foundation taking place in 1993, to the World Bank's recommendation, established as joint stock company with 100% Romanian private capital (53.6% participation SIF Muntenia, 23% of SIF Transylvania, 9.5% BCR, 6.23% BRD-GSG, 7.67% other private shareholders)[1], with the mission to facilitate the business financing projects viable to be developed by private entrepreneurs in Romania; the main activity object consists of granting guarantees under the form of letters of bond for credits destined to Romanians private entrepreneurs. The main *guarantee tools* are over 70% of the credit values on medium and long term, including the credit lines), of letters of banking guarantee and leasing operations, and credit destined to purchasing shares; guarantees to the value of 100% mortgage credit.

2. *Rural Credit Guarantee Fund (RCGF),*[2] privately owned company founded in 1994 as an initiative of the Romanian Government, commercial banks and the EU, in order to facilitate the private sector financing of agriculture and food industry. The guaranteed amount of RCGF - IFN SA, in lei or foreign currency, is maximum: 80% of the value of short-term production of credit/bank guarantee agreements; 80% of the values of credits / letters of comfort provided / issued by credit institutions in order to ensure the co-financing investment of projects realized under the National Rural Development Program, that is EAFRD and EAGF respectively. In the case of the public beneficiaries of the EAFRD, the value of guarantee can be up to 100% of the credits' value, and its value may be equal to the amount eligible and ineligible of the project. The private beneficiaries, the maximum amount that can be guaranteed by the RCGF-IFN for each guarantee individual request for coverage shall not exceed the equivalent of 2.5 million Euro.

3. *National Credit Guarantee Fund for Small and Medium Enterprises* (FNGCIMM)[3] was established in 2001, by the Romanian Government through the National Agency for Small and Medium Enterprises and Cooperatives (National Agency), in order to contribute to financing the establishment and development of SMEs by providing financial guarantees, in addition to their material guarantee, necessary to obtain a credit or other financial instruments from commercial banks

[1] http://www.frgc.ro/
[2] http://fgcr.ro/index.php?page=Servicii&lng=ro
[3] http://www.fngcimm.ro/; NBR, Creating the necessary framework for the market development of products / services bank (NBR study), 2003-2004, http://www.bnro.ro/studii-4010.aspx.

and by providing direct financing. As a joint stock company, whose sole shareholder is the Romanian state, FNGCIMM SA - IFN is a tool of the Romanian Government to implement its policies to support the development of this sector which is a priority of economic and social policy of the Romanian Government. FNGCIMM guarantees up to 80% of the credits' value, up to a limit value set differently on this type of guarantee.

The main activity of all guarantee funds in Romania is to grant guarantees domestic to internal entrepreneurs. Except RCGF, which has sole object of activity, the other funds develop related activities as well such as specialized consulting, management of programs which have a connection to SMEs or making any type of activities compatible with the purpose for which they were established. They are allowed to guarantee the new established SMEs.

The main guarantees regard: the medium and long term financings, such as credits for investment in the addition to their own sources (FNGCIMM, RCGF, FRGC); short-term financing for ensuring the working capital (FNGCIMM, RCGF FRGC); letter of banking guarantee (FNGCIMM, RCGF, FRGC); guarantees for co-funded projects associated to the financing programs of European funds and structural instruments (FNGCIMM, RCGF FRGC); bail for credits; letters of guarantee, leasing operations RCGF; credits for purchasing shares (FRGC); consultancy for business plan development; elaborating the credit file; identifying alternative sources of funding; participation in technical assistance projects (FRGC).

The offered products diversify continuously and harmonize with the market needs and government policy in SMEs domain.

Generally, obtaining a guarantee requires the completion of several steps that are clearly defined, namely[1]: the applicant of the credit submits the credit documentation to the financing bank; credit institution, after its analysis process, it considers the project viable, it finds that there is no sufficient material for material guarantees for granting the credit and it asks the Fund to participate in the risk sharing for issuing financial guarantees; the guarantee fund transmits to the Bank, in the shortest time (up to 7 days of receipt from the bank of the complete file) the decision to grant the requested financial guarantees; based on the guarantee fund, the Bank signs the credit agreement with the SME.

The eligible customers must meet the requirements established by the current legal regulations and a series of conditions relating to the repayment ability, credibility and reliability in business, the debt service and others. The credit documentation approved by commercial banks, the guarantee funds carry out their own assessment of the economic agent and decide on the issuing of the guarantee, a decision which it will communicate to the bank.

[1] http://www.fngcimm.ro/

We find that the guarantee funds relate, based on agreements with commercial banks, comparably to the European practice. It has put into practice a more tight system of cooperation with customers and banks, in order to identify at an early stage the possible causes of financial difficulties, so that they could analyze and find the most appropriate solutions.

In terms of SMEs, going for such guarantees involve the increase of the financing costs, under the conditions where the charges for private beneficiaries vary between 1% and 3.8% annually, plus, in some cases, monthly commissions or guarantee bonuses, all depending on the term of repayment of the credit, guaranteed loan type, loan currency, type of guarantee required by the bank, the risk class in which the client fits.

The costs of bank guarantees include usually a flat fee paid periodically by the financial institution issuing on the guarantee period and also additional guarantee fees paid by a Guarantee Fund for a guarantee letter.

On the other hand, there are a series of advantages on the use of the guarantee products offered by credit guarantee funds for all involved stakeholders (Table 1).

Table 1. Advantages on the use of the guarantee products

For SMEs	**For Credit Institution (financer)**	**For Public Administrations**
- Improving access to finance, better access to credit by eliminating the main cause of rejection of credit application (lack of guarantees); - Reduce the uncertainty of granting credit / letter of guarantee; - Reduction of additional costs by reducing / eliminating property guarantees; - Long term to a relatively low rate of commission - Optimization, greater flexibility of funding required to banks without providing additional guarantees; - Time saving compared to mortgage guarantees. - Access to consultancy and	Decrease of risk exposure Sharing the assumed credit risk by taking up to 80% of credit risk by the guarantee fund, through the irrevocable and unconditional guarantee, which is the most liquid guarantee. The guarantee is paid within 90 days of the commencement of the legal proceedings, compared to minimum of 2 years, the duration of a mortgage execution. Coverage with a liquid guarantee Qualified Guarantee The reduction of the amounts for covering the risk Increase the customers Reduction of costs on the analysis Lower costs of monitoring	Promoting SMEs and favoring economic growth throughout the company Increasing investment Creating new working places on specific jobs, reducing unemployment Increasing the collection of taxes degree, increasing revenues Improving the efficiency and transparency

information - Integration into entrepreneurial networks	The increase of credit volume to creditworthy customers but with their own insufficient guarantees Increase of credit volume already granted an to an insolvent client, without being requested additional material guarantees	

From 2010, the Romanian Counter-guarantee Fund[1] (FRC) started its activity, created as a specialized financial institution, joint stock company, having as shareholders the Romanian State through the Ministry of Economy, Trade and Business - 68% , the Foundation Post- Privatization - 32%. The aim is to counter-guarantee all guarantees provided by guarantee funds - Romanian legal entities - for credits and other financial instruments obtained by the small and medium enterprises from the commercial banks and other sources.

FRC acted so as to bring an effective contribution to the improvement of access to financing of SMEs, by assuming a portion of the risk incurred by the guarantee funds and thus supporting the operation of the banking market in particular and of the economy in general. FRC covers up to 80% of the value of guarantees given for loans, letters of banking guarantee and other instruments for investment, working capital, project co-financing projects from structural funds, funding research and development projects of young entrepreneurs and environmental projects.

From the beginning until now, guarantee funds in Romania developed shyly and due to the legislative gap on the quality recognition as guarantor with qualities of diminishing the credit risk. Until 2006 the commercial banks represented the specific risk provisions for guarantees issued by the Guarantee Fund at the level of 100%, NBR regulations recognizing this type of guarantee. Only large banks have allowed such guarantees for some economic agents, of modest amounts, under agreements concluded with the guarantee funds. The recognition of such security by the NBR, entering on the pre-accession funds and the increase of banking competition have paved the premises of the banking products guarantee growth and diversification.

In this context, the developments on the role of guarantee funds are still becoming more and more visible due to the current difficulties that the world-wide economy is facing.

[1] www.frcg.ro/.

Table 2. Aspects on the development of main credit guarantee funds in Romania[1]

	National Guarantee Credit Fund for SMEs (FNGCIMM)			Rural Guarantee of Credit Fund (FGCR)		Romanian Guarantee Credit Fund (FRGC)	
	2005	2010	2011	2005	2010[2]	2005	2010
Own Funds (Bill. lei)	119,9	681,3	931.3	14,8	16,5	13,3	21,5
Granted guarantee (Bill. lei)	128,5	2,000		55.25	-	21,3	26
Leverage[3] (Granted guarantee/own funds)	1.07	2.94		3.73		1.60	1.21

Thus it can be observed a significant improvement in capitalization and a major increase in the volume of activity, primarily at the guarantee fund level, that provides the most direct SME sector. However, overall results are modest, and the effects are relatively little identified at the level of the SME sector developments.

The leverage ratio is an important prudential indicator which is subject to European regulations for credit institutions and investment funds, aimed at limiting excessive accumulation of financial debt.[4] Commission proposes the leverage ratio to be controlled by the supervisory authority. The implications of this ratio will be closely monitored before its inevitable transformation into a requirement on January 1, 2018. In addition, the third Basel Agreement, published in December 2010, introduces a minimum of 3% leverage effect, which would be monitored on the sector of guarantee funds.

[1] Florin Georgescu, Noul regim aplicabil fondurilor de garantare a creditelor și garanțiilor emise de acestea, Studiu BNR, iulie 2006/ The new regime for credit guarantee funds and guarantees issued by them, NBR Survey, July 2006, http://www.sifmuntenia.ro/pdf/670.pdf, raport anual 2010/ Annual Report 2010, Strategia Fondului Român de Contragarantare, 2011-2013, Proiecții strategice 2015/ Romanian Counter-guarantee Strategy Fund, 2011-2013, 2015 Strategic Projections, http://www.frgc.ro/; http://www.fngcimm.ro/index.php?page=rezultate-financiare, http://www.aecm.be/servlet/Repository/description-fgcr.pdf?IDR=85.

[2] The data have not yet been published.

[3] Leverage is a technique of financial management that aims at increasing the returns of its own capital. The multiplier effect of leverage on the returns of its own capitals is known in the specialized literature as the "leverage effect".

[4] COM(2011) 452 final – 2011/0202 (COD); 2012/C 68/07.

4. Conclusions and Challenges

Compensating the lack of guarantees towards the banks, promoting the business initiative especially for newcomers companies, the access to long-term funding and better credit conditions for economic agents, the internationalization, the micro-guarantees are few of the challenges from the national economy which will insure the increase of financial activities in this sector.

Guarantees innovation, diversification of guarantee instruments and harmonization with the European practices in this area are ongoing requirements that represent the targets for specialized institutions in Romania.

It is shown that the safest assets may, in time, be the riskiest guarantees: a collateral deposit may be compromised by its source; an asset accepted into a guarantee is exposed to the tendencies that influence the demand and the supply, a mix or a guarantee package developing exponential risks. No firms of takeover the risks eliminate entirely the banking risks, however, due to the effects of systemic crises there is a regulatory interest in the global decision-makers forces.

But there are necessary measures that regard the increase of the attractiveness for banks of offered guarantees, which is the extension of guarantees and on the interest, the existence of explicit guarantee on behalf of the state, which would have the effect of reducing bank exposure of those credits.

Increases on the value of granted guarantees and the number of benefiting SMEs can be achieved by extending practices according to the model of European Guarantee Fund. The analysis for issuing guarantees would be achieved by the Guarantee Fund, the SME having the freedom of choosing subsequently the lending bank.

It is also required that the public authorities would be more involved, through regulation and facilitating the SMEs access to funds. (Nuta, 2008, p. 65-68)

The strategic guidance in the years marked by the global financial crisis aimed at encouraging the development of SME sector by enhancing the role of guarantee funds under the conditions of continuous increase in demand for security, but taking a prudent policy in risk prevention and management.[1] Among the solutions proposed by the guarantee funds, in the face of global crisis, there are:

- at the level of FNGCIMM, most social capital through new capital contributions, financial fund raising either for capitalizing the Fund, or for co-guarantee some guarantee programs; as prudent management of liquidity and the guarantee activity framing in prudential indicators; diversification of distribution channels, flexibility of credit, etc.

[1] http://www.aecm.be/servlet/Repository/fighting-the-financial-crisis.pdf?IDR=109

- as for FRGC, close monitoring of clients in intervals as short as possible, preferably monthly; the acceptance of credit restructuring; adjustment of guarantee supply in order to ensure the simplification and harmonization of all the tools; reducing the costs of products and services, depending on the type of guarantee and associated risks; renegotiation of credit conditions, etc.
- for RCGF, restructuring and rescheduling of credits; simplifying procedures for granting certain types of guarantees; securing guarantee coverage limits for periods longer than three years; new products of the type of total assurance systems for deposit certificates; the extension of guarantee period.

Romanian Government strategy for SME development[1] retains a series of aspects to improve SME access to finance through: strengthening the guarantee funds for SMEs, mainly by creating a decentralized system of regional support and guarantee funds; increasing the capital social guarantee funds to a level that would allow a better reproduction of capital in conditions of controlled risk; boost the access to European co-guarantee or counter-guarantee; the diversification of financial instruments to support the SME sector development.

On the other hand, the structural funds and the post-accession funding programs create the premises of financial intermediation development, of the innovative instruments and supporting business environment, especially SMEs. Romania has to take manifest more actively at global level, in relation to organizations and projects that promote solutions to support financing small entrepreneurs, to thus take over the research and experience in the field, so that the measures that it promotes would be effective, expressed in a current and organized space at European level.

5. Acknowledgement

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Corruption – the Politic and Bureaucratic Shield of the Underground Economy

Silviu Pripoaie[1], Rodica Pripoaie[2]

Abstract: In a conditional manner, corruption is considered the specific behavior for the entity that represents the state and public authority of using public resources for personal profits. International institutions for corruption evaluation (the World Bank or Transparency International) generally qualify the phenomenon as " the abuse of public power for private benefit". Thus, corruption and underground economy create the condition for the development of group interests, that, thanks to their influence, do not subordinate the national legislation and control the political and economical national systems, giving a perspective on what is known in the professional literature as "state capture" (Hellman & Kaufmann, 2001).

Keywords: corruption; underground economy; Corruption Perception Index

1. Corruption, Determinant Factor of the Underground Economy (Definition and Manifestation Forms)

Regarded by some authors as one of the most critical behavior deviations, that distorts the public business administration towards private goals, corruption is a complex phenomenon that acts in various circumstances in order to offer the underground activities "probationers" protection against the compulsory actions of the state.

The definition of corruption is diverse and begins with "the faulty use of public power" or "moral decline", up to the strict definition given by the law, definition that regards corruption as an act of bribery that involves a magistrate as well as the transfer of tangible resources. (Matei, 2009, p. 12)

In a conventional manner, corruption is considered to be the specific behavior of the person representing the state and the public authority to faulty use of public resources for personal profits. International institutions for corruption evaluation

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(the World Bank or Transparency International) generally describe the phenomenon as "the public power abuse for particular benefit".

The legal framework of fight against corruption in our country is based on the purview of Law nr 78/2000 for the provenience, detection and penalization of corruption deeds, modified through the following regulatory documents: Law 69/2007 regarding modification and completion of Law 78/2000 for preventing, detecting and penalizing of corruption deeds, GEO 50/2006 regarding the means of insuring the health of court instances and Prosecutor's offices and for the terms prorogation, Law 521/2004 – regarding the modification and completion of Law 78/2000 for preventing, detecting and penalizing corruption deeds, Law 161/2003 regarding several means of insuring the transparency in the public dignity exertions, of the public functions and the functions in the business environment, corruption preventing and penalizing, GEO 23/2002 – regarding the National Anticorruption Prosecutor's Office and GO 83/2000 – for the modification and completion of Law 50/1996 regarding remuneration and other personnel right of the judicial authority body.

Law nr. 78/2000 for preventing, detecting and penalizing corruption deeds incriminates three types of infractions: corruption infractions (art.9), infractions assimilated to such infractions (art. 10-13) and infractions directly related to corruption infractions (art.17).

The shape diversity of the corruption phenomenon, starting from a simple bribery action up to the dramatic affectation of the economic, politic and administrative systems, makes it a complex phenomenon, with a continuous dynamics, hard to quantify and eradicate.

It is obvious that, alongside the modifications of the economic systems, the corruption forms of manifestation have changed, in the sense of their adaptation. Thus, there are many attempts of the used levers to cover all the mechanisms in the real economy, giving efficient and opportune "solutions" to the ones operating in the underground economy.

Thus, corruption and underground economy create the conditions for the development of interest groups which, due to their influences, do not subordinate the national legislation and control the political and economical national systems, giving a perspective of what is known in the professional literature as "state capture". (Hellman & Kaufmann, 2001)

Transparency International also emphasizes in its researches the manifestation forms of corruption, which are also diverse, including: friendships, relations, family members and relatives, political corruption through election campaign donations etc, bribing for governmental contracts, all kinds of fraud, etc.

Recent studies have emphasize other corruption types, respectively: bribery, defalcation, fraud, extortion, etc.

According to *Transparency International*, the corruption phenomenon in the public sector almost has the same form and affects the same areas, whether it gathers way in a developed country or a developing one. The fields in the governmental activity that are mostly exposed to the corruption phenomenon can be graphically described as follows:

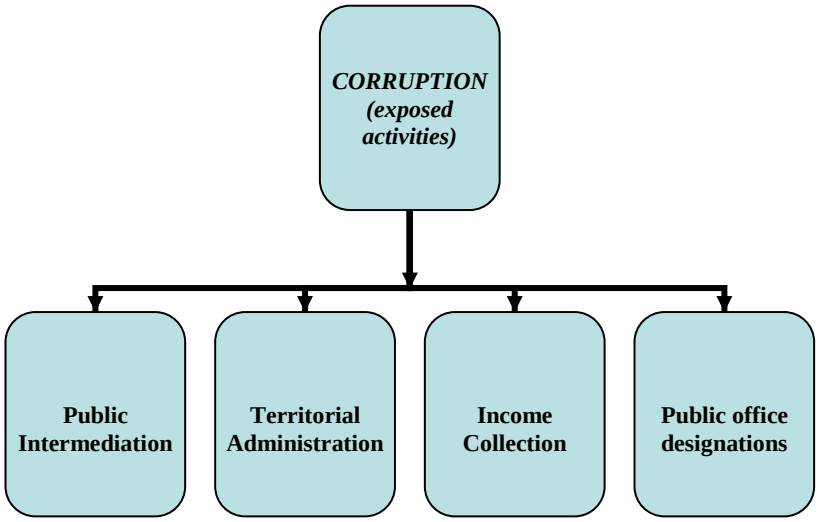

Figure 1. Fields of governmental activites exposed to corruption

Regarding the phenomenon forms of manifestation, several „fields" of interest have been marked up in our country: fraudulent privatisation and faked public acquisitions, foundations of phantom companies prospering among state companies by outsourcing of their profitable activities, bank plunder through preferencial loans relying on clientele, the diminution of the consolidated state budget by toleration of the debt non-payments of some „protected" companies, as well as illegal AVT reimbursement, excisable products smuggling, use of fiscal document belonging to phantom companies, European funds defalcation.

2. Evaluation of the Corruption Level in the EU States

The problem of corrupt transactions evaluation is generated by the desire of generally evaluating the informal or unofficial activities, starting from a series of quantifiable factors that are specific the official economy:

- Incomes achieved by economic entities;
- The tax on income paid by entities (employees, employers, financial institutions and corporations paying interest rates and dividends);
- Corporate reports;
- Information in the industry/agriculture field reported by the Government or professional associations;
- External trade specific transactions;
- Incomes and expenditures reported by each level of administration;
- Macroeconomic indicators.

By contrast to the characteristics of determinations in the real economy previously mentioned, corruption specific activities do not offer any possibilities of quantification or estimation due to the sanction nature of the legal rules that lead this phenomenon, most of the estimations being base on surveys and under the condition of insuring the respondents' anonymity.

Even the unofficial economic activity, on the whole, can be estimated from various types of rigid information – comparing the changes in the evaluated economic activity to the parallel changes for this kind of variables, such as: used currency, electricity and fuel consumption, the miles of the passenger planes and the errors and omission in the data about international payments. (Matei, 2009, p. 57)

Researchers, as well as various international organizations have approached the issue of corrpution evaluation from different perspectives. These can be grouped as following:

- Studies regarding perceptions of "experts", business people, households and authorities;
- Studies regarding the direct experience of business people, households and authorities;
- Indirect measures of "gross information" regarding variables considered to be the result of corruption or correlated to it.

The attempts of "measuring" corruption might also have a series of alternative meanings regarding the following activities: (Lanyi, 2004)

- *The prevalence of corruption in specific contexts* – for example, how often is bribery encountered in a particular economic activity or in a public sector post. An indirect measure under this condition can be represented by the

time spent by the company management confronting with the state authorities (assuming that bribery prevalence is correlated to the bureaucracy "quantity");

- *Level of corruption* – for example, the percentage in the income of a company or household that is spent on bribe or other costs correlated to corruption. This issue becomes hard to emphasize when dealing with high level corruption, or with the "state capture" concept;
- *The relative level of corruption prevalence in a country compared to other countries* (it involves a subjective side of the respondents);
- *Corruption impact* – for example, companies can estimate the additional costs they have due to corruption (both the value of the bribe and the time they loose with transactions involving the people asking for bribe).

Generally, the results of the corruption level determination need a series of adjustments before being published due to the problems raised by the accuracy of the measurements (answering the surveys), of processing and interpretation, and not the least, the negative influence on the states in case of publishing wrong studies.

It has been noticed that survey respondents can offer clear information about the percentage of bribe in their incomes, but they are inaccurate when trying to make a national estimation.

Due to the significant role corruption has in determining the business environment quality; some of the determinations of the abovementioned corruption level have been made by business oriented organizations. The most frequent used index for corruption level determination is the Corruption Perception Index (CPI), yearly published by Transparency International (TI).

The Corruption Perception Index (CPI) is the most comprehensive corruption international quantitative indicator. It is achieved by a team of Passau University researchers lead by Johann Lambsdorff. CPI determines the extent to which officials and politicians are thought to accept bribe, receive illegal commissions, assume public funds and commit such actions.

The indicator rates the states on a scale from 10 to 0, according to the noticed level of corruption. A score of 10 represents a totally trustful country, while a score of 0 shows a totally corrupted state.

The Transparency International Index is not based on data from its own experts, but is conceived as the weighted average of 17 different indices from 10 different organizations. CPI focuses on the public sector corruption and defines corruption as abuse of office in order to gain particular profits.

The Evolution of the EU states in the last year of CPI evaluation

	2009	2010	2009	2010	2009	2010
ROMANIA	-	-	3.7	3.6	-	-
Bulgaria	-	-	3.6	3.3	-	-
Turcia	-	-	4.4	4.2	-	-
Polonia	5.3	5.5	-	-	-	-
Cehia	-	-	4.6	4.4	-	-
Slovacia	-	-	4.3	4.0	-	-
Lituania	-	-	5	4.8	-	-
Letonia	-	-	4.3	4.2	-	-
Estonia	-	-	6.5	6.4	-	-
Ungaria	-	-	4.7	4.6	-	-
Slovenia	-	-	6.4	5.9	-	-
Malta	-	-	5.6	5.6	-	-
Cipru	-	-	6.3	6.3	-	-
Franta	6.8	7.0	-	-	-	-
Olanda	8.8	8.9	-	-	-	-
Germania	7.9	8.0	-	-	-	-
Marea Britanie	7.6	7.8	-	-	-	-
Italia	3.9	3.9	-	-	-	-
Grecia	-	-	3.5	3.4	-	-
Suedia	9.2	9.3	-	-	-	-
Finlanda	9.2	9.4	-	-	-	-
Spania	6.1	6.2	-	-	-	-
Portugalia	6	6.1	-	-	-	-
Austria	-	-	7.9	7.8	-	-
Belgia	7.1	7.5	-	-	-	-
Luxemburg	8.5	8.5	-	-	-	-
Danemarca	9.3	9.4	-	-	-	-
Irlanda	-	-	8	7.5	-	-

Source: www.transparencyinternational.org

3. The Public Office and „the Reversed Pyramid" of Corruption

In the attempt to emphasize the main corruption forms in our country, we have structured the "interest zones" for the corruption phenomenon depending on the public office significance, and the economic agents, as possible corruption incumbents, depending on the contribution to the gross added value achieved within the national economy.

The public office represents the assembly of attributions and responsibilities, established by law, with the object of achieving public power prerogatives by the central public administration, the local public administration and the self-governing administrative authorities[1].

[1] Law no. 188/ 1999 mod. regarding the Public Officers' Status.

In the exertion of public power prerogatives, public officers (people designed by law in a public office) fulfill, while respecting the basic principles of public office exertion, the following activities:

- Putting into application of laws and other regulatory documents;
- The elaboration of regulatory documents projects and other authority or public institution specific regulations, as well as insuring their appraisal;
- Elaborating of policy and strategy projects, programs, studies, analyses and statistics needed for the achievement and deployment of public policies, as well as the documentation needed for law execution, with a view to achieving the authority or public institution competence;
- Guidance, control and intern public audit;
- Human and financial resources management;
- Collecting budgetary debt;
- Representing the interest of the public authority or institution in its reports to natural or judicial persons of public or private legal entity, from the country or from abroad, limited by the competencies established by the leader of the public institution or authority, as well as representing in front of the law the public authority or institution where they operate;
- Completion of activities according to the public administration computerization strategy;

According to the legal stipulations, public offices are classified as follows:

- General public offices and specific public offices;
- First class public offices, second class public offices, third class public offices and management of the human and financial resources;
- State public offices, territorial public offices and local public offices.

Regarding the atribution level of the occupant of the public office, public offices are classified as follows:

- State public offices, territorial public offices and local public offices public offices appropriate to the high officials' category;
- Public offices appropriate to the leading public offices;
- Public offices appropriate to public servants.

In the high officials' category, people that are designed for the following public offices are included: general secretary of the Government and deputy general secretary of the Government, general secretary of ministries and other specialized institutions of the central public administration, prefect, deputy general secretary of ministries and other specialized institutions of the central public administration.

The principles of public office exertion regulated by the legal stipulations are:

- Legality, objectivity and impartiality;

- Transparency;
- Efficiency and expediency;
- Responsibility citizen orientation;
- Stability in public office exertion;
- Hierarchical subordination.

Empirically, depending on their contribution to GDP development, economic agents that operate within the national economy can be structured on three categories:

- Large contributors;
- Small and Medium size Enterprises;
- Small and individual contributors.

The pressure exerted by the economic agent on the public office depending on the "interest zone" can be graphically described as follows:

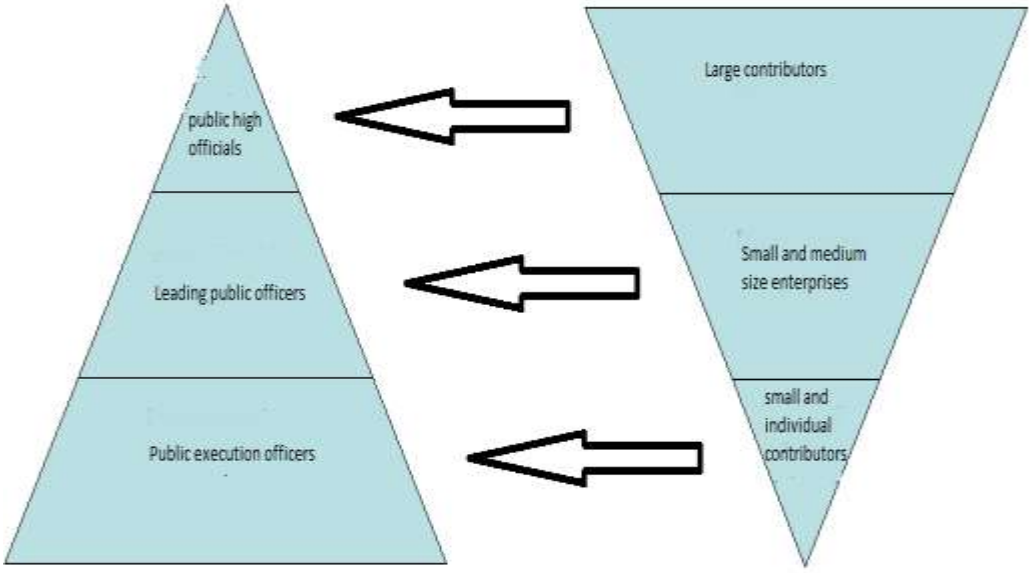

Figure 2. Economic agents pressure on the public office

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****Law no 188/1999 republished and modified on the status of civil servants.*

www.transparencyinternational.org.

The Evolution of Foreign Exchange Markets in the Context of Global Crisis

Mariana Trandafir[1], **Georgeta Dragomir**[2]

Abstract: The FX market is the world's largest financial market. The global financial system involves effective and efficient exchange of currencies. Corporations and investors participate in the market for operational needs: to reduce risk by hedging currency exposures; to convert their returns from international investments into domestic currencies and to make cross-border investments and raise finance outside home markets. Central banks participate in the market. This paper analyzes foreign exchange markets activity before and under the condition the global crisis. The method of research is the comparative analysis used on the global and European level. The research is important and actual because it reveals the changes which have defined a new paradigm for the foreign exchange markets and which contributed to the increasing of the global foreign exchange market turnover during the global crisis. The main conclusion of the paper is that the innovative developments in electronic trading technology and institutional trading arrangements are behind the evolution of the foreign exchange markets. The analysis is supported by statistical tables and uses the recent official Bank for International Settlements and European Central Bank statistic databases.

Keywords: global foreign exchange market turnover; the electronic trading revolution; foreign exchange transactions

JEL Classification: E44; G15; F31

1. Introduction

Starting in the second half of the twentieth century, the international financial markets have taken a new configuration, as effect of the dynamic interaction and mutual inter-conditioning of a number of factors, among which the most significant regard (Trandafir, 2005):

• financial globalization, involving billions of monetary signs in search of the most efficient placement, moving within an "integrated global network of markets" (Bourguinat, 1997) where "the sun never sets", with more sophisticated techniques for transmitting information which ensures the continuous operation of stock

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exchanges, foreign exchange markets, derivatives markets, with costs increasingly lower, but with significant potential for triggering financial crisis of great proportions;
• extension of funding volume and of the size of financial services industry, by the emergence of emerging markets;
• remarkable progress in information technology domain, which was "on how we work, a more visible impact than anything else in the last twenty -thirty years" (Krugman, 2009);
• expansion of new products and negotiable financial instruments, with high levels of risk as a result of financial innovation in the field;
• diversification and involvement of pension funds, insurance companies, mutual fund in managing small investors' economies;
• tendency of deregulating the financial sector;
• increase of financial disintermediation and of pressure on bank intermediation, leading to the emergence of new financial instruments.

The essence of these changes, able to alter the architectural system of the world, lies in "the continuous decline of the economic importance of national political boundaries and in the unprecedented intensification of economic relations and interactions, up to a point where the difference between internal and external transactions becomes insignificant or it disappears." (Munteanu & Vâslan, 1995) Krugman (2009) estimated, for example, that in 2007 the assets American residents aboard represented 128% of GDP compared with 52% of GDP in 1996, while their liabilities abroad represented 145% of GDP in 2007 compared to 57 % as represented in 1996.

The free movement of capitals worldwide has driven the considerable increase of currency markets activity, with a profound impact on national economies, international monetary system and the ability of firms and states to move their funds across the national borders. Deepening and diversifying the interdependences at global level represented determinants factors of intensifying the international financial flows. Between 2002 and 2007, annual gross international capital flows rose from 5% to 17% of world GDP while global current account imbalances (the sum of global deficits and surpluses) doubled from 3% to 6% of world GDP (Speller, Thwaites, Wright, 2011)

Major international imbalances, the exchange rate volatility and speculative tendencies of market operators have led to the emergence of new financial tools and techniques for the protection against exchange risk, and thus enlarging foreign markets, and also the global financial crisis.

Global crisis has revealed, in fact, the failure of financial markets in fulfilling their functions essential to society, of risk management, capital allocation and mobilization of savings, while maintaining the transaction costs at a low level.

Instead of doing all these things, they created the risk, poorly allocated the capital and stimulated the excessive indebtedness, and simultaneously imposing high transaction costs. At their peak in 2007, our most high financial markets absorbed 41% of the profits of the cooperative sector. (Stiglitz, 2010)

In this new global context, the foreign exchange market gained new dimensions. The new paradigm for the foreign exchange markets has transformed foreign exchange markets over the past decade. New electronic trading platforms have streamlined trade processing and settlement, reduced operational risks and lowered trading costs. (King, Osler & Rime, 2011)

2. Researches on this Topic Area

The foreign exchange market is one of the oldest financial markets, operating for over 2000 years, ever since there have been distinct national moneys. Rosenstreich (2011) highlights that foreign exchange markets have existed ever since money came into use and there was trade between regions with different money, the history of foreign exchange market being as long as the history of human civilization. The foreign exchange markets entered in a new phase in 1971 when the Bretton Woods accord, which was characterized by fixed forex trading rates, was abandoned. This led to a new forex trading system of floating rates and opened a new world in foreign exchange. For the past several decades, the large commercial banks dominated the world of global foreign exchange trading.

The foreign exchange market is not a true free market. The uncertainty associated with floating exchange rates and the negative effects on international trade and investment have often led the governments to interfere in the foreign exchange market. Governments often influence the price of their currencies by selling or buying currencies to offset shifts in supply and demand that would otherwise cause the exchange rate to change. (Hendrik Van den Berg, 2010)

The advent of technology in the early 1990's eventually seeped into the foreign exchange arena, which in large part changed the rules of the game. It ultimately allowed retail players access for the first time ever to the spot or cash foreign exchange markets. After the internet revolution, banks' foreign exchange clients began demanding transparent pricing, multiple providers, maximum efficiency and lower costs from price to settlement. (Rosenstreich, 2011) As shown in King, Osler and Rime (2011) the electronic trading revolution in FX has transformed the market's structure while improving market quality, in particular transparency and transaction costs. Before exchange rate began floating in the early 1970's, it was the telephone era, the FX markets were fairly opaque during this period, since information about FX-trades was proprietary to the two counterparties. Electronic

trading platforms first transformed the interdealer market during the late 1980's and then reached the customer market in the 1990's.

the largest financial market in the world, over 4 trillion in currencies are exchanged each working day. In today's global economy, the foreign exchange market is characterized by two specific forms of arbitrage: (i) geographic arbitrage, meaning that for each pair of currencies, the exchange rate is virtually identical in every financial center of the world and (ii) triangular arbitrage, meaning that all exchange rates are related to all others, and if the fundamental forces of supply and demand change one exchange rate, all others tend to change a well unless they are explicitly pegged or fixed; triangular arbitrage also means that in a world of n different currencies, one only needs to know the exchange rates between one currency and other n-1 currencies to know all the n(n-11) / 2 cross rates (Van den Berg, 2010)

Showing that the foreign exchange markets are one of the distinguishing characteristics of the global economy, King, Osler and Rime (2011) considered that it would be hard to overstate the importance of foreign exchange markets for the world economy. They affect output and employment through real exchange rates and affect inflation through the cost of import and commodity prices. They affect international capital flows through the risks and returns of different assets. Exchange rates are justifiably a major focus for policymakers, the public and the media. They also have a substantial long-run influence on the flows of payments between countries: determining the relative prices of products and assets across different economies, the exchange rate plays a critical role in balancing the flow of payments between countries.

Considering that that in the foreign markets the crisis came relatively late, Melvin and Taylor (2009) have marked the limits few stages in its evolution. They highlight that the crisis began in August 2007, when subprime-related turmoil in other asset classes finally spilled over into the currency market and it manifested in a major carry trade sell-off. After few months, credit restrictions, associated with a major deleveraging in financial markets forced many investment funds to liquidate positions. The peak of the crisis was considered in September 2008, when the failure of Lehman Brothers has determined the increase of volatility of the foreign exchange until unseen levels, liquidity disappeared as counterparty risk reached unprecedented levels so that the cost of trading currencies skyrocketed and it become very difficult to trade any substantial size.

Morten Bech (2011) emphasizes that foreign exchange market's activity continued to grow during the first year of the financial crisis that erupted in mid-2007, reaching a peak of just below 4,5 trillion US dollars a day in September 2008. The activity fell substantially in the aftermath of the Lehman Brothers bankruptcy, to almost as low as 3 trillion US dollars a day on April 2009, from which it recovered,

but only slowly. Even so, the foreign exchange market is, by far, the largest financial market in the world, as measured by daily turnover.

Kahn and Roberds (2000) consider the market for foreign exchange is also exceptional in other respects, compared to most securities markets, it is loosely organized, with the bulk of trading occurring in the descentralized "interdealer" market. Unlike most developed financial markets, it has no centralized mechanism for settling trades.

3. Foreign Exchange Markets and the Global Crisis

3.1. The New Paradigm for the Foreign Exchange Market

The foreign exchange market is one of the most important and the largest financial market in the world, the sum total of physical goods traded globally in one year's time can be equivalent to a few days' transactions in the foreign exchange market even if is combines the stock markets of Tokyo and New York. It facilitates trade, investments and risk-sharing across borders.

The important events, which affected the other global financial markets, have sent shock waves on the foreign exchange markets. Even if it came relative late in the foreign exchange markets, the global financial crisis which began in 2007 affected the foreign exchange markets too, but not to the extend that the other financial markets were affected, because of, especially, the factors which were defining a new paradigm for the foreign exchange markets before the actual global crisis (Barker, 2007):

- *changing technology*, which shifted the interbank dealing arrangements – the phone-based network of direct relationships of the interbank market from the mid- 1990's– to the electronic protocols; by the late 1990's, Reuters Dealing and Electronic Broking Services introduced electronic interbank trading platforms, which came to dominate interbank trading flows; unlike the phone-based model of direct dealing, these platforms have some distinctive features: (i) bank participating on these platforms are not obliged to provide two-sided price quotes to other banks on demand; (ii) the minimum deal size allowed on these portals is much smaller than the standard wholesale amount used in the traditional direct-dealing relationships between banks; (iii) provide a live price stream that aggregates all bids and offers posted on the system, this interbank price being visible at all times to all participating dealers;
- *the opening of access to the market to a broader range of participants*, consequence of the changing technology, which reduced trading costs and has created new opportunities and new challenges, too: (i) the ability to transact in relatively small amounts on fully transparent prices on these global electronic

dealing platforms had led to fundamental changes in the operations of the interbank market; (ii) heightened competition between dealers and the much greater degree of price transparency; (iii) many of the market-making banks that previously dominated the market have been forced to reexamine their business model, the banks with the size and large global distribution networks implemented the new technological innovation and provided competitive and profitable price quoted; the result has been consolidation in the foreign exchange market, with the largest banks accounting for a growing percentage of the overall global trading volume; (iv) as a result of the consolidation in the foreign exchange market, the role of second-tier dealers has been evolving to the prime brokerage, a institutional dealing arrangements, which allows to smaller dealers the access to the interbank market by using the credit relationships of a top-tier bank, while the larger banks act as an intermediary, providing the smaller banks better pricing than it could obtain on its own; (v) prime brokerage has created new trading opportunities for market participants outside the banking sector; (vi) the efficiency of electronic price delivery has allowed to develop the electronic dealing portals cater to households, small corporations , asset managers, trading firms;

- *the automation of trading functions,* many trading functions once performed exclusively by traders are now performed by specialized computer programs.

In fact, since the 1990s, trading of the major currency pairs has moved on to electronic platforms, which are also thought to have contributed to the surge in liquidity, by broadening participation in the markets by non-banks, and especially mutual funds, money market funds, insurance companies, pension funds, hedge funds and even retail investors and traders. (Hobson, 2011)

3.2. Evolution and Trends in the Foreign Exchange Market

The globalization of financial markets has led to the formation of a global financial network, which, as it expands, it strengthens the competition between major financial centers worldwide. The market for foreign exchange is the market which "never sleeps". There are only three hours of every twenty – four that Tokyo, London and New York, the main pillars of the financial world are all shut down. During these three hours, trading continues in a number of minor centers. According to the statistical data published by Bank for International Settlements, the foreign exchange recorded in nominal terms since 2001, an upward tendency, even if growth was slower than in earlier years, consistent with a slowdown in the underlying demand for foreign exchange owing to the impact of the global financial crisis on international trade and investment. The most intense activity was recorded in 2010, totaling the daily average of 5 056 billion U.S. dollars, exceeding the daily average in 2007 to 18 %, the a situation shown in table 1.

Table 1. Geographical distribution of global foreign exchange market turnover, 1998-2010
(daily averages in billions of US dollars)

	1998		2001		2004		2007		2010	
Instrument	**Bln USD**	**%**	**Bln USD**	**%**	**Bln USD**	**%**	**Bln USD**	**%**	**Bln USD**	**%**
United Kingdom	685	32,6	542	31,8	835	32,1	1483	34,6	1854	36,7
United States	383	18,2	273	16,0	499	19,1	745	17,4	904	17,9
Japan	146	6,9	153	9,0	207	7,9	250	5,8	312	6,17
Singapore	145	6,9	104	6,1	134	5,1	242	5,6	266	5,26
Switzerland	92	4,4	76	4,5	85	3,3	254	5,9	263	5,20
Hong Kong SAR	80	3,8	68	4,0	108	4,1	181	4,2	238	4,71
Australia	48	2,3	54	3,2	107	4,1	176	4,1	192	3,8
France	77	3,7	50	2,9	67	2,6	127	3,0	152	3,01
Denmark	28	1,3	24	1,4	42	1,6	88	2,1	120	2,38
Germany	100	4,8	91	5,3	120	4,6	101	2,4	109	2,16
Czech Republic	5	0,2	2	0,1	2	0,08	5	0,12	5	0,1
Poland	4	0,2	2	0,1	2	0,08	4	0,09	4	0,08
Romania	...	-	...	-	...	-	3	0,07	3	0,06
Total	**2099**	**100**	**1705**	**100**	**2608**	**100**	**4281**	**100**	**5056**	100

Source: Own calculations based on the data of Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December 2010.

The United Kingdom remains the largest market by location, accounting for 36,7 % of global turnover, followed by the United States (17,9%), Japan (6,17%). Singapore (5,26%) and Switzerland (5,20).

In terms of value, compared with with 2007, the greatest increases in trading activity in 2010 were in the United Kingdom (371 billion US dollars), the United States (159 billion US dollars), Japan (62 billion US dollars) and Hong Kong SAR (57 billion US dollars) FX turnover is several times larger than the total output of the economy.The FX turnover/GDP ratio is smallest for the largest economies. In United States and Japan the FX turnover is more 14 times GDP. The global crisis didn't mitigate the activity of foreign exchange market from the former communist economies, such as Czech Republic, Poland and Romania.

London is a major financial center of the world, concentrating the largest volume of foreign exchanges, bank loans, derivative transactions, issuance of Eurobonds, denominated mostly in US dollars and euros. The foreign exchange market was more concentrated in 2010 than 2007, the combined market share of the ten institutions with the highest turnover increased from 70% to 77%, while the number of firms accounting for more than 1% of total turnover fell from 21 in 2007 to 19 in 2010.

Daily, amounts equivalent to billions of dollars are traded on financial markets, the foreign exchange market being the most liquid market in the world. During the crisis, growth was slower than in earlier years, consistent with a slowdown in the underlying demand for foreign exchange owing to the impact of the global financial crisis on international trade and investment. According to the Report on global foreign exchange market activity in 2010 of Bank for International Settlements, the global foreign exchange market turnover was 20 % higher in April 2010 than in April 2007, with average daily turnover of 4,0 trillion US dollars compared with 3,3 trillion US dollars, the same trend being registered on the euro area. Even if the rate of increase is lower than in the period from 2004 to 2007, average daily turnover in euro area foreign exchange activity rose to 430 billion US dollars in 2010 from 402 billion US dollars in 2007, (table 2), an increase of only 7 %. (ECB, 2011)

Table 2. Global and euro area foreign exchange market turnover, 2004-2010
(daily averages in April 2004, April 2007 and April 2010, USD billions)

Instrument	2004		2007		2010		2007/2004		2010/2007	
	globally out of which:	euro area	globally out of which:	euro area	globally out of which:	euro area	globally out of which: %	euro area %	globally out of which: %	euro area %
Spot transactions	631	85	1005	99	1490	102	60	16	48	3
Outright forwards	209	25	362	51	475	40	73	104	31	- 22
Foreign exchange swaps	954	185	1714	233	1765	267	80	26	3	15
Currency swap	21	2	31	4	43	8	48	100	39	100
Options and other FX instruments	119	12	212	14	207	13	78	17	-0.3	-0.7
Total FX turnover	**1934**	**309**	**3324**	**402**	**3981**	**430**	**72**	**30**	**20**	**7**

Source: Own calculations based on the data of Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December 2010; European Central Bank – BIS triennial survey 2010 – euro area data, June 2011

The foreign exchange markets analysis reveals the structural changes occurred in the recent years, in the foreign exchange composition. The foreign exchange market instruments are traded in a multitude of ways, ranging from the voice brokers to electronic platforms (Morten Bech 2011). The configuration exchange markets was always adapted to respond to risks from the exchange rate variations. The attempt to limit these risks has meant, in fact, the emergence of new markets - forward and futures - and also the blast techniques such as *swaps* or options. We may notice in this respect, the decline in the activity's rhythm in the sphere of traditional market transactions, i.e. spot transactions, forward transactions and

swap arrangements. In comparative terms, the global foreign exchange market turnover increased by 20 % over the three years to 2010, following a 72 % increase over the previous three years. In the euro area foreign exchange market turnover increased by 7% only over the three years to 2010, 30% of the Following Increase over the previous year Three. This evolution is a Consequence of (Trandafir, 2005):

• elimination of foreign exchange within the euro area, the impact is felt only at the changeover to the single currency, by the European Union countries, with different intensities; at global level, the dollar maintains its dominance as the most traded currency, 85% of the volume of global transactions are denominated in U.S. dollars, while the euro is the currency denominated for 39% of total international volume of the transactions. Considering as a landmark in 1998, the frequency of the use of main currency in foreign currency transactions is shown in Table 3.

Table 3. Currency distribution of global foreign exchange market turnover, 1998-2010
(daily averages in April 2004, April 2007 and April 2010, USD billions)

Currency	1998	2001	2004	2007	2010
US dollar	86,8	89,9	88,0	85,6	84,9
Euro	…	37,9	37,4	37,0	39,1
Japanese yen	21,7	23,5	20,5	17,2	19,0
Pound sterling	11,0	13,0	16,5	14,9	12,9
Australian dollar	3,0	4,3	6,0	6,6	7,8
Swiss franc	7,1	6,0	6,0	6,8	6,4
Canadian dollar	3,5	4,5	4,2	4,3	5,3
Hong Kong dollar	1,0	2,2	1,8	2,7	2,4
Swedish krona	0,3	2,5	2,2	2,7	2,2
New Zeeland dollar	0,2	0,6	1,1	1,9	1,6

Source: Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December

• expansion of the transfer electronic system of funds;

• high degree of concentration of activity on the banking market, through mergers and acquisitions of banks with a strong impact on the volume of transactions between banks and their financial and non-financial customers.

The significant impact of the crisis on international trade and cross-border investment flows contributed to growth in foreign exchange turnover slowing from the rapid pace seen prior to 2007, particularly in the foreign exchange swap market. An exception is the continued strong growth in spot turnover, which has been

driven by growth in relatively new market segments – such as high-frequency trading – associated with the ongoing development of new technologies. (Nightingale, Ossolinski & Zurawsk, 2011) Global spot transactions increased by 48 % over the three years to 2010, following a 60 per cent increase over the previous three years, while in euro area spot turnover decreased by 3% from 16% in 2007.

In addition, turnover was influenced by new technology or changes in the trading behaviour of the market participants. Over the past three years, both economic and structural factors have been at play in driving developments in turnover. Global trade is an important driver of spot and forward turnover, especially for non-financial institutions such as importers and exporters, because for most transactions at least one party must exchange its domestic currency for the invoice currency. (Nightingale, Ossolinski & Zurawsk, 2011)

In terms of relationship, the categories of market participants, the foreign exchange market is dominated by three major trading activities: cross-border transactions facilitation, reporting dealers and central bank activity, and speculative trading. The increased turnover is driven by: (i) greater activity of high-frequency traders; (ii) more trading by smaller banks that are increasingly becoming clients of the top dealers for the major currency pairs; (iii) the emergence of retail investors. (King & Rime, 2010)

Table 4. Global foreign exchange market turnover by counterparty, 1998-2010 (daily averages in billions of US dollars and per cent)

Instrument/ counterparty	1998		2001		2004		2007		2010	
	Bln USD	%	Bln USD	%	Bln USD	%	Bln USD	%	Bln USD	%
with reporting dealers	961	63	719	37	1018	53	1392	42	1548	39
with other financial institutions	299	20	346	18	634	33	1339	40	1900	48
with nonfinancial customers	266	17	174	9	276	14	593	18	533	13
Total	1537	100	1239	64	1934	100	3324	100	3981	100
local	698	46	525	42	743	38	1274	38	1395	35
Cross-border	828	54	713	58	1185	61	2051	62	2586	65

Source: Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December 2010

At global level, trading activity of other financial institutions – including non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks – represented 48 per cent from total turnover, surpassing, for the first time in 2010, transactions between reporting dealers (39 per cent).

Transactions between reporting dealers – large commercial amd investment banks and securities houses that are actively buying and selling currency - in the interbank market grew to 1,5 trillion US dollars in 2010 from 1,4 trillion US dollars in 2007, because of, especially, the increased concentration of the banking sector and the spread of electronic broking platforms.

Within the euro area, the most foreign exchange transactions were conducted between reporting dealers represented 64 % of turnover (table 4), much higher than the 39%, reported at the global level.

Table 5. Euro area foreign exchange market turnover by counterparty, 1998-2010 (daily averages in billions of US dollars and per cent)

Instrument/	**2004**		**2007**		**2010**	
counterparty	**Bln USD**	%	**Bln USD**	%	**Bln USD**	%
with reporting dealers	198	64	259	64	273	64
with other financial institutions	80	26	94	23	19	28
with nonfinancial customers	32	10	48	12	38	9
Total	309	100	402	100	430	100

Source: European Central Bank – BIS triennial survey 2010 – euro area data, June 2011

The electronic trading has created a complex adaptive system in which banks and non-banks are using electronic platforms to execute foreign exchange transactions with banks. (Hobson, 2011).

In the context of the current global crisis, the international experience, combined with the analyzes of the central bank experts and analysts, they have imposed to focus strategies on objectives regarding (i) improving infrastructure that would ensure an active presence on a larger geographical area, as imposed by the quality of services offered to customers, many banks implementing their own electronic transaction systems based on the "business to customer" relation; (ii) reducing risk by speeding access to information enabling the decision-making; (iii) perfecting consulting services that provide customers relevant, strategic and profitable information, likely to retain a lasting relationship; in this regard, it is estimated that, in the confrontation on the market with the small banks, the large banks are able to dominate without having the need to resort to additional human and material resources, without assuming higher risks compared with previous periods, while small banks, less informed, are becoming more cautious in taking risks involved in transactions with customers; (iv) an operating trading system based on the orders of sales or purchase of currency, a practice less aggressive, but, although extending

the execution time, it becomes more efficient in terms of price borne by the customer, than the request of simultaneous quota of buying and selling currency; in this context, it is worth mentioning the American practice, especially the mutual funds, known as the "*prime brokerage*" (arrangements by which customers negotiate with a single counterparty, the transaction being achieved with a third party, represented by a bank which acts on behalf of the counterparty); (v) minimize the transaction costs.

4. Conclusion

Unlike other markets, foreign exchange market didn't break down during the crisis. Changing technology, the opening of access to the market to a broader range of participants and the automation of trading functions were the main factors behind a new paradigm for the foreign exchange markets. In this new context, even if the foreign exchange markets was affected by the global crisis, the global foreign exchange market turnover was 20 % higher in April 2010 than in April 2007, with average daily turnover of 4,0 trillion US dollars compared with 3,3 trillion US dollars, the same trend being registered on the euro area.

Based in the conducted investigations, we estimate the concerted and gradual orientation, in the foreseeable future, of the currency markets by an "exchange currency model", which corresponds to the general tendency of increasing efficiency of activity, shaped under the impact of the essence developments generated by: (i) expanding the role of electronic trading systems; although they are prevalent in the area of spot transactions, the electronic systems have failed to impose on other market segments; solving technical and legal issues, the implementation of these systems, associated with the high degree of concentration and success that the Internet system enjoys, it creates the premises of the generalization of electronic transactions; (ii) the introduction of *Continuous Linked Settlement* (CLS), a system designated to carry out transactions between member banks, registered in the CLS Bank records, according to the payment principle – counter-payment.[1] Functional since September 2002, the bank was designed to minimize the involved risks and ensure in real-time the transfer of funds between member banks involved in international currency exchanges, reducing the liquidity needs for payments, compared to traditional market practices. According to Euromoney (2010), today, CLS is still the only means by which settlement risk can be eliminated with finlity. Having established a robust settlement platform, CLS's core constituency , accounts for a failing share of volume as transactions between

[1] The fee payment mechanism conditions the final transfer of one currency from of final transfer of the counterparty involved in that payment relation. There were initially considered eligible for this system seven currencies - U.S. dollar, euro, Japanese yen, British pound, Swiss franc, AUD, CAD - belonging to 65 players holding major positions in the global market of foreign exchange.

banks and other institutions such as hedge funds, algorithmic traders, asset managers and other new market participants experience continued growth; (iii) dinamica actuală a evoluţiilor pietei valutară, care indică menţinerea tendinţei de consolidare, pe termen lung, a industriei bancare. Among the top 13 foreign exchange centres (covering 90% of global turnover), a decrease in the number of banks accounting for 75 % of the turnover was reported between 2007 and 2010 in most centres. (BIS, 2010).

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Business Administration and Business Economics

Anti-crisis Measures. Baltic Economies' Solution

Romeo Ionescu[1]

Abstract: The paper tries to find a solution and to implement good practices connected to the economic recovery under the present global crisis. The objectives of the paper are to analyse the economic trend in the Baltic economies and to realise a forecasts for 2012-2013. The economic analysis is focused on the main macroeconomic indicators during 2010-2011. The forecast covers 2012 and 2013 and is based on the latest official statistic data. The analysis is supported by pertinent diagrams. The main conclusion of the paper is that the solutions to pass the crisis have to be find individually and the Baltic economies can be an example of good practices.

Keywords: economic recovery; economic trend; economic crisis; economic forecast.

JEL Classification: C1; O5

1. Introduction

The global crisis is far away to be defeated. The EU27, as well as the Euro area, is not able to find a global solution to the economic recovery. This is why the Member States are focused on individual solution in order to face the crisis' challenges.

A distinct group of Member States is formed by the Baltic countries, which have common history, common social-economic problems and which find common solutions to the economic recovery.

In order to analyse their economic evolution, we used the latest official statistic data (European Commission, 2011). On the other hand, we tried to have a critical approach to these data.

The main objective of the paper is to realise a forecast of these three above economies, in order to describe their economic recovery trend.

2. Other Research in this Topic Area

There are a lot of books and scientific papers focused on the economic forecasting

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under the global crisis impact. A recent book coordinated by Carnot is focused on the theoretic approach of the forecasting processes, including policy making and forecasts or macroeconomic models. A distinct part of the book covers the risks and accuracy in forecasting (Carnot, Koen & Tissot, 2011).

Another scientific approach provides up-to-date coverage of both new and well-established fields in the sphere of economic forecasting. The chapters are written by world experts in their respective fields, and provide authoritative yet accessible accounts of the key concepts, subject matter, and techniques in a number of diverse but related areas. It covers the ways in which the availability of ever more plentiful data and computational power have been used in forecasting, in terms of the frequency of observations, the number of variables, and the use of multiple data vintages. Greater data availability has been coupled with developments in statistical theory and economic analysis to allow more elaborate and complicated models to be entertained; the volume provides explanations and critiques of these developments (Clements & Hendry, 2011).

2012 started with two important dedicated scientific books. First of them is signed by González-Rivera G. and started from the idea that knowledge of forecasting methods is among the most demanded qualifications for professional economists, and business people working in either the private or public sectors of the economy. The general aim of this textbook is to carefully develop sophisticated professionals, who are able to critically analyze time series data and forecasting reports because they have experienced the merits and shortcomings of forecasting practice (González-Rivera, 2012).

The second is based on the economic and monetary disaster predicted by Peter Schiff. And nobody understands what to do in this situation better than the man who saw it coming. For more than a decade, Schiff has not only observed the economy, but also helped his clients restructure their portfolios to reflect his outlook. What he sees today is a nation facing an economic storm brought on by growing federal, personal, and corporate debt; too little savings; and a declining dollar. Crash Proof 2.0 picks up right where the first edition-a bestselling book that predicted the current market mayhem-left off. This timely guide takes into account the dramatic economic shifts that are reshaping the world and provides you with the insights and information to navigate the dangerous terrain. Throughout the book, Schiff explains the factors that will affect your future financial stability and offers a specific three step plan to battle the current economic downturn (Schiff, 2012).

3. Estonia

The economy supports the domestic demand recovery, which is able to ensure the growth equilibrium. The start of the crisis had a devastating impact on the economy. As a result, the GDP growth rates were negative: -3.7% in 2008 and -14.3% in 2009.

The recovery program applied by the Estonian government led to significant positive economic growth rates during 2010-2011. The economic recovery is forecasted to continue during 2012-2013. The economic growth rates will be significant but lower than those from 2011 (see Figure 1).

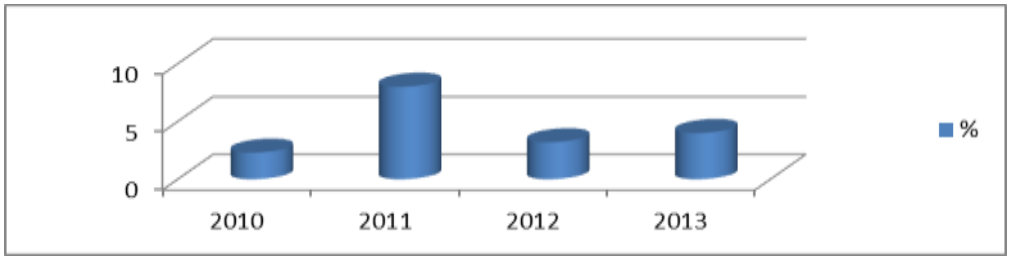

Figure 1. Estonia's GDP forecast
Source: Personal contribution

The private consumption fell by 23.4% during 2008-2010. 2011 brought a low recovery of this consumption, based on a GDP growth rate of 8.0%. The recovery process connected to the private consumption will continue during 2012-2013.The public consumption decreased during 2009-2010 and had a slow recovery in 2011. The forecasts talk about low positive growth rates during 2012-2013 (see Figure 2).

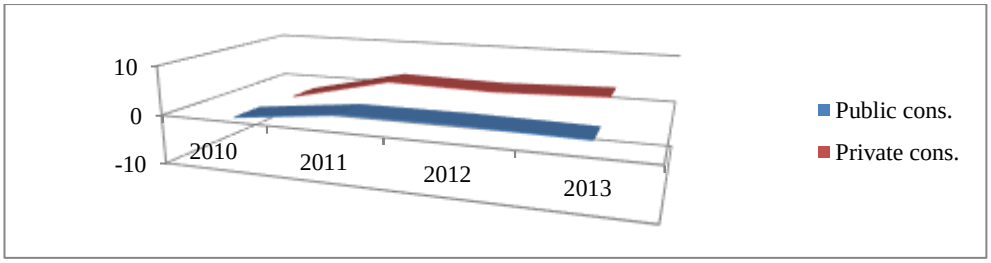

Figure 2. Estonia's consumption forecast
Source: Personal contribution

The negative macroeconomic evolution forced the investment decrease during 2008-2010. The investment rate became significant positive 2011. The investment recovery process is forecasted to continue during 2012-2013, when the growth rates will be significant (see Figure 3).

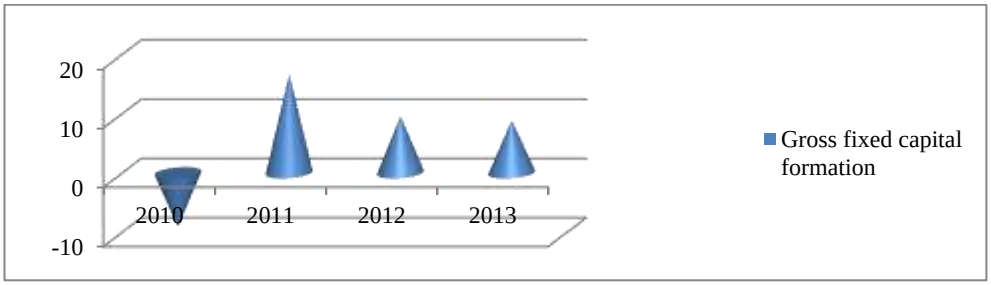

Figure 3. Estonia's gross fixed capital formation forecast
Source: Personal contribution

The negative world trade environment forced Estonia to decrease its imports during 2008-2009. Unfortunately, this process was followed by a decrease of the Estonian exports by 18.0% during the same time period. The growth restoring and the international trade terms improving are determined to return Estonia to high exports and imports growth rates. During 2012-2013, the exports and imports growth rate will be positive but lower than in 2011 (see Figure 4).

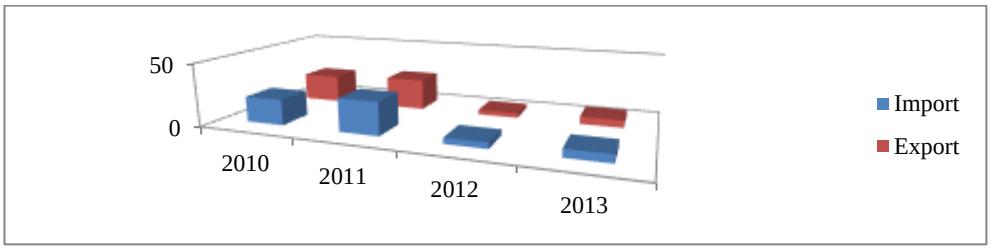

Figure 4. Estonia's foreign trade forecast
Source: Personal contribution

The initial impact of the crisis on the Estonian economy supported a decrease of the employment by 14.8% during 2009-2010.The economic recovery started in 2011 and will continue during 2012-2013. The effect of this recovery will be a weak employment growth rate. This trend will support a decrease of the unemployment rate even that it will remain at double-digit in 2013 (see Figure 5).

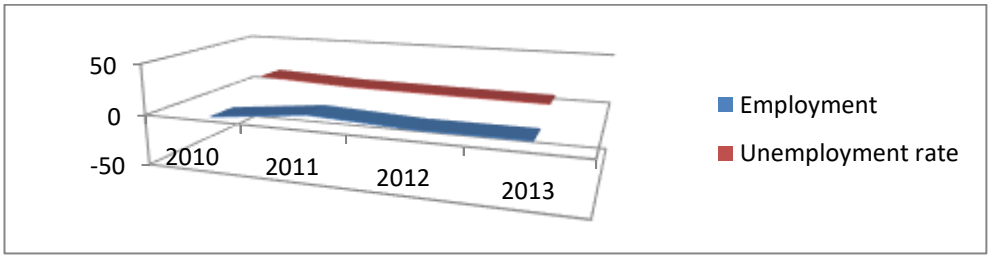

Figure 5. Estonia's employment and unemployment rate forecast
Source: Personal contribution

The uncertainties related to macroeconomic developments have led to higher precautionary savings in the households. These savings are affected by inflation, which is expected to reduce during 2012-2013 (see Figure 6).

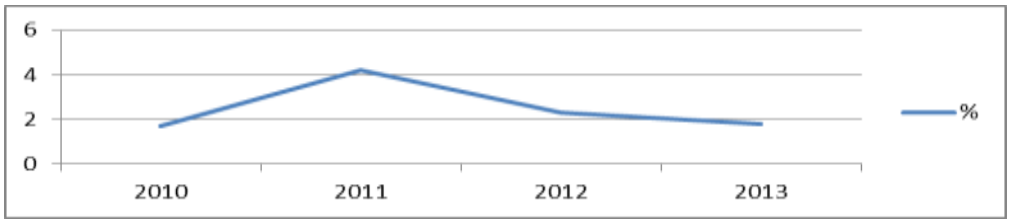

Figure 6. Estonia's inflation rate forecast
Source: Personal contribution

Estonia's government debt is a positive element which supports the macroeconomic evolution. A low level of this debt (about 6% of GDP) is forecasted to the 2012-2013 time period (see Figure 7).

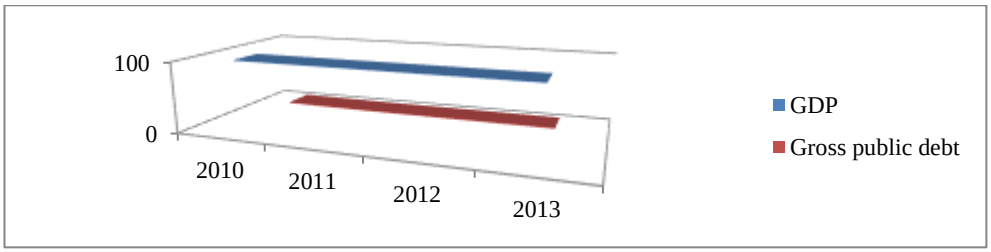

Figure 7. Estonia's gross public debt forecast (% of GDP)
Source: Personal contribution

4. Latvia

Latvia supported high costs connected to the global crisis during 2008-2010. 2011 ended with a higher than anticipated economic growth. The GDP growth will continue during 2012-2013 (see Figure 8).

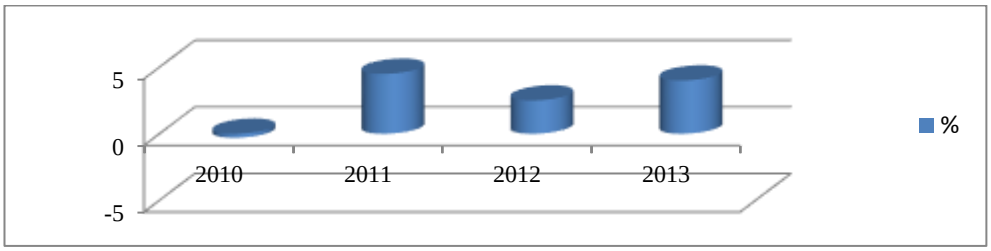

Figure 8. Latvia's gross public debt forecast (% of GDP)
Source: Personal contribution

Recession put down the private consumption, which decreased by 21.3% during 2008-2010. In 2011, an economic recovery process started. It will continue during 2012-2013. In order to adapt to the crisis impact, the public consumption decrease by 19.1% during 2009-2010. Its trend will be the same for the next two years (see Figure 9).

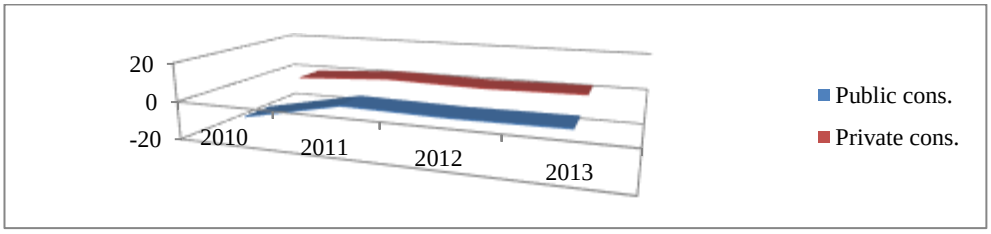

Figure 9. Latvia's consumption forecast
Source: Personal contribution

Latvia is one of the most affected Member States by the economic crisis related to the investment. The gross fixed capital formation decreased by 63.4% during 2008-2010. 2011 brought a sudden reversal in this area, which will be continued during the forecast period (see Figure 10).

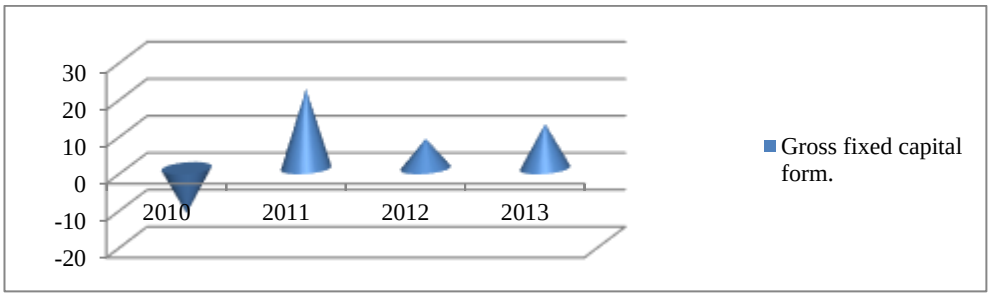

Figure 10. Latvia's gross fixed capital formation forecast
Source: Personal contribution

During the first years of the crisis, Latvia tried and succeeded to reduce its imports by -44.1% (during 2008-2009). Unfortunately, the negative world economic environment put its impact on the Latvian exports. As a result, the exports decreased by -12.1% during the same time period. Since 2011, the imports growth rate was higher than that of the exports and will continue to do so until the end of the forecast (see Figure 11).

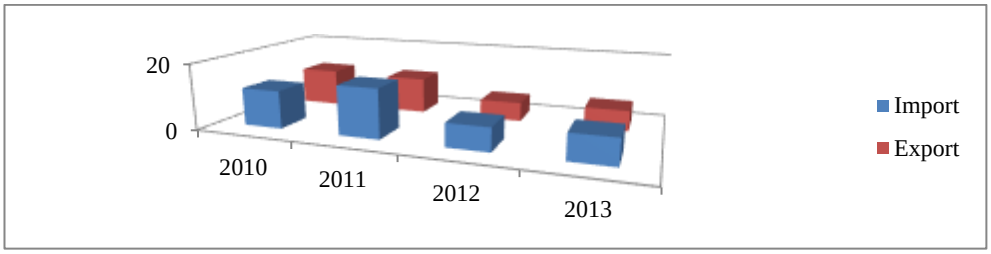

Figure 10. Latvia's foreign trade forecast
Source: Personal contribution

The decrease in employment during 2009-2010, cannot be offset by small but positive rates which will be recorded until the end of the forecast. As a result, the unemployment rates grew during 2008-2010 and achieved 16.1% in 2011. The next two years will face to high unemployment rates even that they will decrease slowly (see Figure 11).

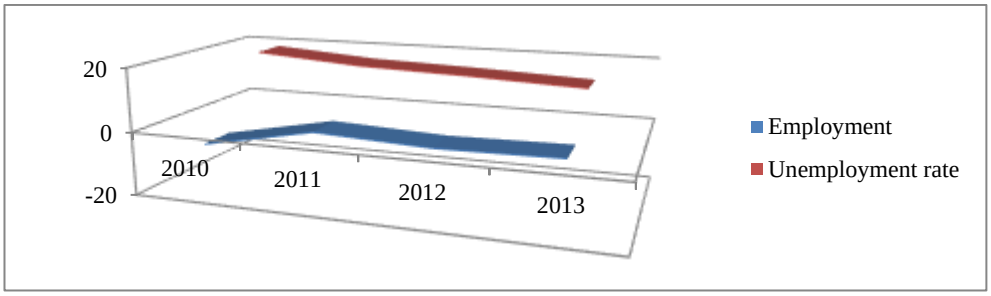

Figure 11. Latvia's employment and unemployment rate forecast
Source: Personal contribution

It is interesting that the households' saving rates were positive during whole crisis. The same positive saving rates will be achieved in 2012 and 2013. On the other hand, Latvia faced to an inflation rate of 14.3% in 2008, then with disinflation, in 2010. Since 2011, the inflation rate decreased significantly and will achieve to 1.0% in 2013 (see Figure 12).

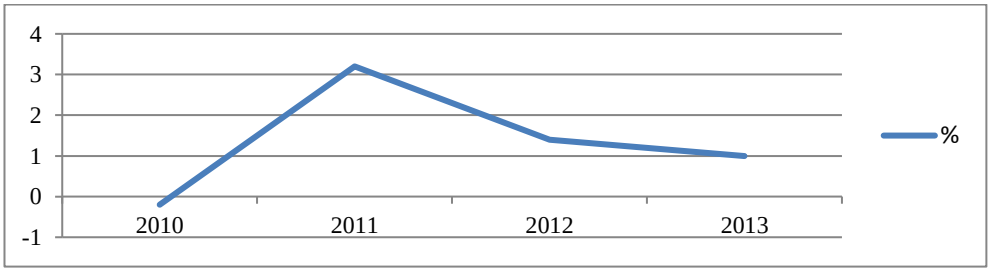

Figure 12. Latvia's inflation rate forecast
Source: Personal contribution

The public gross debt as % of GDP increased during 2008-2011. It is forecasted to increase in the next two years and to achieve 47.1% of GDP in 2013 (see Figure 13).

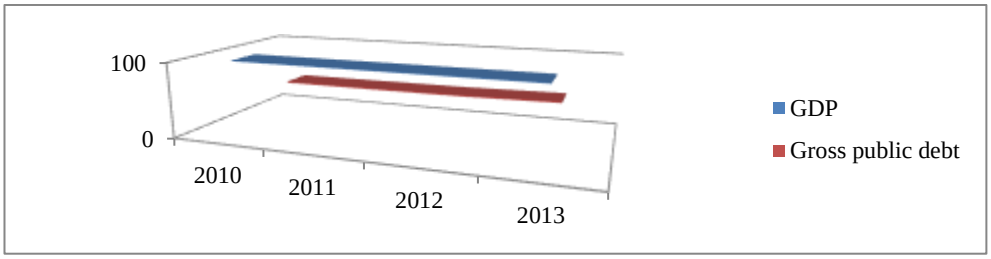

Figure 13. Latvia's gross public debt forecast
Source: Personal contribution

5. Lithuania

The Lithuanian economy was hit by the global crisis in 2009. Nowadays, it follows a powerful economic recovery, which is influenced by the global trends.
The economic recovery will continue in 2012 and 2013 (see Figure 14).

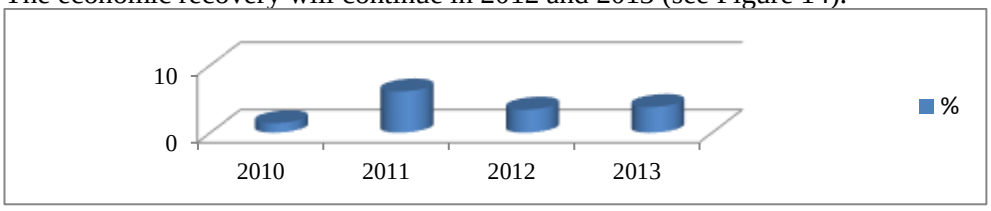

Figure 14. Lithuania's GSP growth rate forecast (%)
Source: Personal contribution

The macroeconomic evolution supported the private consumption decrease by 22% during 2009-2010. A recovery process started in 2011. The public consumption was fluctuant, with positive followed by negative growth rates. The same evolution is forecasted for 2012-2013 (see Figure 15).

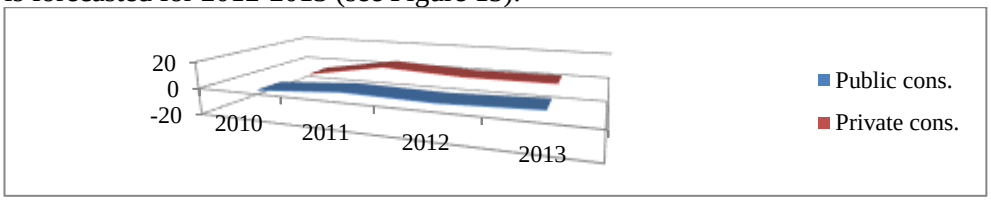

Figure 15. Lithuania's consumption forecast (%)
Source: Personal contribution

The consumption decrease was followed by a spectacularly decrease of the investment by 44.7% during 2008-2009. The economic growth achieved in 2010

and 2011 was the support for the investment recovery. As a result, the gross fixed capital formation will face to high growth rates during 2012-2013 (see Figure 16).

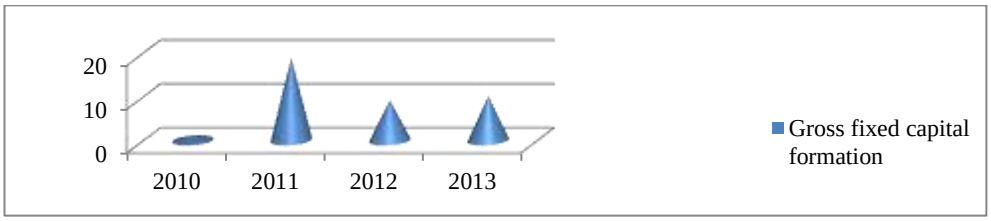

Figure 16. Lithuania's gross fixed capital formation forecast (%)

Source: Personal contribution

The inadequate macroeconomic evolution and the world trade trend caused an important decrease of the good imports in 2009. This decrease was followed by a lower decrease of the Lithuanian exports. From 2010 and continuing to the forecast period, the imports growth rates will bring forward than those of the exports (see Figure 17).

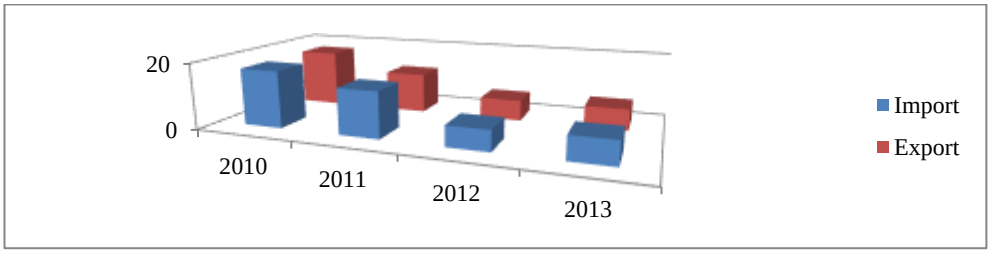

Figure 17. Lithuania's foreign trade forecast (%)

Source: Personal contribution

The global crisis had a powerful impact on the employment in Lithuania. As a result, the jobs decreased by 12.6% during 2008-2010. A recovery process started in 2011 and will continue in 2012 and 2013. On the other hand, the unemployment rate increased, from 5.8% in 2008, to 15.1% in 2011. The unemployment rate will decrease slowly during 2012-2013 (see Figure 18).

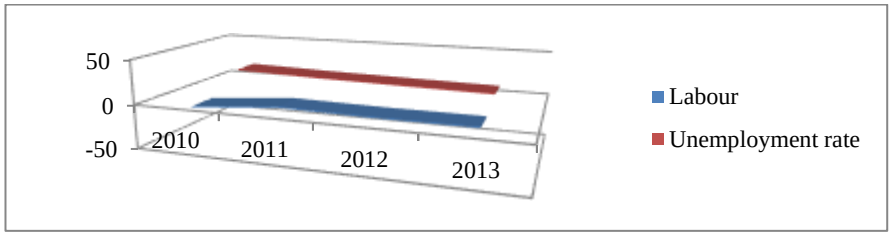

Figure 18. Lithuania's unemployment rate forecast (%)

Source: Personal contribution

An interesting evolution had the households' savings rate, which increased during the crisis. The double-digit inflation, as a result of the crisis in 2008, strongly decreased and achieved 3.0% in 2011. This trend will continue during the forecasted period (see Figure 19).

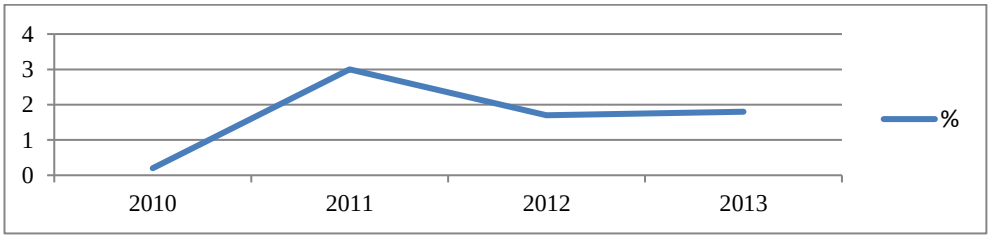

Figure 19. Lithuania's inflation rate forecast (%)

Source: Personal contribution

Lithuania's gross public debt grew, but it is still small related other Member States. The gross public debt as % of GDP will increase in 2012 and 2013 (see Figure 20).

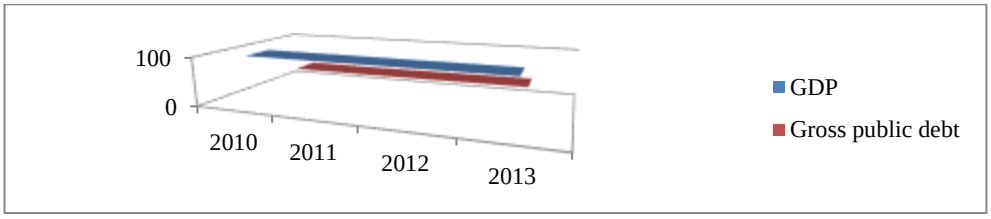

Figure 20. Lithuania's gross public debt forecast (% of GSP)

Source: Personal contribution

6. Conclusions

The Baltic countries succeeded in achieving high economic growth rates in 2011. The economic recovery will continue in 2012 and 2013. As a result, the gross fixed capital formation rate increased in 2011 in all three countries and it will have the same trend during 2012-2013.

The unemployment rate decreased and will decrease during 2012-2013, even that it will remain at double-digit in Estonia in 2013. Moreover, the inflation rate started to decrease in 2011 and will continue to decrease in 2012 and 2013 in these countries.

The economic recovery is supported by a gross public debt lower than 50% of GDP in these countries and by forecasted low but positive growth rates of the public consumption during 2012-2013. These countries represent an positive example for all Member States which try to face the crisis' challenges.

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A Theoretical Approach of Fiscal and Budgetary Policies

Nuţă Alina Cristina[1]

Abstract: The overall aim of this paper is to highlight the doctrinal issues that can influence fiscal and budgetary policies decisions taken in a certain period by the public decision makers. More specifically, we want to emphasize how classical and neoclassical doctrine influences fiscal and budgetary issues. These doctrinal features should be considered when assessing a period of governance and should be related to underlying fundamentals of organization of an economy in a specific context.

Keywords: fiscal policy; budgetary policy; doctrine

JEL Classification: B12; B13; E62

1 Introduction

The classical and neoclassical doctrines have generated a fiscal policy characterized by a limited central government support, where the government was responsible for maintaining the law and order, protect property and protect the citizens against foreign intervention, state where "homo oeconomicus", led by a "invisible hand", pursuing its own interests, a process that determines the interests of society. Adam Smith is the founder of the doctrine, but to shape this doctrine were also joined other economists like D. Rocardo, J.S. Mill, J.B. Say. They were suspicious about the government activities, believing this activity was frequently, partisan, corrupt and inefficient, but admitted some exceptions to the general rule. The lack of state intervention was not for them an aim in itself but would increase individual freedoms, and on this basis, the "wealth of the nation" as a whole. One important finding of the classical economists, in terms of budget and fiscal policy, was that the state budget was isolated from the economic life.

2. The Classical (Liberal) Approach

For Adam Smith (1723-1790), David Ricardo (1772-1823) and James Mill (1773-1836) the economy was perceived as a self-balanced, sensitive to specific failures

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of the economic cycle, but fully able to autocorrect, without support from the government. Depressions may not be permanent because the principle "supply creates its own demand" through automatic price and adjustments of interest rates. This expression is known as "Say's Law" and claims that the excess supply of goods or the excess demand for money tend to autocorrect. Thomas Robert Malthus only (1766-1834) has some doubts about this issue.

Adam Smith was a supporter of the idea that each individual will contribute to the State in proportion to his ability to pay tax and in proportion with the revenue to each individual enjoy being under state protection. Taxation is a matter of "quid pro quo" applied to the Locke correspondence principle, (the right to use their own income), but also in correspondence with the opinion on ability to pay, as the rule of fair taxation, independent of the benefits arising from the implementation public spending.

According to the Adam Smith opinion on public debt is a direct product of its anti-mercantilist philosophy (basic idea of the mercantilist theory and economic policy was the presence and active intervention in the economy, both as an economic agent independently and support fundamental private economic agents (either internally or externally), through a thorough and severe protectionist policy for national entrepreneurs). Smith regarded the state as inefficient apparatus in terms of wealth creation and overly restrictive in terms of individual freedoms (Gheorghe, 2011). Thus, the state, in the context of the financing its spending through taxes or debt, create transfers of savings of the merchants and industrialists and also wasting money in unjustified wars, most often, which divert resources away from capital goods to public consumption. Taxes, as well as loans involving a similar diversion of resources, thus, will produce a negative trend sufficient to restrict government spending: "when a nation is already overtaxed, nothing but the need to start a new war ... or fear for national security can not cause people to tolerate a new tax." (Smith, 1776).

In the classical conception, the loan had a negative role, because of the artificial increase of the budget and the involvement in the economy. And the most important loss is recorded when the industry and commerce trader borrows the state. Thus, public loan used to provide public budget balance in the economy reduces the disposable income that could be used productively in the private sector (Nuta, 2011). Through his writings, Smith points out an approach to the analysis of public debt that will be attacked by Keynesians, namely, that there is a load of debt from its creation, but the entire burden falls on future generations.

The only classic that has not agreed to such debt implications was Thomas Robert Malthus witch arguing that debt, once created, is not the greatest evil, since even the greatest forces of production are almost useless without a consumer. It would be irrational to determine in certain circumstances that a sudden reduction of

national debt and elimination of taxation must necessarily result in an increase of national wealth. Malthus opposed to welfare transfer system in order to support the poor, because, in his opinion it would be counterproductive.

In the field of fiscal and budgetary resources policy, J.S. Mill founded "sacrifice theory" according to which the state take some of the revenue of the taxpayer, causing him to sacrifice for the public expenses. He believes that to achieve tax justice, the criterion to be used is that of equality of sacrifice, without making any distinction between individuals and social classes, being a proponent of proportional income taxation.

David Ricardo shares Smith antipathy to the call to liabilities created by budgetary deficits. Ricardo is more trenchant than Smith about who should bear the burden of debt financing. Effects of annual transfer from taxpayers to borrowers should depend on how these categories of payers will employ these resources. According to the economist, future tax payments will be capitalized entirely by rational citizens. In this sense, Ricardo distances itself from the Adam Smith. The choice of the financing public spending modality through debt rather than through taxation will not change the real cost of government spending over the years. Ricardo made claims about the equivalence of taxes and debt, but argued that individuals do not behave with perfect precaution like the businessmen who of the hypothetical example in his work. Finally, Ricardo anticipated the "public choice" revolution, recognizing that a large national debt may give reasons to taxpayers to change the tax burden in the account of others. "A country that has accumulated a large debt is placed in an artificial situation ... is in the interest of every taxpayer to withdraw his shoulder from the tax burden and give support payment from his account to another account and the temptation is to move it along with its capital in another country, which would be exempted from such duties becomes irresistible (Malthus, 1826). Some authors (Rowley, et.al., 2002) believe that, especially through this quote, so-called "Ricardian equivalence theory between debt and taxation", which flows in the 70s shows a misunderstanding of Ricardo's views on this subject.

The importance of the traditional doctrine for the content of the fiscal and budgetary policy issues is given by the sets of principles of fairness and justice of taxation outlined by economists who have served this doctrinal orientation. Thus, Adam Smith first proposed four principles relating to the justice of taxation, taxation certainty, or the tax return. On the other hand, J.S. Mill proposes two principles to be reflected in the fiscal policy of the liberal, namely the principle of justice, supported or implemented by imposing corresponding equal sacrifice, and the principle of neutrality. A continuation of efforts on the same trajectory has performed A. Wagner, who was considered a liberal with social views, which formulate the higher imposition principles, of a particular importance to fiscal policy. These include the principles of financial policy, public economics principles, principles of tax equity and fiscal management principles, which

complement the maximal proposed by Smith and clarifies fiscal policy actions in the classical view.

Essentially, classical liberal doctrine had a major impact on fiscal policy pursued by the state, creating a solid framework for action with justification, criteria and factors that determined the improvement of the wealth and income distribution in society.

3. Neoliberal (Neoclassical) View

One of the most important fiscal policy issues presented by Friedman (Friedman, 1957) was the necessity, existence and the scope of public spending, meaning if this component meets an active role in the overall budget and fiscal policy, knowing the fact that Keynesian oriented governments have relied on increase public spending, considering them fundamental to social and economic development. From this perspective, the monetarists have concluded that despite short-term positive effects generated by public expenditure, on the long term this is the source of the private sector, generating instability in the economic environment.

Nobel laureate, Milton Friedman, said that bureaucrats will not spend taxpayers' money as taxpayers themselves could do it, arguing that, monetary policy would be the most important determinant of the economic activity. As the great economist argued with conviction about the importance of short-term money supply, and also maintained long-term currency neutral, saying that long term money only affects prices but not real economic activity. "The first and most important lesson we learn from history about what monetary policy can do ... is that monetary policy can prevent the money themselves become a source of imbalances" (Friedman & Schwartz, 1963).

The neoclassical synthesis was devastating by Friedman attacks in terms of the existence of a stable Phillips curve between inflation and unemployment. Speaking at the 1967 European Association of Economics, Friedman rejected the original Phillips curve theory because it is based on nominal variables and not on real labor market. According to Friedman, the long-term Phillips curve is vertical and does not require a trade-off relationship between inflation and unemployment.

Short-term Phillips curve, redrafted by Friedman as "rising expectations" is stable only in the presence of natural unemployment rate. If the government acts to put the unemployment below the natural unemployment rate, short-term Phillips curve will rise giving an inverse relationship between inflation and unemployment. Government can restore short-term Phillips curve in order to escape the inflation forecasts.

Milton Friedman said that better results can be achieved if decisions are based on rules rather than discretionary decisions of government officials. A specific policy rule is automatic adjustment policies as a result of macroeconomic conditions (Turtureanu, 2011). Discretionary policies are explicit policy decision taken after consideration of economic circumstances and designed to influence the macroeconomic equilibrium.

Thus, the economist is against state interference in pricing level, against subsidies to industry and agriculture, against rising property taxes and budget deficits, as against "general welfare state"(Suta-Selejan, 1994), arguing that fiscal policy cannot ensure economic stability, since the content is not sufficiently well known (Filip & Onofrei, 2001).

Along with Friedman monetarism there are other options. One is the budgetary monetarism version promoted in the U.S. by K. Brunner and A.H. Meltzer and in Britain by Professor Minford. (Brailean, 1998). The supporters of Friedman monetarism reproaches to Friedman that budget and fiscal variables was neglected into the macroeconomic analysis, rejecting the idea that "only money matters". They argue that the budgetary deficit also exerts an influence on production and prices levels, and its structure directly affects the Phillips curve position on the short term. In this sense, the budgetary monetarism considers that money supply shall be determined in the budget process.

The monetarism had a particularly large audience in the late '70s. Milton Friedman exerting a strong influence on government policy led by Ronald Reagan (helped, however, by Arthur Laffer), and by Margaret Thatcher. Friedman was a good adviser to Presidents Richard Nixon and Gerald Ford.

In the early 80's, in reaction to the Keynesian theory, which insisted on state intervention in the economy, has formed a new theoretical orientation so called "supply-side theory". The main representatives of this orientation are: Arthur Laffer, Paul Craig Roberts and Norman Ture. The fundamental problem of this theory is about productivity stagnation caused by Keynesian policy. This stagnation is due largely to a tax system that destroys initiative and cause distortions on the rewards of the production factors owners and therefore over the allocation of community resources (Beaud & Dostaler, 2000).

The supply-side economists focus their attention naturally on the development and implementation of budgetary and fiscal policies that encourage saving, investment and boost employment at the highest possible growth rate. Concrete, supply-side economics is based on two key ideas (Miller & Van Hoose, 2003):

- The government is less efficient than private sector in the allocation of savings and capital investments;

- Government budgetary and fiscal policies have important effects on the incentives that influence capital accumulation and employment growth and therefore economic growth.

Regarding the tax aspect of budgetary and fiscal policy, in accordance with the theory of supply-side, tax cuts would raise the disposable income of the taxpayer's. This would increase the supply of labor and capital and the innovations and productivity levels. Arthur Laffer has shown a relationship between tax rate and the tax revenue, which shows that if it exceeds a certain level of tax rate, any new marginal tax rate leads to reductions in tax revenue due to reduced economic activity and the appearance and development of underground economy . This relationship is called the "Laffer curve". This famous curve brings a new approach to fiscal and budgetary policy issues. Once it was shown that a rational justification is need for choosing a tax rate to maximize tax revenue attracted to public financial funds and that an increase in rate does not always increase tax revenue collected.

Income taxes are paid by both households and corporations. Households are the primary source of savings driven mostly by private equity funds. According to the supply-side theorists, taxation disadvantage both savings and investment, reducing capital accumulation and economic growth. It can be seen that reducing the effective tax rate for savings to encourage households to save at any given real interest rate. Furthermore reduction into tax rate on investment allows investors to invest, regardless of interest rate. The effects of a reduction in tax rates of investment and savings, corresponds to an increase in the savings and investment balance. Supply-side economists argue that tax rates over income earned from savings and investment should be reduced, even to the exclusion, because the income tax systems have effects on employment, which could hamper economic growth. Such a reduction in marginal income tax rate of households gives reason to offer more services (labor) to any given real salary level, so labor supply curve will shift to the right and cause an increase in employment work balance, resulting in an increase into the real output.

Most of the supply-side economists favour a limited role of government. However, they recognize that there could be collective benefits by maintaining certain government functions such as national defense, public safety, and others. In this respect, if income taxes would be eliminated, other sources of taxation should take place. Some authors are in favour of replacing the income tax system with taxes on consumption, such as sales taxes or VAT. A common argument against the sales tax is that it can be regressive. Thus, it may be that people with low incomes to spend that income on sales taxes while people with high incomes be able to save or earn income free of charge from capital gains and investment.

In terms of the budget balance policy, supply-side economics, has issued the opinion that large budgetary deficits can block private spending. By inducing an

increase in the interest rate, the costs resulted of a state loan, reduce private investment. If saving increases together with the increasing rate, then private consumption may also decrease. This is the crowding-out effect, representing a transfer of resources from the private sector to government sector. If private investments attract capital accumulation, higher than government spending, the long-term growth may be slowed by the cost generated by the deficit.

In the classical model, the surplus results in a reduction in interest rates to stimulate private investment. Meanwhile, private savings decrease, so private consumption will increase. However, in the classical model, an increase in government savings, in the form of budgetary surpluses, induce an equivalent increase in private spending. Then, the increasing private investment tends to encourage capital accumulation and raise growth rate. But, by maintaining a surplus, the public savings are in the individuals' interest: to establish fees to cover their excess, and then channel the unspent fees to financial markets. Criticism concerning government surpluses occurred at the government's ability to channel these enforced savings for productive destinations.

4. Conclusion

The classical and neoclassical economists' underlines the necessity to reduce / limit the state in the economy, and this translates into a lower volume of taxes and public spending, analysis focusing mainly on microeconomic dimension.

The budgetary and fiscal policies transmission effects on aggregate supply is based on the reducing the taxation that boost the interest to work and of course this will generate an additional investment of national income in terms of an inflationary context. The long-term analysis is a short-term extension of the premises referring to the positive response of aggregate demand to offer higher, even if the level of the price increase.

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FDI Role in the Development of the Romanian Economy

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Abstract: This paper analyzes the foreign direct investments on the Romanian economy by analyzing their impact on the capital investments, balance of capital, budgetary incomes and workforce. FDI have generated significant effects at a macroeconomic level reflected on productivity, efficiency and competitiveness of the activities that have enjoyed large foreign capital inflows. In this respect, carried out analyses allow the emphasizing of several favorable and unfavorable changes associated to foreign direct investments.

Keywords: Foreign direct investments (FDI); capital investments; balance of payments

JEL Classification: G01; G32; F36

1. FDI Impact on Capital Investments

One of the ways foreign direct investments indirectly influence the economic growth is the forming of native capital, as FDI have an multiplying effect on internal investments.

The quantitative dimension of the capital contribution of FDI inflows is showed by the percentage rate between the received FDI flows and the gross forming of the fixed capital. Foreign investments supplement the internal capital when it is made „on an empty place", leading to the development of new activities or when changing the ownership form (privatisation or company take-overs) if the so purchased company had been loosed or if, by making the foreign investment, its performance improves. It is clear that, from this point of view, the impact of foreign capital inflow is stronger that greenfield investments

Through training effects, FDIs have encouraged native investments, whom dynamics had been superior comparing to the one of foreign capital flows, indirectly contributing to the development of productive activities, and mainly of those set upstream or downstream compared to the scope of activity of the foreign subsidiary.(I. Lupasc, 2007) Another positive effect of foreign capital inflows is the bringing more internal resources, leading to the decreasing of the deficit between

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internal economies and the investments requisite, and consequently, to the growth of gross forming of fixed capital. Initially, FDI flows have registered relative high levels and have been mostly pointed towards the privatisation process, which has minimized the positive impact of the foreign capital inflows consisting of speeding up the assets purchase. Subsequently, a gradual growth of attracted FDI is registered, concomitant to a slight change in their structure favourable to greenfield investments, so that the impact of foreign capital inflows on gross fixed capital formation, ranging between 23 and almost 32% (Ivan, Iacovoiu, Buruiana, 2008) due to, from our perspective, both the concerning of foreign investors about the activity modernization and the growing competitively of the made products in order to face the competition on the Single Market, as well as the intensification of foreign greenfield investments regarding the position strengthening on the regional market, within the context of Romanian integration in the European Union. Thus, the impact of FDI flows on capital investments is concretized in positive effects represented by supplementation of internal capital used for assets acquisition as well as by the stimulation of local investments, with clear favourable influences, both direct and indirect, on economic growth.

2. FDI Impact on the Balance of Payments

The effects of foreign direct investments on the balance of payment are numerous and sometimes contradictory, being defined by a series of factors, of which the most important ones are: the type of investment, the economic efficiency, the activity field, resources access, cost of classical transactions and the intervention of the host country.

The analysis of the FDI impact on the balance of payments must take into consideration both the commercial flows (balance of trade) and the "possible significant capital outflows or other investors' possible flows defalcation" (Ioan, 1998). Within this context, the best example is the case of the Romanian wire telephony company Romtelecom, where the foreign investor was insured of the market monopoly for 5 years (1998-2003), when the tariffs had experienced a significant growth. These increased profits gained as a result of the use of anti-competitive methods can be turned into capital outflows, as excessive wages of the expatriated ones and high royalty fees, with a negative influence on the balance of payments. In the case of the countries in transition to market economy, this kind of situations is not unique, if we consider the FDI focusing on the oligopoly market.

Another issue of the analysis of FDI impact is the one of the financing methods, which influences in a direct manner the level of the external private debt. The negative effects on the balance of payment show up in the case of foreign companies borrowing from abroad and subsequently focusing on a quick recovery

of the investment by using fiscal circumvention methods (high transfer price or royalty fees).

Another aspect of the analysis of FDI impact on the balance of payments regards the time tracing of the effects generated by investment projects as described: in the first phase (making the investment), the capital inflows are registered in the financial account, as a mean of balancing the balance of payments by financing the current account deficit; in the second phase (the investment implementation), due to the massive imports made by foreign companies (equipment, machinery, raw materials) there is a negative effect on the balance of trade.

In the third phase (maturity of investment), the effects on the balance of payment and trade respectively are diverse. The positive effects on the current account occur when gained profits are reinvested in the host country, and the capital outflows such as interest rates, royalty fees and the ones generated by the administrative transfer prices system are not significant. Therefore, there are many channels by which foreign direct investments can positively or negatively afflict the external balance of payments of the receiving country.

The quantitative and qualitative impact of foreign direct investments on the balance of trade is negative, due both to the highly accentuated dynamics of the imports made by the foreign companies compared to their exports, as well as a result of the fact that high added value goods have been frequently imported and low processing goods have been mostly exported. From our point of view, this unfavorable evolution is the main result of several clauses regarding the implementation of foreign investments, the preponderant guidance towards trading activities and the lack of local capacities needed for the activation of the comparative advantages through FDIs. FDI have been a significant source of financing the current account deficit, especially from 1997, when higher foreign capital flows were received. The carried out analyses have also shown that as a economic whole, foreign companies "take out less than they fill in", the net financial effect (as the difference between capital inflows and outflows) is emphasized as the FDI inflows increase. Within this context, we argue that significant foreign capital inflows consisting mainly of shares and reinvested profit against external loans could significantly tend to the balancing of the external balance of payments by the decrease in the current account deficit.

3. FDI Impact on Budgetary Expenditures and Incomes

Another aggregate effect of foreign direct investments is the one on budget, an impact that can gather way as positive as well as negative contributions. Essentially, experts assume that in the first phase, the impact on the budget is a

negative one, as subsequently, once with the development of activities and the creation of new workplaces, the impact becomes positive.

Hence, as in the case of the other aggregate effects, the net effect of foreign direct investments on the budget is hard to quantify, depending to a great extent on the existing actual conditions in the host country and, especially, on the applied government policies.

The positive and negative contributions to the budget are, as described below:

Negative contributions

The initial phase (of the investment deployment)

- The decrease in the budgetary incomes as the result of the fiscal facilities granted to the foreign investors (the policy of financial incentives);
- Additional budgetary expenditures of social nature, due to the growth of unemployment as the result of privatization and reorganization of state owned companies.

The subsequent phase (maturity of the investment)

- They can lower the fees and taxes paid to the host state by using the transfer prices mechanism and other mechanisms.

Positive contributions (only in the maturity phase)

- Additional incomes for the national budget consisting in taxes and fees paid by new contributors (employees and economic agents).

Going forward, we propose an analysis on the evolution of the budgetary balance in Romania within the context of being part of the Central and Eastern European countries, classified depending on the degree of FDI involvement in the economy, with the object of emphasizing the correlation between the two variables. In this respect, we will follow the data regarding the budgetary surplus/deficit expressed as GDP percentage between 2000 and 2007 (table nr.1).

Table 1. Evolution of the budgetary balance between 2000 and 2007 (GDP percentage)

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Evolution of the budgetary balance	-4,4	-3,5	-2,0	-1,5	-1,2	-1,2	-2,2	-2,5

Source: Statistical EUROSTAT reports

The data above emphasizes, on a divergent trend, a decrease in the budgetary deficit in Romania in 2007 comparing to the year 2000. By analyzing the context of the budgetary balance evolution in the other countries as well, we can assume that the trend was the same in the Czech Republic, Poland, Slovenia and Slovakia, while in the case of Bulgaria, there is a significant increase in the budgetary surplus. A spectacular evolution has been noticed in Estonia, going from budgetary deficit in 2000 to budgetary surplus in 2007. Hungary is the only country in the EU that had a negative evolution, materialized in the decrease in the budgetary deficit from 2.9% in 2000 to 5.5% in the GDP in 2007, especially between 2002 and 2006, when the registere levels had been significantly higher, namely between 6.5% and 9.2 (EUROSTAT).

By correlating this trends to the data regarding the immixture of foreign direct investments in the economy, one may distinguish three groups of Central and Eastern European states (table nr.2).

Table 2. The FDI – Budgetary deficit/surplus for the CEE states

	ISDS	**ISDNS**
Decrease of the budgetary deficit/ Increase of the budgetary surplus	**1** Estonia, Czech Republic, Slovakia, Bulgaria	**3** Slovenia, Poland, **Romania**
Increase of the budgetary deficit	**2** Hungary	

Source: Eurostat

We must emphasize that we don't claim to establish the net effect of the FDI inflows on the budget of the host country, given the vast diversity of agents influencing the balance of the budgetary exercise. As an example, in the case of Central and Eastern European states that adhered to the EU in 2004, the budgetary effort has significantly risen due to the conformation to the obligations resulting from the membership, namely the one of contributing to the development of the European budget. Meanwhile, the new Eastern and Central Europe members, as well as the adherence candidates, have benefited by significant amounts from the EU budget in order to develop a series of project that have been fulfilled by co-financing from the state budgets. The result of the budgetary exercise is also influenced by the conjuncture factors. In this respect, the best example is Romania, which has experienced an additional pressure on the budget, given the floods in the last years.

The effects of the attracted foreign direct investments flows have reflected in the budgetary deficit, its evolution having been influenced in both direct and indirect

manner by foreign capital. Until 2002, FDIs mostly headed towards privatization and being in the deployment stage, had contributed to the depression of the budgetary deficit. Subsequently, as a result of foreign investors concerning on developing activities "on an empty place" and hitting the maturity stage for most of the implemented investments in the anterior period, foreign direct investments have had a positive impact on the budgetary deficit materialized in the increase in the fees and taxes incomes and the decrease in the social expenditures (creating new jobs with a positive impact on unemployment rate).

As a consequence, there are a lot of factors that can influence in a way or another result of the budgetary exercise. Though, the presented data show that hitting the maturity phase of the foreign direct investments in Romania and the other Central and Eastern European states that make the subject of the analysis, the net impact on the budget was positive, and, in some cases, even significant, the best examples being Estonia and Bulgaria.

4. FDI Impact on the Workforce

This subchapter analyses the situation in Romania in order to see if between 2000 and 2010, the modification of the "annual unemployment rate" indicator influenced the modification of FDI and to which extent.

Table 3. FDI-unemployment correlation in Romania

	2000	2001	2002	2003	2004	2005
Annual unemployment rate (%)	7.3	6.8	8.6	7	8.1	7.2
FDI (million $)	1 056.75	1 157.93	1 140.65	2 196.3	6 435.59	6 482.86

	2006	2007	2008	2009	2010
Annual unemployment rate (%)	7.3	6.4	5.8	7.8	6.87
FDI (million $)	11 366.87	9 922.83	13 305.01	6 792.8	3573.297

Source: Eurostat, www. ec.europa.eu/eurostat

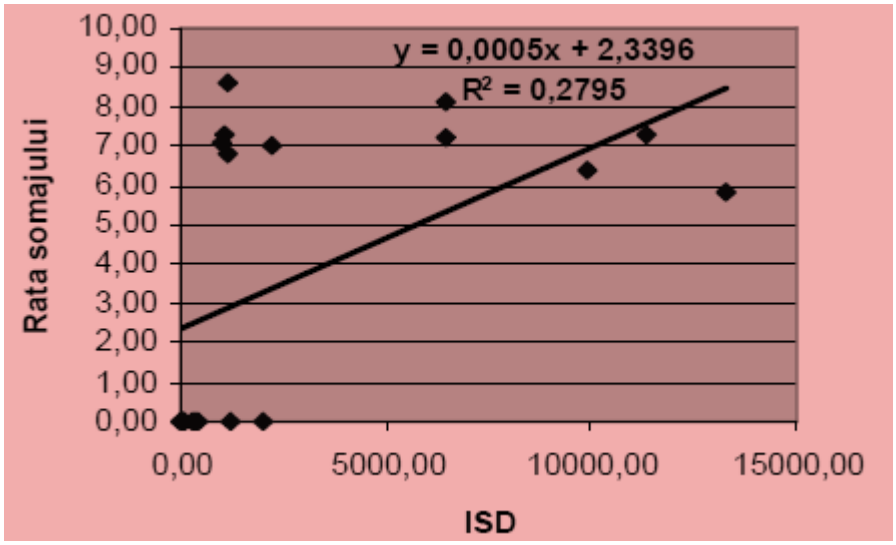

Figure 1. FDI and Unemployment in Romania

Source: Own processing on Table 1

Regarding the situation in Romania, as one can notice in the figure above, there is a relative weak and same orientation correlation between unemployment rate and the FDI level, the R2 value being 0.2795. Between 1990 and 2008, the unemployment rate did not suffer significant modifications, dropping by 1.3% (from 7.10% in 1999 to 5.8% in 2008[1]) and the level of FDI experienced a significant increase.

The FDI effects on the local workforce substantially depend on the following factors: size and investment type, the way foreign investors enter the market, the concerned field, the strategy of investing companies, specific conditions in the host country.

The size of the investment (company) afflicts the local workforce in both quantitative and qualitative manners.

In point of quantity, the transnational companies, though low numbered (almost 2% of the foreign capital companies) attract most of the workforce (more than 60% of the employees in foreign capital companies), compared to small and medium investors that represent the majority, but which attract just a small number in the local employees (almost 35%)[2].

In point of quality, the size and financial power of the company determine the extent to which it involves in the training process and professional forming of its

[1] www.insse.ro.
[2] www.eurostat.com.

employees. This is the main reason why the training activities are more numerous in the case of large transnational companies (such as mobile and financial companies) comparing to small and medium size companies. In the same time, the transnational companies, due to the competitive behavior and own technologies, generate, in most cases, a lower number of workplaces that the same size local companies. The type of investment, respectively its motivation, represents another major factor of the FDI impact on human resources. Thus, in the case of foreign investments motivated by the low cost of the labor force (for the fields that are work intensive) and/or the labor force quality, the features of the local human resource influences in a significant manner the investment decision, being the main localization advantage of the host country. The entering modality of foreign investors influences in a quantitative manner the structure of the active population. Thus, by "Greenfield" investments, new workplaces are created, with positive effects on occupancy. The situation is completely different in the case of attracted FDI in the process of privatization, because the purchased companies are faced with, in a general manner, dramatic personnel reductions, as a result of activity reorganization, with a negative impact on the labor market. Though, within the context where the foreign investors succeeds in, by activity efficiency, saving the company from bankruptcy, on a long term, the registered effect is positive, due to the maintenance of some workplaces.

The activity field of the company influences in a both quantitative and qualitative manner the local workforce. Thus, depending on the product type (labor, capital or work intensive) one of the factors of production may prevail. In the case when the predominant factor is work, foreign direct investments have a significant quantitative impact on the labor force.

The strategy used by the investing company has direct effects on the local labor force, under quantitative aspect. Thus, in the case when the multinational company produces directly in the host country, the impact is far more significant than in the case when it establishes only distribution subsidiaries. One can notice that in the case of Romania as well as in the case of the other Central and Eastern European countries, both strategies were adopted – direct production and distribution network.

We assess that the impact of foreign direct investment on the quality of the labor force consists in both positive contribution, materialized in the positive dynamics of the salaries and in the optimization of the employees' training, as well as in negative economic and social long term effects, due to the dramatic increase in the number of professional decays. Moreover, as a result of the fact that most of the foreign capital has been headed towards intensive work activities, to the detriment of the ones based on knowledge and technology, the positive contributions are relatively low, limited to several activity fields in the field of services (financial brokerage and telecommunications).

5. Conclusions

A continuous and sustained economic growth is possible only under the conditions of a harmonious development, which has to include all the regions in the country, the attenuation of regional gaps, including the concernment of foreign capital, it should represent a real priority of the decision factors. In consideration of the quality of Romania as a member state of the EU, the significant growth of the European funds absorption level and their efficient use should represent a real priority of the decision factors, as the cohesion and structural funds can significantly contribute to the development of physical and institutional infrastructure. Through the effects on productivity, efficiency and competitiveness of the economic activities, foreign direct investments have contributed to the reorganization of the Romanian economy, in the sense of developing certain fields of activity in the manufacturing industry (such as means of road transport) or in the services sector (trade, telecommunications and financial intermediation) concomitant with the restraint of activities in other industrial fields (such as the industry of construction materials).

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The National Environmental Accounting – Different Experiences

Florian Marcel Nuță[1]

Abstract: The article aim is to review some of the main approaches in national environmental accounting in Europe. We try to assess the most important experiences in the field of national environmental accounting and introduce the main concepts in this matter. Future research should address to identify and model correlations between the economic aspects and environmental quality ones as well as those related to human development and welfare.

Keywords: national accounts; environmental accounting; sustainability

JEL Classification: E01; Q56

1. Introduction

In the age of natural resources scarcity and multiple and structural crisis the welfare and economic growth are the centre of attention for all decision makers and scientists. Sustainability risks to be ignored and the national economies dysfunctions affect the sustainable development discussions. What it may save it is the connections identified by some researchers between economic growth indicators and the environmental ones (Bartz & Kelly, 2007).

There are assumptions that include the sustainable development in a very economical way. The consumption is the key concept for the modern economies. Lindhal (1933) and Hicks (1946) shown that an income indicator should be the measure the value of goods consumed today without affecting the consumption possibilities for tomorrow. Not very long time ago any revenues from activities involving environmental depreciation or some natural asset loss were accounted as incomes without being discounted with the assessed environmental loss (UN, 1968).

The environmental accounts have appeared in Norway (Weber & Hemmelskamp, 2005), after the discovery of oil in 1974. Norwegian accounting system resources allowed for resource accounting data on land use.

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In the Netherlands (Peskin, 1981), has developed the idea that these accounts of natural resources should be considered in economic analysis. An environmental accounting system: NAME (National Environment Accounting Matrix) was initiated in 1989 to 1991.

However, despite the international consensus on an environmental accounting, the UN Statistics Division put into operation in 1993, a system of integrated environmental and economic accounting (SEEA) or "green accounting" that integrates physical and monetary accounts correlation to natural heritage costs and benefits of its use in the SCN.

Almost all European countries have launched projects in 1994 aimed to create national systems of environmental accounting in order to integrate sustainable development principles.

2. National Environmental Accounting in Europe

Environmental accounting methods developed are spread rapidly. Most important is SERIEE system (European System of Economic Information on the Assembly Environment) developed by Eurostat in 1994 presented in matrix form. The proposed methods for assessing environmental damage link environmental quality of national accounting aggregates. SERIEE was developed based on the United Nations SEEA, and is a model designed to be applied nationally, even though he was ongoing event that various attempts were based environmental accounting frameworks smaller territorial (common regions).

Private organizations are inspired by this model, especially for environmental classification of items and were tested through pilot projects in 17 countries.

SERIEE Furthermore, Eurostat has developed a system of physical indicators ESEPI (European System of Environmental Pressure Indices) called DPSIR model (Driving forces, Pressures STATE, Impact, Responses). This model develops phenomena which are of environmental concern organic and structured system of indicators. DPSIR indicator system applies an approach that goes from the analysis of processes determining the environmental impacts (drivers and pressures), the current strategy of the environment (state and impact) the actions you take to solve system problems highlighted (answers). No standard model application form, to the extent that it establishes a logical approach, which leaves the definition of the indicators best suited to the specific realities including choice of form of presentation of resources (Hueting, 1991).

Another environmental accounting method was developed in Europe NAME matrix proposed in 1994 by the Institute of Statistics Netherlands CBS. This matrix is an accounting system designed to represent the interactions between economy and environment together in a same picture environmental and economic accounts

of physical type. Both economic and environmental modules are directly attached to allow a parallel reading of the main units (production, consumption, etc..) And institutional sectors (households, businesses, public administrations) of national accounting and environmental pressures that causing them.

Name a system was put into operation to be applied nationally, and while he was experienced in several European countries (Denmark, Sweden, Holland, Italy, etc.). In some cases experiments were conducted in smaller local authorities (communes).

This system is characterized in particular by the possibility of achieving a budget of money and physical environment existing data. After all, that system is a form of re-aggregate data from various sources (official statistics, environmental agencies, etc.) in a form of a matrix that allows the association to economic data for the corresponding environmental pressures.

In the various models Eurostat proposes a program of harmonization of the various experiments to obtain a unique method that might generalize to all EU countries in the near future.

Eurostat for the Commission, a guide entitled "Towards environmental pressure indicators" identified sixty indicators may remain in module - pressures and responses - divided into 10 thematic areas (air pollution, climate change, etc.).

Development of new indicators of the national capital requires a significant amount of specific data including the expansion of national accounting in the natural, social and human capital.

SCN provides important information for economic analysis and development decisions.

The system continues to focus primarily on activities related to market economy. It excludes data on natural resources unspoken currency that enters the economic system and pollutants unexpressed value. SCN does not envisage any measurable aspects of social and human capital.

Expanding national accounts will deliver an information system complete, consistent and uniform tying the environmental, social and economic aspects, which allows measuring the totality of the capital in Romania. This may provide a more complete picture of the total wealth of the country needed policy and economic decisions. Such information may help clarify the default value assigned to elements such as air quality. State devotes large sums to prevent, reduce or eliminate air pollution and other resources. This is given a default value of the environment. Commissioning of a national information system, allows implicit social assessment, which add considerable value to policy in this area.

2.1. National Environmental Assets Accounts

Quantity and quality of information on natural capital varies considerably. Natural capital can be measured in several ways. Basic accounts are incomplete, for certain stocks of natural resources: wood working, underground resources and land, including some land areas. There is little information on other natural resources (water and marine) and virtually zero information on environmental assets that provide flows ecological functions.

Some indicators of natural capital depletion or degradation trends approach the capital. There are some data on consumption of natural resources, but no information on their degradation. Success depends on creating SNA expansion of partnerships with organizations that collect such data on environmental degradation. Information is usually scattered, incomplete and not integrated nationwide. Data at this level on pollution are limited and they lack uniformity, because there are many factors that influence the situation of natural capital such as urbanization and tourism whose influence is not measured properly (Pramanik, 2002).

Accounts expanded system will measure the amount of natural capital (natural resources, land and ecosystems) and annual evolution of these reserves occasioned by natural processes and human activities. Reserves that will serve as a basis for evaluating natural resource wealth may thus be integrated into the overall assessment of the national wealth in the SCN, in addition to the traditional measure of wealth produced. This will allow evaluation of natural resources on the balance sheet show how capital is used as a substitute product of natural capital. In conclusion, these data are of particular interest for monitoring the presence and exploitation of these resources (Lange, 2003).

Natural capital accounts are closely linked material flows accounts. Annual or annual harvest depletion of natural resources reserves stated in physical capital asset account is part of natural resource flows recorded in an account of material flows. The integration of these two accounts could serve to measure the implications of using resource materials on reserve "virgin" environment.

Over time, natural capital accounts are to:

- Underground asset accounts: physical measurement of the active reserves underground sources (fossil fuels, minerals and metals) and estimate the monetary value of reserves;
- Biological asset accounts: quantity and quality of renewable biological resources (wood working, marine resources, wildlife, hunting and traps) and estimate the monetary value of reserves;
- Land asset accounts and terrestrial ecosystems, physical expansion, ranked according to the dominant use, land coverage and capacity. Accounts include

an array of changing land damage that allows representation of a conversion to another use (and development of soil quality), the predetermined periods (five years). Whenever possible, these accounts will also include an estimate of land value;

- Water asset accounts and hydric ecosystems: they include the amount of renewable water per basin slope, precipitation, surface water flow and groundwater flow, extent and quality of large river systems (lakes, rivers, etc.) and a monetary estimate value of water resources exploited commercially. A national estimate of the value of water resources and developing a cash account of these resources could be integrated into all the accounts of the national capital;
- Atmospheric asset accounts: information on these aspects of climate change and extreme variations would include urban air quality

2.2. Materials and Energy Flows Accounts

Material flow accounts in physical terms will treat that flows between the Romanian economy and the world economy and environment. Feeds must include natural resources, recycled materials, waste and toxic chemicals. Linking these accounts directly with SCN information will provide significant information to measure environmental demand in the economy as a source of raw materials and waste prices. By correlating physical measurements accounts data inputs and outputs are possible industrial detailed estimates on the intensity of resource use and waste production in different types of economic activities (Schaltegger & Burritt, 2000). Based on these activities will determine the amount of resources used and waste generated for each economic activity (measuring Eco efficiency).

2.3. Environmental Protection Accounts

Depletion and degradation of natural capital are recognized as serious by the company engaged to counter them. Businesses commit expenditure to equip itself with pollution control equipment and remediation effects. Governments invest in waste water to reduce the devastation caused by streams. Households are involved in recycling programs and environmental contributions to non-profit organizations.

Most of these activities are included in national accounts but not explicitly. Given the current accounts data is not possible to accurately estimate environmental costs and their evolution (Tabără, 2008).

2.4. Social Capital Accounts

More and more measurements are recorded, official or not, the collective action plays an important role in the ability of companies to operate efficiently and in a spirit of individual welfare within it.
Despite its obvious importance, current understanding of capital is lower than other forms of capital. Documents recently published by the World Bank and OECD research trials presented the topic in the U.S. and Europe. An example is the survey conducted to collect data on social capital. You can examine the links between human capital and social capital and established a framework that contains a provision relative data and indicators of social capital. However, to ensure development of a set of indicators that provide information on all aspects of heritage must be sustained long-term research aimed at measuring the incorporation of social capital in extended SNA.

3. Conclusion

The environmental assets are often mismatched as natural resources (oil, timber, gold, etc.). The confusion is mainly related to the poor understanding of the national intangible assets and even less assessment possibilities. The main approach is to identify those components that generate incomes or involve expenses. That is why in the last decades many scientists tried to identify new evaluation methods for extending the system of assessment for more elements not described before.

The national welfare measure was not far time ago just an expression of direct monetary variables and less quality aspects. The limitations of monetary assessment of national growth and welfare were especially visible when economists tried to introduce new non-monetary variables. An exotic example was the try to extend the Bhutanese Gross National Happiness model for other national economies by economic means.

Maybe indeed in the field of environmental national performance and assets evaluation the strictly economic tools and methods are not enough and a more comprehensive procedure should address the issue.

4. Acknowledgements

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Mathematical and Quantative Methods

The Demand's Behavior under the Action of Factors

Catalin Angelo Ioan[1], Gina Ioan[2]

Abstract: In this paper we will study and classify the main types of goods, from the perspective of a global analysis (for n goods simultaneous). For each of the main types, we will present one concrete example resulting from special utility functions. Also we will broach the Engel's hypersurfaces which generalize the Engel's curves from the case of two goods. The problem of elasticity is also broach in order to settle essential links (for n goods) between their level and nature of the goods.

Keywords consumer; demand; utility; elasticity; Engel

JEL Classification: D01

1. Introduction

The study of the demand behavior under the action of some factors such as price and disposable income is essential in determining the market structure and also the action of determining the consumption trends in the occurrence of disturbing factors (changes in price or income).

We will study and classify below the main types of goods, from the perspective of a global analysis (for n goods simultaneous). For each of the main types, we will present one concrete example resulting from special utility functions.

The next section will be devoted to the Engel's hypersurfaces which generalize the Engel's curves from the case of two goods. It will gets concrete examples, each time reducing at the well-known case of two goods.

The last part will deal with the problem of elasticity, in which we settle essential links (for n goods) between their level and nature of the goods.

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2. The Demand's Behavior under the Action of Factors

Let consider a lot of goods $B_1,...,B_n$ subject to an utility function U, $x_1,...,x_n$ – the quantities of $B_1,...,B_n$ consumed, their sale prices: $p_1,...,p_n$ and a consumer disposable income V. In what follows, we put the question to study how the demand changes under the action of specific factors.

Suppose, first, that the price of a good B_i changes with an amount dp_i in caeteris paribus assumption. Let also note dx_i – the demand variation of B_i.

We know that a **good** is called **normal** if $\frac{dx_i}{dp_i}<0$ caeteris paribus.

Following this definition, if normal goods price drops, the demand increases and vice versa, the demand decreases with the price increases.

Let now p_i^1 and p_i^2 such that $p_i^1<p_i^2$ and the demands $x_i(p_i^1)$, $x_i(p_i^2)$. From the strictly decreasing character of demand in the case of normal goods we have that: $x_i(p_i^1)>x_i(p_i^2)$. For $\lambda\in[0,1]$, let $p_i=\lambda p_i^1+(1-\lambda)p_i^2\in[p_i^1,p_i^2]$.

We therefore have: $x_i(p_i)<x_i(p_i^1)$ and $x_i(p_i)>x_i(p_i^2)$. The question is now if the demand for normal goods is convex or concave. To analyze this, consider, for a fixed price p_i, the income allocated to the purchase of $x_i(p_i)$ units of good.

We have therefore $V(p_i)=p_ix_i(p_i)$. As $V'(p_i)=x_i(p_i)+p_i x_i'(p_i)$ results that the minimizing of the income allocated will satisfy $V'(p_i)=0$ then $x_i'(p_i)=-\frac{x_i(p_i)}{p_i}<0$.

On the other hand, the minimum requirement is reduced to $V''(p_i)=2x_i'(p_i)+p_i x_i''(p_i)>0$ from where $x_i''(p_i)\geq 0$. The demand function of a normal good is therefore convex. This fact can be derived also from a purely economic observation because at a linear upward trend in the price, any rational consumer will prefer to purchase a combination at extremes (in a limit of an available budget, he purchasing as long as it is accessible to the lowest price) than the entire amount at an intermediate level price.

Following these considerations we obtain that the demand function $x_i=x_i(p_i)$ being strictly decreasing is injective so, by restricting the co-domain it becomes one-to-one. The inverse function $p_i=p_i(x_i)$ is the so-called the inverse function of demand. Because the monotony of a function is preserved at the reverse, follows that the inverse function of demand is strictly decreasing for normal goods.

Let consider, for example, the case of goods whose utility is of Cobb-Douglas type: $U(x_1,x_2,...,x_n)= x_1^{\alpha_1}...x_n^{\alpha_n}$ with $\alpha_i>0$, $\sum_{i=1}^{n}\alpha_i \le 1$. In [3] we have shown that the optimal consumer solution is: $x_i=\frac{\alpha_i V}{p_i\sum_{i=1}^{n}\alpha_i}$, $i=\overline{1,n}$.

At the i-th good price adjustment with dp_i, the new optimal solution becomes: $\tilde{x}_j =x_j \ \forall j\neq i$ and $\tilde{x}_i=\frac{\alpha_i V}{(p_i+dp_i)\sum_{i=1}^{n}\alpha_i}$. The variation corresponding to the consumption of good i is therefore:

$$dx_i= \tilde{x}_i -x_i= \frac{\alpha_i V}{(p_i+dp_i)\sum_{i=1}^{n}\alpha_i} - \frac{\alpha_i V}{p_i\sum_{i=1}^{n}\alpha_i} = -\frac{\alpha_i V dp_i}{p_i(p_i+dp_i)\sum_{i=1}^{n}\alpha_i}$$

We also have: $\frac{dx_i}{dp_i} = -\frac{\alpha_i V}{p_i^2\sum_{i=1}^{n}\alpha_i} <0$. The goods are so normal.

Because $\frac{d^2x_i}{dp_i^2} = \frac{2\alpha_i V}{p_i^3\sum_{i=1}^{n}\alpha_i} >0$ it follows that the demand function is convex in relation to price.

A **Giffen good** is one for which $\frac{dx_i}{dp_i} >0$ caeteris paribus.

Following the definition, in the case of Giffen goods if the price decreases the demand decreases also and vice versa, the demand increases with the increase of the price.

Given two goods B_1 and B_2 whose utility function is $U(x_1,x_2,...,x_n)= \sqrt{x_1}+\sqrt[4]{x_2^3}$ using the method shown in [3] we get:

$$x_1= \frac{8p_2^3}{81p_1^2}\left(\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}-\frac{1}{p_1}\right),\ x_2= -\frac{8p_2^2}{81p_1}\left(\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}-\frac{1}{p_1}\right)+\frac{V}{p_2}$$

We have now:

$$\frac{dx_1}{dp_1}=\frac{8p_2^3}{81p_1^3}\left(\frac{3}{p_1}-2\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}-\frac{1}{p_1^2\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}}\right)$$

The condition that $\frac{dx_1}{dp_1}<0$ is equivalent, after laborious calculations with: $-243<\frac{81^2p_1^2}{p_2^3}V$ what is true. The good B_1 is therefore normally.

Analog it shows that $\frac{dx_2}{dp_2}>0$ is equivalent to $\frac{81}{4}\frac{p_1^2}{p_2^3}V^3+V^2-9>0$. Therefore, if V is large enough, the condition is met, then B_2 is a Giffen good.

Considering another good B_j with $j\neq i$ let note dx_j – the demand variation.

A **good** B_j is said to **gross substitute** B_i if $\frac{dx_j}{dp_i}\geq 0$ caeteris paribus.

In the gross substitutes property, at an increasing of the price of B_i the demand of B_j will increase also and vice versa at a decreasing of the price of B_i the demand of B_j will decrease.

In a particular form of utility function: $U(x_1,x_2,...,x_n)=\sqrt{x_1}+\sqrt{x_2}+...+\sqrt{x_n}$ we have from [3] that:

$$x_j=\frac{V}{16p_j^2\sum_{i=1}^{n}\frac{1}{p_i}},\ j=\overline{1,n}$$

Because $\frac{dx_j}{dp_i}=\frac{V}{16p_j^2p_i^2\left(\sum_{i=1}^{n}\frac{1}{p_i}\right)^2}>0$ we have that the j-th good gross substitute any good B_i, $i\neq j$.

We will say the a **good** B_j is a **gross complement** for a good B_i if $\frac{dx_j}{dp_i}\leq 0$ caeteris paribus.

The significance of gross complementarity is that if the good's B_i price increases then the demand of B_j will decrease and vice versa.

Considering again two goods B_1 and B_2 whose utility function is $U(x_1,x_2,...,x_n)=\sqrt{x_1}+\sqrt[4]{x_2^3}$, we have seen that the optimal consumption is:

$$x_1=\frac{8p_2^3}{81p_1^2}\left(\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}-\frac{1}{p_1}\right),\ x_2=-\frac{8p_2^2}{81p_1}\left(\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}-\frac{1}{p_1}\right)+\frac{V}{p_2}$$

We have now:

$$\frac{dx_1}{dp_2}=\frac{\frac{8p_2^2}{27p_1^2}\left(\frac{p_2}{p_1^2}+\frac{81}{4p_2^2}V-\frac{p_2}{p_1}\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}\right)-81V}{27p_1^2p_2\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}}$$

The condition that $\frac{dx_1}{dp_2}\le 0$ is equivalent to:

$$\frac{p_2}{p_1^2}\le\frac{81V}{8p_2^2}\left(27p_1^2-2\right)+\frac{p_2}{p_1}\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}$$

which is true for V large enough. Therefore, the good B_1 is a gross complement for B_2.

Analogously $\frac{dx_2}{dp_1}\ge 0$ leads to $\frac{1}{p_1}+\frac{81p_1}{4p_2^3}V+1\ge\left(1+\frac{1}{p_1}\right)p_1\sqrt{\frac{1}{p_1^2}+\frac{81}{4p_2^3}V}$ which is also satisfied for V large enough.

After these remarks, we notice an interesting fact, namely that B_1 is a gross complement for B_2, but B_2 gross substitute B_1.

3. The Engel's Hypersurfaces

In the following we will consider that the prices of B_i will remain unchanged, the only modifiable being the consumer income.

A **good** B_i is called **normal in the sense of income** if: $\frac{dx_i}{dV}>0$.

Following this definition, the good B_i is normal in the sense of income, if at an increase in disposable income, the consumption of B_i increases.

An **inferior good** B_i is if $\frac{dx_i}{dV}<0$.

The good B_i is inferior, if an increase in disposable income leads to a decrease of the consumption of this good.

From the budget hyperplane equation ([3]): $\sum_{i=1}^{n} p_i x_i = V$ we obtain by differentiation (assuming constant prices): $\sum_{i=1}^{n} p_i dx_i = dV$ or: $\sum_{i=1}^{n} p_i \frac{dx_i}{dV} = 1$.

As a result of this relationship, we see that in a basket of goods, in a steady income, we can not have simultaneously only inferior goods. Indeed, if: $\frac{dx_i}{dV}<0$, $i=\overline{1,n}$ then: $1=\sum_{i=1}^{n} p_i \frac{dx_i}{dV}<0$ which is obviously a contradiction.

The change in the demand of n goods, depending on the income, generates a hypersurface in $\mathbf{R}^m$ (*where m is given by the utility function nature*) called **Engel's hypersurface**. In particular, for a good reference, we obtain the well-known Engel's curve which is the locus of change in its demand to price changes in income in terms of constancy.

In the case of perfectly substitutable goods, the utility function is ([3]):

$U(x_1,...,x_n)=a_1x_1+...+a_nx_n$, $a_i>0$, $i=\overline{1,n}$

and if $\frac{a_1}{p_1}=...=\frac{a_n}{p_n}$ all the points $(\bar{x}_1,...,\bar{x}_n)$ of the budget hyperplane $\sum_{i=1}^{n} p_i \bar{x}_i = V$ are optimal consumption basket components. At a change from the income V to V' , the condition of proportionality coefficients of the utility function and prices remaining valid, the new consumption basket verifies $\sum_{i=1}^{n} p_i \bar{x}_i = V'$. The two hyperplanes being parallel, it follows that the locus of variation in demand for the goods is the Engel's hyperplane in $\mathbf{R}^{n+1}$: $\sum_{i=1}^{n} p_i x_i - V = 0$. If $\exists i\neq j=\overline{1,n}$ so that: $\frac{a_i}{p_i}\neq\frac{a_j}{p_j}$ then we consider the partition of $I=\{1,...,n\}$: $I=I_1\cup...\cup I_k$, $I_p\cap I_t=\varnothing$ such that $\forall u,v\in I_p$ we have: $\frac{a_u}{p_u}=\frac{a_v}{p_v}$ and for each $u\in I_p$ and $v\in I_t$, $p\neq t$: $\frac{a_u}{p_u}\neq\frac{a_v}{p_v}$.

Determining $\max_{p=\overline{1,k}} \lambda_p$ where $\lambda_p = \frac{a_u}{p_u}$ $\forall u \in I_p$, we obtain the locus given by: $\sum_{u \in I_p} p_u x_u = V$, $x_v=0$ $\forall v \in I\text{-}I_p$. Varying the income V, we obtained finally the Engel's hyperplane of $\mathbf{R}^{n+1}$: $\sum_{u \in I_p} p_u x_u - V = 0$, $x_v=0$ $\forall v \in I\text{-}I_p$.

In conditions that for a good B_i, the consumption of the others is constant, we see that: $x_i = \frac{V - \sum_{u \in I_p - \{i\}} p_u x_u}{p_i}$ from where $\frac{dx_i}{dV} = \frac{1}{p_i} > 0$. Therefore, perfectly substitutable goods are always normal in the sense of income.

In particular, for two perfectly substitutable goods, if $\frac{a_1}{p_1} = \frac{a_2}{p_2}$ then, in $\mathbf{R}^3$, the Engel's plane is $p_1x_1+p_2x_2-V=0$. If $\frac{a_1}{p_1} > \frac{a_2}{p_2}$ then the Engel's plane is $p_1x_1-V=0$, $x_2=0$, and if $\frac{a_1}{p_1} < \frac{a_2}{p_2}$ then the Engel's plane is $p_2x_2-V=0$, $x_1=0$.

In care of perfectly complementary goods, for which $U(x_1,...,x_n)=\min(a_1x_1,...,a_nx_n)$, $a_i>0$, $i=\overline{1,n}$, the optimal consumption basket is $\overline{x} = (\overline{x}_1,...,\overline{x}_n)$ where $\overline{x}_j = \frac{V}{a_j \sum_{i=1}^{n} \frac{p_i}{a_i}}$, $j=\overline{1,n}$. The Engel's straight line is in this case:

$$\begin{cases} x_j = \dfrac{\lambda}{a_j \sum_{i=1}^{n} \frac{p_i}{a_i}}, \ j=\overline{1,n} \\ V = \lambda \end{cases}, \lambda \in \mathbf{R}_+$$

In the particular case of two perfectly complementary goods, we have:

$$\begin{cases} x_1 = \dfrac{a_2\lambda}{p_1a_2 + p_2a_1} \\ x_2 = \dfrac{a_1\lambda}{p_1a_2 + p_2a_1} \\ V = \lambda \end{cases}, \lambda \in \mathbf{R}_+$$

Noting $\frac{\lambda}{p_1a_2 + p_2a_1} = \mu$ we can simply write:

$$\begin{cases} x_1 = a_2\mu \\ x_2 = a_1\mu \\ V = (p_1a_2 + p_2a_1)\mu \end{cases}, \mu \in \mathbf{R}_+$$

As above, because $x_j = \frac{V}{a_j\sum_{i=1}^{n}\frac{p_i}{a_i}}$ we have: $\frac{dx_j}{dV} = \frac{1}{a_j\sum_{i=1}^{n}\frac{p_i}{a_i}} > 0$. Therefore, the complementary goods are always perfectly normal in the meaning of income.

In the case of independent goods in the meaning of utility, let consider the above example of two goods B_1 and B_2 for which the utility function is $U(x_1,x_2,...,x_n) = \sqrt{x_1} + \sqrt[4]{x_2^3}$. Since the optimal consumption is: $x_1 = \frac{8p_2^3}{81p_1^2}\left(\sqrt{\frac{1}{p_1^2} + \frac{81}{4p_2^3}V} - \frac{1}{p_1}\right)$, $x_2 = -\frac{8p_2^2}{81p_1}\left(\sqrt{\frac{1}{p_1^2} + \frac{81}{4p_2^3}V} - \frac{1}{p_1}\right) + \frac{V}{p_2}$ we have: $\frac{dx_1}{dV} = \frac{1}{p_1^2\sqrt{\frac{1}{p_1^2} + \frac{81}{4p_2^3}V}} > 0$ therefore x_1 is normal in the meaning of income. Also $\frac{dx_2}{dV} = -\frac{1}{p_1p_2\sqrt{\frac{1}{p_1^2} + \frac{81}{4p_2^3}V}} + \frac{1}{p_2} > 0$ and hence x_2 is normal in the meaning of income.

4. The Elasticity of Demand

Another onset of the demand change relative to the prices, refers to relative variations of the goods request in relation to their price or income allocated. The concept of elasticity measures precisely the situation demand.

We will define **the elasticity of demand in relation to the product price at the time t_2, relative to the initial time t_1** as:

$$\varepsilon_{x_i,p_i} = \frac{\frac{x_i(t_2) - x_i(t_1)}{x_i(t_1)}}{\frac{p_i(t_2) - p_i(t_1)}{p_i(t_1)}} = \frac{\frac{\Delta x_i}{x_i}}{\frac{\Delta p_i}{p_i}} = \frac{\delta x_i}{\delta p_i}$$

where we note for simplicity x_i and p_i – the demand level and the price level respectively at t_1, δx_i and δp_i being the relative variation of x_i and p_i respectively at the moment t_1.

We will define **the elasticity of demand in relation to the product price at the time t_1, relative to the initial time t_2** as:

$$\varepsilon_{f,x_i,p_i} = \frac{\dfrac{x_i(t_1)-x_i(t_2)}{x_i(t_2)}}{\dfrac{p_i(t_1)-p_i(t_2)}{p_i(t_2)}} = \frac{\dfrac{\Delta x_i}{x_i}}{\dfrac{\Delta p_i}{p_i}} = \frac{\delta x_i(1+\delta p_i)}{\delta p_i(1+\delta x_i)}$$

where we note for simplicity x_i and p_i – the demand level and the price level respectively at t_2, δx_i and δp_i being the relative variation of x_i and p_i respectively at the moment t_1.

For a more accurate measurement of elasticity, it can be used **the arc elasticity of demand** in relation to the product price, relative to the times t_1 and t_2:

$$\varepsilon_{a,x_i,p_i} = \frac{\dfrac{x_i(t_2)-x_i(t_1)}{\dfrac{x_i(t_1)+x_i(t_2)}{2}}}{\dfrac{p_i(t_2)-p_i(t_1)}{\dfrac{p_i(t_1)+p_i(t_2)}{2}}} = \frac{\delta x_i(2+\delta p_i)}{\delta p_i(2+\delta x_i)}$$

where δx_i and δp_i are the relative variation of x_i and p_i respectively, at the time t_1.

One can easily check that:

$$\varepsilon_{a,x_i,p_i} - 1 = \frac{2}{\dfrac{1}{\varepsilon_{x_i,p_i}-1} + \dfrac{1}{\varepsilon_{f,x_i,p_i}-1}}$$

so the deviation from 1 of the arc elasticity is the harmonic average of deviations from 1 of the elasticities in relation to initial and final "moments".

In the differentiable case, we define **the point elasticity of demand in relation to the product price** as:

$$\varepsilon_{x_i,p_i} = \frac{\dfrac{dx_i}{x_i}}{\dfrac{dp_i}{p_i}} = \frac{dx_i}{dp_i}\cdot\frac{p_i}{x_i}$$

From the above, it follows that the normal goods are those for which $\varepsilon_{x_i,p_i}<0$ and Giffen goods for which: $\varepsilon_{x_i,p_i}>0$.

We have now the well-know classification:

- $\left|\varepsilon_{x_i,p_i}\right|=0$ – the demand is perfectly inelastic;
- $\left|\varepsilon_{x_i,p_i}\right|\in(0,1)$ – the demand is inelastic;
- $\left|\varepsilon_{x_i,p_i}\right|=1$ – an unitary elastic demand;
- $\left|\varepsilon_{x_i,p_i}\right|\in(1,\infty)$ – the demand is elastic;
- $\left|\varepsilon_{x_i,p_i}\right|=\infty$ - the demand is perfectly elastic.

Let us note, also, that the elasticity being a point-wise concept, it can vary depending on the product price and therefore its character may change over time.

So we have:

$$\frac{d\varepsilon_{x_i,p_i}}{dp_i}=\frac{d}{dp_i}\left(\frac{dx_i}{dp_i}\cdot\frac{p_i}{x_i}\right)=\frac{1}{x_i^2}\left(\frac{d^2x_i}{dp_i^2}+x_i\frac{dx_i}{dp_i}\right)$$

Therefore, on the demand curve where $\frac{d^2x_i}{dp_i^2}+x_i\frac{dx_i}{dp_i}\geq 0$ the elasticity is increasing like function of the price, and where $\frac{d^2x_i}{dp_i^2}+x_i\frac{dx_i}{dp_i}\leq 0$ it is decreasing relative to the price.

In particular, for a linear function of demand for a normal good: $x_i=a-bp_i$, $a,b>0$, we have: $\frac{d^2x_i}{dp_i^2}+x_i\frac{dx_i}{dp_i}=-bx_i<0$ so the elasticity of a linear demand function for a normal good is strictly decreasing. On the other hand, for $x_i=a-bp_i$, $a,b>0$, we have: $\varepsilon_{x_i,p_i}=\frac{dx_i}{dp_i}\cdot\frac{p_i}{x_i}=\frac{-bp_i}{a-bp_i}=\frac{bp_i}{bp_i-a}$. Because $\lim_{p_i\to 0}\varepsilon_{x_i,p_i}=0$, $\lim_{p_i\to\frac{a}{b}}\varepsilon_{x_i,p_i}=-\infty$, $\varepsilon_{x_i,\frac{a}{2b}}=-1$ follows that the linear demand function for a normal good is elastic for $p_i\in\left(\frac{a}{2b},\frac{a}{b}\right)$, is unitary elastic for $p_i=\frac{a}{2b}$ and inelastic for $p_i\in\left(0,\frac{a}{2b}\right)$.

Returning to our general discussion, the income obtained from the sale of x_i units is $V=p_ix_i$. Differentiating this equality, we get:

$$dV=x_idp_i+p_idx_i= p_ix_i\left(\frac{dp_i}{p_i}+\frac{dx_i}{x_i}\right)= p_ix_i\left(\frac{dp_i}{p_i}+\frac{dp_i}{p_i}\varepsilon_{x_i,p_i}\right)= x_i\left(1+\varepsilon_{x_i,p_i}\right)dp_i$$

Therefore, at an increase in the price of the product ($dp_i>0$), the income will increase ($dV>0$) if and only if $\varepsilon_{x_i,p_i}>-1$ which happens in the inelastic demand case or for Giffen goods, and at a reduction in the price of the product ($dp_i<0$), the income will increase ($dV>0$) if and only if $\varepsilon_{x_i,p_i}<-1$ which happens in the case of elastic demand for normal goods. In the case of unitary elasticity of normal goods ($\varepsilon_{x_i,p_i}=-1$) we have $dV=0$ so we do not suffer any revenue earned change. In this case, the effect of price changes (up or down) has no consequence in terms of total receipts from the sale of the product.

Another type is the **cross-elasticity**. We define thus:

- **The cross elasticity of demand for the i-th good in relation to the price of the j-th good at time t_2, relative to the initially time t_1**, as:

$$\varepsilon_{x_i,p_j}=\frac{\dfrac{x_i(t_2)-x_i(t_1)}{x_i(t_1)}}{\dfrac{p_j(t_2)-p_j(t_1)}{p_j(t_1)}}=\frac{\dfrac{\Delta x_i}{x_i}}{\dfrac{\Delta p_j}{p_j}}=\frac{\delta x_i}{\delta p_j}$$

- **The cross elasticity of demand for the i-th good in relation to the price of the j-th good at time t_1, relative to the final time t_2**, as:

$$\varepsilon_{f,x_i,p_j}=\frac{\dfrac{x_i(t_1)-x_i(t_2)}{x_i(t_2)}}{\dfrac{p_j(t_1)-p_j(t_2)}{p_j(t_2)}}=\frac{\dfrac{\Delta x_i}{x_i}}{\dfrac{\Delta p_j}{p_j}}=\frac{\delta x_i(1+\delta p_j)}{\delta p_j(1+\delta x_i)}$$

- **The arc cross elasticity of demand for the i-th good in relation to the price of the j-th good**, as:

$$\varepsilon_{a,x_i,p_j}=\frac{\frac{x_i(t_2)-x_i(t_1)}{\frac{x_i(t_1)+x_i(t_2)}{2}}}{\frac{p_j(t_2)-p_j(t_1)}{\frac{p_j(t_1)+p_j(t_2)}{2}}}=\frac{\delta x_i(2+\delta p_j)}{\delta p_j(2+\delta x_i)}$$

- **The point cross elasticity of demand for the i-th good in relation to the price of the j-th good**, as:

$$\varepsilon_{x_i,p_j}=\frac{\frac{dx_i}{x_i}}{\frac{dp_j}{p_j}}=\frac{dx_i}{dp_j}\cdot\frac{p_j}{x_i}$$

The cross elasticity of demand relative to the price of another product means the percentage change in demand for the first good at a percentage change of the second good price.

From the above, we have that the i-th good is a gross substitute for the good j if $\varepsilon_{x_i,p_j}>0$ and the i-th good is gross complement for good j if $\varepsilon_{x_i,p_j}\leq 0$.

The income corresponding to x_i units of good at the price p_i is: $V=p_ix_i+p_jx_j$. Differentiating this equality, we get:

$$dV=x_idp_i+p_idx_i+x_jdp_j+p_jdx_j=p_ix_i\left(\frac{dp_i}{p_i}+\frac{dx_i}{x_i}\right)+p_jx_j\left(\frac{dp_j}{p_j}+\frac{dx_j}{x_j}\right)=$$

$$p_ix_i\left(\frac{dp_i}{p_i}+\frac{dp_j}{p_j}\varepsilon_{x_i,p_j}\right)+p_jx_j\left(\frac{dp_j}{p_j}+\frac{dp_j}{p_j}\varepsilon_{x_j,p_j}\right)=$$

$$x_idp_i+x_jdp_j+\frac{p_i}{p_j}x_i\varepsilon_{x_i,p_j}dp_j+x_j\varepsilon_{x_j,p_j}dp_j.$$

Assuming constant p_i we finnaly get:

$$dV=x_jdp_j+\frac{p_i}{p_j}x_i\varepsilon_{x_i,p_j}dp_j+x_j\varepsilon_{x_j,p_j}dp_j=\left(x_j+\frac{p_i}{p_j}x_i\varepsilon_{x_i,p_j}+x_j\varepsilon_{x_j,p_j}\right)dp_j=$$
$$\left(p_jx_j\left(1+\varepsilon_{x_j,p_j}\right)+p_ix_i\varepsilon_{x_i,p_j}\right)p_jdp_j.$$

An increase of the revenue earned (dV>0) to an increase in the j-th good price ($dp_j>0$) will be happened if and only if $p_j x_j\left(1+\varepsilon_{x_j,p_j}\right)+p_i x_i \varepsilon_{x_i,p_j}>0$ and at a decreasing ($dp_j<0$) if and only if: $p_j x_j\left(1+\varepsilon_{x_j,p_j}\right)+p_i x_i \varepsilon_{x_i,p_j}<0$.

Thus, for normal goods with inelastic demand or Giffen we have: $p_j x_j\left(1+\varepsilon_{x_j,p_j}\right)>0$, so their gross substitute ($\varepsilon_{x_i,p_j}>0$) will lead to an increase in income when the price increase. For the same goods j, the necessary condition (but not sufficient) for increased income to a reduction of the price is that the i-th good be a gross complement to j.

For normal goods with elastic demand we have $p_j x_j\left(1+\varepsilon_{x_j,p_j}\right)<0$, then the necessary condition (but not sufficient) to increase revenue at an increasing of the price that the i-th good to be a gross substitute for j, and if the price is reduced the gross complementarity condition is sufficient.

A final type of elasticity is based on income. We define thus:

- **the elasticity of demand with respect to the income at time t_2, relative to the initial time t_1** as:

$$\varepsilon_{x_i,V}=\frac{\dfrac{x_i(t_2)-x_i(t_1)}{x_i(t_1)}}{\dfrac{V(t_2)-V(t_1)}{V(t_1)}}=\frac{\dfrac{\Delta x_i}{x_i}}{\dfrac{\Delta V}{V}}=\frac{\delta x_i}{\delta V}$$

- **the elasticity of demand with respect to the income at time t_1, relative to the final time t_2** as:

$$\varepsilon_{f,x_i,V}=\frac{\dfrac{x_i(t_1)-x_i(t_2)}{x_i(t_2)}}{\dfrac{V(t_1)-V(t_2)}{V(t_2)}}=\frac{\dfrac{\Delta x_i}{x_i}}{\dfrac{\Delta V}{V}}=\frac{\delta x_i(1+\delta V)}{\delta V(1+\delta x_i)}$$

- **the arc elasticity of demand with respect to the income** as:

$$\varepsilon_{a,x_i,V}=\frac{\dfrac{x_i(t_2)-x_i(t_1)}{\dfrac{x_i(t_1)+x_i(t_2)}{2}}}{\dfrac{V(t_2)-V(t_1)}{\dfrac{V(t_1)+V(t_2)}{2}}}=\frac{\delta x_i(2+\delta V)}{\delta V(2+\delta x_i)}$$

- **the point elasticity of demand with respect to the income** as:

$$\varepsilon_{x_i,V} = \frac{\frac{dx_i}{x_i}}{\frac{dV}{V}} = \frac{dx_i}{dV} \cdot \frac{V}{x_i}$$

The elasticity of demand with respect to the income means the percentage change in demand for product at a percentage change of consumer disposable income.

From the above, we have that i-th good is normal in the meaning of income if $\varepsilon_{x_i,V} > 0$ and the good is inferior if $\varepsilon_{x_i,V} < 0$.

The products for which $\varepsilon_{x_i,V} > 1$ are called superior goods (or luxury), and those for which $\varepsilon_{x_i,V} < 1$ – necessity goods.

5. Conclusion

The analysis of the behavior and nature of n goods in relationship with each other is of fundamental importance. The classical analysis consider only two goods, considering a partitioning in a good and the rest.

Several problems arise in this case: what happens when mixed nature of the goods in that basket is left? How the cross-elasticities can be define when the basket of goods contains different prices?

We hope that this article answers at some of these problems by treating goods and obtaining global interesting results, particularly considering special utility functions.

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About the Economical Equilibrium

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Abstract: In this paper we will study the economic equilibrium problem from a general point of view with applications for polynomial demand and supply functions. We will expose and analyze also the stability of supply and demand in respect Walras and Marshall, in a general approach, detached from the usual linear. The dynamic stability after Kaldor will be presented in conjunction with fixed point theorems which provide results of great generality.

Keywords demand; supply; Walras; Marshall; Kaldor

JEL Classification: D01

1. Introduction

The economic equilibrium problem is of particular practical importance because of the dynamism of markets and the multiple influences that affect the potential stability situations. The vast majority of papers dealing with this problem in the linear case, both supply and demand functions being polynomial of degree 1. We will try in this paper, a general approach of this problem getting, we hope, interesting results that can then customize for different situations. We will expose and analyze also the stability of supply and demand in respect Walras and Marshall, in a general approach, detached from the usual linear.

The dynamic stability after Kaldor will be presented in conjunction with fixed point theorems which provide results of great generality.

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2. The Economical Equilibrium

The existence of any economic activity is conditioned by two main groups of "actors": consumers and producers.

We will consider below the situation of n normal goods B_i, $i=\overline{1,n}$, produced by a number of "s" economic agents and asked by "c" buyers.

From the fact that goods are normal, at a price p_i of the good B_i, the amount requested by the j-th consumer, denoted x_{ij} will satisfy: $\frac{dx_{ij}}{dp_i} \leq 0$ caeteris paribus (which the equality to zero occurs in the absence of the j-th consumer demand or if a regardless of price request). With the assumption that at least one good is sensitive at demand to price changes, considering the aggregate demand of the c consumers and noting for the good B_i: $x_i = \sum_{j=1}^{c} x_{ij}$ we will have therefore:

$$\frac{dx_i}{dp_i} = \sum_{j=1}^{c} \frac{dx_{ij}}{dp_i} < 0$$

As a result of this relationship, it appears that the aggregate demand for the good B_i will be a strictly decreasing function of its price p_i.

Also, we have that for normal goods, the demand function is convex, that is: $\frac{d^2x_i}{dp_i^2} \geq 0$.

Let therefore:

$D(p_1,...,p_n)=(x_1(p_1),...,x_n(p_n))$

the demand vector for the n goods $B_1,...,B_n$, where $x_i=x_i(p_i)$, $i=\overline{1,n}$ is the demand for the good depending on price.

Similarly, for a manufacturer, we have that for a given selling price, the optimal production for the purposes of profit maximization satisfies the relation: $Q_0=Cm^{-1}(p)$ where Cm is the marginal cost. How Cm is increasing and the inverse function has the same character as direct function, it follows that Q_0 is also an increasing function with respect to the sale price. In other words, for the producer a price increasing lead to an increased production because of market demands. Let y_{ij} denote the amount of good B_i provided by the manufacturer j. It is obvious that $\frac{dy_{ij}}{dp_i} \geq 0$ (where the equality with zero takes place in the case of a missing offering from the manufacturer j, or an offer regardless of price).

We will assume that at least a good B_i is sensitive for the purposes of supply to price changes. Considering the aggregate supply of the s producers for the good B_i and noting: $y_i=\sum_{j=1}^{s} y_{ij}$ we will have:

$$\frac{dy_i}{dp_i}=\sum_{j=1}^{s}\frac{dy_{ij}}{dp_i}>0$$

From these relations, it follows that the aggregate supply function for the good B_i is strictly increasing of its price p_i.

On the other hand, the manufacturer's offer is at the marginal cost of production, so p_i is a convex function of y_i, i.e.:

$$p_i(\lambda y_i^1+(1-\lambda) y_i^2)\leq\lambda p_i(y_i^1)+(1-\lambda)p_i(y_i^2)$$

Considering the inverse function $y_i=y_i(p_i)$, as y_i is increasing, we have from the previous inequality:

$$y_i(p_i(\lambda y_i^1+(1-\lambda) y_i^2))\leq y_i(\lambda p_i(y_i^1)+(1-\lambda)p_i(y_i^2))$$

or otherwise:

$$\lambda y_i(p_i^1)+(1-\lambda)y_i(p_i^2)\leq y_i(\lambda p_i^1+(1-\lambda) p_i^2)$$

After these considerations, we have that y_i is a concave function, i.e.: $\frac{d^2y_i}{dp_i^2}\leq 0$.

Let us note now the offer vector of the s producers:

$$S(p_1,...,p_n)=(y_1(p_1),...,y_n(p_n))$$

for the n goods $B_1,...,B_n$ where $y_i=y_i(p_i)$, $i=\overline{1,n}$ is the offer like function of price for the appropriate good.

We will say that the **market** of the n goods is in **equilibrium** if $\exists p_1,...,p_n>0$ (called **the equilibrium prices**) so that:

$$D(p_1,...,p_n)=S(p_1,...,p_n)$$

The vectorial equation of equilibrium: $D(p_1,...,p_n)=S(p_1,...,p_n)$ becomes: $x_i(p_i)-y_i(p_i)=0$. Considering the equilibrium prices $p_1,...,p_n$ will call the quantities $x_i(p_i)=y_i(p_i)$ – **amount of equilibrium**.

Before continuing, let consider the equation $x_i(p_i)=0$. Since x_i is decreasing it follows that is injective, so the equation will have at most one real root. Also, as $x_i(0)>0$ (*the maximum amount of good that can be purchased regardless of price*)

and $\lim_{p_i \to \infty} x_i(p_i) < 0$ (*there is a psychological price threshold at which no longer buy anything*) will follow that $\exists p_d > 0$ such that: $x_i(p_d)=0$. Following these considerations, the analysis of the demand function related to the price will be held for $p \in [0,p_d]$.

Also, the function $y_i=y_i(p_i)$ is strictly increasing, so considering the equation $y_i(p_i)=0$ (*minimal production selling price*) let its unique solution $p_s \in \mathbf{R}$.

If $p_s \leq 0$ (*in which case the manufacturer sets a minimum output*) we will put $p_s=0$. For $p_i>p_s$ we have so: $y_i(p_i)>0$ and $p_i<p_s$ will involve $y_i(p_i)<0$. The analysis of supply will be therefore for $p_i \in [p_s,\infty)$.

If $p_s>p_d$ resulting $[0,p_d] \cap [p_s,\infty)=\varnothing$ then the equilibrium cannot take place. If $p_s=p_d$ then there is no production or purchase, so again a situation of economically uninteresting.

Therefore, we will perform equilibrium analysis for $p_s<p_d$ and $p_i \in (p_s,p_d)$.

Noting now $E_i(p_i)=x_i(p_i)-y_i(p_i)$ we have: $\frac{dE_i}{dp_i} = \frac{dx_i}{dp_i} - \frac{dy_i}{dp_i} < 0$, $i=\overline{1,n}$ hence the equation $E_i(p_i)=0$ having at most one real root. Let $E_i(p_s)=x_i(p_s)-y_i(p_s)$ and $E_i(p_d)=x_i(p_d)-y_i(p_d)$. From the fact that the function E_i is strictly decreasing, it follows: $E_i(p_s)>E_i(p_d)$. As a result, it follows:

- $E_i(p_s) \leq 0$ implies lack of equilibrium price for the good B_i;
- $E_i(p_s)>0$ and $E_i(p_d)>0$ implies also the absence of equilibrium price for the good B_i;
- $E_i(p_s)>0$ and $E_i(p_d)<0$ implies a unique equilibrium price for the good B_i.

As an example, consider the aggregate demand non-null and non-constant for a good B_i of polynomial type:

$$x_i = \sum_{k=0}^{r_1} a_{ik} p_i^k = a_{i0} + a_{i1}p_i + ... + a_{ir_1} p_i^{r_1},\ r_1 \geq 1$$

and analog, the aggregate supply non-null and non-constant for the same good:

$$y_i = \sum_{k=0}^{r_2} b_{ik} p_i^k = b_{i0} + b_{i1}p_i + ... + b_{ir_2} p_i^{r_2},\ r_2 \geq 1$$

The condition that $\frac{dx_i}{dp_i} < 0$ is provided at: $d_1(p_i) = \sum_{k=1}^{r_1} k a_{ik} p_i^{k-1} < 0\ \forall p_i \in (p_s,p_d)$.

Also, the convexity of demand function implies: $d_2(p_i)=\sum_{k=2}^{r_1} k(k-1)a_{ik}p_i^{k-2} \geq 0$ $\forall p_i \in (p_s,p_d)$.

Similarly, for the supply, the condition that $\frac{dy_i}{dp_i}>0$ becomes: $s_1(p_i)=\sum_{k=1}^{r_2} kb_{ik}p_i^{k-1}>0$ $\forall p_i \in (p_s,p_d)$ and the concavity: $s_2(p)=\sum_{k=2}^{r_2} k(k-1)b_{ik}p_i^{k-2} \leq 0$ $\forall p_i \in (p_s,p_d)$.

The equation for determining the equilibrium price for the good B_i is:

$$\sum_{k=0}^{r_1} a_{ik}p_i^k - \sum_{k=0}^{r_2} b_{ik}p_i^k = 0,\ p_i \in (p_s,p_d)$$

The unique price equilibrium condition becomes, from above to:

$$\left(\sum_{k=0}^{r_1} a_{ik}p_s^k - \sum_{k=0}^{r_2} b_{ik}p_s^k\right)\left(\sum_{k=0}^{r_1} a_{ik}p_d^k - \sum_{k=0}^{r_2} b_{ik}p_d^k\right)<0$$

In the particular case of linear demand and supply, let: $x_i=a-bp_i$ and $y_i=c+dp_i$, $a,b,d>0$, $c \in \mathbf{R}$. The equation $x_i(p_i)=0$ implies $p_d=\frac{a}{b}$ and $y_i(p_i)=0$: $p_s=-\frac{c}{d}$.

If $c \geq 0$ then $p_s=0$. We will consider so $p_s=\max\left\{-\frac{c}{d},0\right\}$. The problem of determining the equilibrium price is so meaningful for $p_s<p_d \Leftrightarrow \max\left\{-\frac{c}{d},0\right\}<\frac{a}{b}$.

If $c \geq 0$ then the inequality becomes: $\frac{a}{b}>0$ which is true, and if $c<0$ then: $-\frac{c}{d}<\frac{a}{b}$ $\Leftrightarrow ad+bc>0$.

We also have: $\frac{dx_i}{dp_i}=-b<0$, $\frac{d^2x_i}{dp_i^2}=0$, $\frac{dy_i}{dp_i}=d>0$, $\frac{d^2y_i}{dp_i^2}=0 \leq 0$ then the problem conditions are met.

The unique price equilibrium condition is, from above, to:

$(a-bp_s-c-dp_s)(a-bp_d-c-dp_d)<0$

For $c \geq 0$ the condition reduces to:

$$(a-c)\left(a-b\frac{a}{b}-c-d\frac{a}{b}\right)<0 \Leftrightarrow -(a-c)\frac{ad+bc}{b}<0 \Leftrightarrow c<a$$

If c<0 then:

$$\left(a+b\frac{c}{d}-c+d\frac{c}{d}\right)\left(a-b\frac{a}{b}-c-d\frac{a}{b}\right)<0\Leftrightarrow-\frac{(ad+bc)^2}{bd}<0 \text{ – true}$$

From the equation $x_i=y_i$ follows: $a-bp_i=c+dp_i$ therefore:

$$\bar{p}_i=\frac{a-c}{b+d},\ \bar{x}_i=\bar{y}_i=\frac{ad+bc}{b+d}$$

If a<c then we have seen above that the equilibrium between demand and supply for the good B_i cannot take place.

3. The Equilibrium Behavior to Changes in Demand or Supply

Consider, as above, a number of goods $B_1,...,B_n$ and $p_1,...,p_n$ the appropriate prices. Let also the aggregate demand functions: $x_i=x_i(p_i)$, $i=\overline{1,n}$ and the supply functions: $y_i=y_i(p_i)$, $i=\overline{1,n}$. Where all goods are normal, we saw that: $\frac{dx_i}{dp_i}<0$ and, also: $\frac{dy_i}{dp_i}>0$, $i=\overline{1,n}$.

For a fixed good B_i, in the equilibrium state, the price p_i satisfy the equality: $x_i(p_i)=y_i(p_i)$ in the additional conditions: $E_i(p_s)>0$ and $E_i(p_d)<0$.

Because the functions x_i and y_i are strictly monotonous it follows that they are invertible on a restriction of their co-domain, so we can write:

$p_i=f_i(x_i)$ with $f_i(x_i(p_i))=p_i$ and $x_i(f_i(x_i^*))=x_i^*$

the function f_i being (*by virtue of preserving the monotony at invertability*) strictly decreasing and analogously:

$p_i=g_i(y_i)$ with $g_i(y_i(p_i))=p_i$ and $y_i(g_i(y_i^*))=y_i^*$

the function g_i being (*for the same reasons*) strictly increasing.

3.1. The Demand Change – the Walras Stability

Let now consider a change in the demand from the equilibrium state from $\left(p_i^*,x_i^*,y_i^*\right)$ at $\bar{x}_i^*$.

First, we assume that $\bar{x}_i^*>x_i^*$. In order to meet demand, at equilibrium, will be satisfied the condition that: $y_i(p_i)=\bar{x}_i^*>x_i^*$.

Because the function y_i is strictly increasing, the solution of the equation will be $\bar{p}_i^* > p_i^*$. On the other hand, as the demand function is strictly decreasing in relation to the price, we have: $\bar{\bar{x}}_i^* = x_i(\bar{p}_i^*) < x_i(p_i^*) = x_i^*$ therefore a contradiction in relation to the additional demand for product. For this reason, the manufacturer will not fully meet the additional demand and provide $x_i^{**} \in \left(x_i^*, \bar{x}_i^*\right)$. How g_i is strictly increasing, from the inequality: $x_i^* < x_i^{**} < \bar{x}_i^*$ follows $g(x_i^*) < g(x_i^{**}) < g(\bar{x}_i^*)$ therefore: $p_i^* < p_i^{**} < \bar{p}_i^*$.

Following these considerations, it appears that on additional demand for goods, the manufacturer will provide only part of them at a higher price than in the original equilibrium.

Suppose now that $\bar{x}_i^* < x_i^*$ therefore the buyers require a smaller number of products. In order to meet demand, at equilibrium, will be satisfied the condition that: $y_i(p_i) = \bar{x}_i^* < x_i^*$.

Because the function y_i is strictly increasing, the solution of the equation will be $\bar{p}_i^* < p_i^*$. As the demand function is strictly decreasing in relation to price, we have: $\bar{\bar{x}}_i^* = x_i(\bar{p}_i^*) > x_i(p_i^*) = x_i^*$ then a contradiction in relation to reduced product demand. For this reason, the manufacturer will not reduce its offer completely (*corresponding to decreasing demand*) and will provide $x_i^{**} \in \left(\bar{x}_i^*, x_i^*\right)$. How g_i is strictly increasing, from the inequality: $\bar{x}_i^* < x_i^{**} < x_i^*$ follows that: $g_i(\bar{x}_i^*) < g_i(x_i^{**}) < g_i(x_i^*)$ or, with other words: $\bar{p}_i^* < p_i^{**} < p_i^*$. After these considerations, it follows that on a decreasing demand for goods, the manufacturer will reduce only some of them at a price lower than at the initial equilibrium.

3.2. The Demand Change – the Marshall Stability

Let now consider a change in the price from the equilibrium state from $\left(p_i^*, x_i^*, y_i^*\right)$ at $\bar{p}_i^*$.

First, we assume that $\bar{p}_i^* > p_i^*$. Since the demand function is strictly increasing, we have: $\bar{y}_i^* = y_i(\bar{p}_i^*) > y_i(p_i^*) = y_i^* = x_i^*$. On the other hand, the function f_i being strictly decreasing, follows: $\bar{\bar{p}}_i^* = f_i(\bar{y}_i^*) < f_i(x_i^*) = p_i^*$. The asking price becomes lower than the initial which in a contradiction with the assumption. Due to this, the producer

will not increase as much the price of the good as he wishes, but will choose a price $p_i^{**} \in \left(p_i^*, \bar{p}_i^*\right)$.

From the inequality $p_i^* < p_i^{**} < \bar{p}_i^*$ we have: $f_i(p_i^*) > f_i(p_i^{**}) > f_i(\bar{p}_i^*)$ therefore: $x_i^* > x_i^{**} > \bar{x}_i^*$. Following these considerations, it follows that after an increasing of price, the manufacturer will provide only some additional product at a price higher than at the equilibrium, but lower than the one want.

If now $\bar{p}_i^* < p_i^*$, because the supply function is strictly increasing, we have: $\bar{y}_i^* = y_i(\bar{p}_i^*) < y_i(p_i^*) = y_i^* = x_i^*$. Because the function f_i is strictly decreasing, follows: $\bar{\bar{p}}_i^* = f_i(\bar{y}_i^*) > f_i(x_i^*) = p_i^*$. After these facts, the asking price becomes higher than the originally, contrary to the assumption made. Due to this, the manufacturer will not diminish the good price as much as he wants, but will choose a price $p_i^{**} \in \left(\bar{p}_i^*, p_i^*\right)$.

After the inequality $\bar{p}_i^* < p_i^{**} < p_i^*$ we have: $f_i(\bar{p}_i^*) > f_i(p_i^{**}) > f_i(p_i^*)$ therefore: $\bar{x}_i^* > x_i^{**} > x_i^*$. We got so that after reducing the price, the manufacturer will increase the quantity of products offered, but to a lesser extent than market demand declined in price.

3.3. The Supply Change – the Walras Stability

Let now a change in the supply from those at equilibrium $\left(p_i^*, x_i^*, y_i^*\right)$ to $\bar{y}_i^*$.

We will assume initially that $\bar{y}_i^* > y_i^*$. The added supply from the manufacturer entails, at equilibrium, the new price will satisfy the condition: $x_i(p_i) = \bar{y}_i^* > y_i^*$. Because the function x_i is strictly decreasing, the solution of the equation will be $\bar{p}_i^* < p_i^*$. On the other hand, as supply is a strictly increasing function with respect to price, we have: $\bar{\bar{y}}_i^* = y_i(\bar{p}_i^*) < y_i(p_i^*) = y_i^*$ therefore a contradiction in relation to supply additional product. For this reason, the manufacturer will not provide all the additional amount and will reduce it to $y_i^{**} \in \left(y_i^*, \bar{y}_i^*\right)$. How f_i is strictly decreasing, from the inequality: $y_i^* < y_i^{**} < \bar{y}_i^*$ follows that $f_i(y_i^*) > f_i(y_i^{**}) > f_i(\bar{y}_i^*)$ so: $p_i^* > p_i^{**} > \bar{p}_i^*$. Following these considerations, we get that after an additional supply of goods, the manufacturer will have to reduce the selling price from the equilibrium state.

Suppose now that $\bar{y}_i^* < y_i^*$ therefore the manufacturer offers a smaller number of products. The supply decrease entails, at equilibrium, the new price that satisfies the condition: $x_i(p_i) = \bar{y}_i^* < y_i^*$. Because the function x_i is strictly decreasing, the

solution of the equation will be $\bar{p}_i^* > p_i^*$. Because the supply function is strictly increasing with the price, we have: $\bar{\bar{y}}_i^* = y_i(\bar{p}_i^*) > y_i(p_i^*) = y_i^*$ therefore a contradiction in relation to the diminished supply of product. For this reason, the manufacturer will reduce its offer and provide $y_i^{**} \in (\bar{y}_i^*, y_i^*)$. How f_i is strictly decreasing, from the inequality: $\bar{y}_i^* < y_i^{**} < y_i^*$ follows: $f_i(\bar{y}_i^*) > f_i(y_i^{**}) > f_i(y_i^*)$ therefore: $\bar{p}_i^* > p_i^{**} > p_i^*$. Following these considerations, it follows that after decreasing the supply of goods, the manufacturer will increase the selling price to the initial at equilibrium.

3.4. The Supply Change – the Marshall Stability

Now, let consider a change in price from (p_i^*, x_i^*, y_i^*) at $\bar{p}_i^*$.

First we assume that $\bar{p}_i^* > p_i^*$. Since the demand function is strictly decreasing, we have: $\bar{x}_i^* = x_i(\bar{p}_i^*) < x_i(p_i^*) = x_i^* = y_i^*$. On the other hand, the function g_i being strictly increasing, it follows: $\bar{\bar{p}}_i^* = g_i(\bar{x}_i^*) < g_i(y_i^*) = p_i^*$. The asking price is lower than initially in contradiction with the assumption. Due to this, the producer will not increase the price as much as he wishes, but will choose a price $p_i^{**} \in (p_i^*, \bar{p}_i^*)$. After the inequality: $p_i^* < p_i^{**} < \bar{p}_i^*$ follows: $g_i(p_i^*) < g_i(p_i^{**}) < g_i(\bar{p}_i^*)$ therefore: $y_i^* < y_i^{**} < \bar{y}_i^*$. Following these considerations, we have that at an increase of the price, the manufacturer will provide only some additional product at a price higher than the equilibrium, but lower than the one he want.

If now $\bar{p}_i^* < p_i^*$, because the demand is a strictly decreasing function, we have: $\bar{x}_i^* = x_i(\bar{p}_i^*) > x_i(p_i^*) = x_i^* = y_i^*$. The function g_i is strictly increasing and we have: $\bar{\bar{p}}_i^* = g_i(\bar{x}_i^*) > g_i(y_i^*) = p_i^*$. Therefore, the asking price becomes higher than the original, contrary to the assumption made. Due to this, the manufacturer will not diminish the good price as long as he wants, but will choose a price $p_i^{**} \in (\bar{p}_i^*, p_i^*)$. After the inequality $\bar{p}_i^* < p_i^{**} < p_i^*$ follows: $g_i(\bar{p}_i^*) < g_i(p_i^{**}) < g_i(p_i^*)$ and $\bar{y}_i^* < y_i^{**} < y_i^*$.

We have got so that after reducing the price, the manufacturer will increase the quantity of products offered, but to a lesser extent than market demand declined in price.

3.5. The Kaldor Dynamic Stability

After the analysis performed above, we noticed that the demand and supply adjust each other in the meaning that a change in the amount of good offered entails balancing price change, as any price change involves a readjustment of the amount of balance. Unfortunately, this process does not occur instantaneously recalculation, but by successive tappings of the two parties.

Before starting the actual analysis, let consider the demand function for a normal good of the form $x=x(p)$ with $\frac{dx}{dp}<0$ and the supply function: $y=y(p)$ with $\frac{dy}{dp}>0$.

Let consider therefore a starting time $t_0=0$ and a price p_0 offered by the manufacturer for a good B_i. The supply function will therefore be: $y_0=y(p_0)$. At time $t_1=1$, the buyer will be willing to offer that price p_1 (*to establish the equilibrium*) for which: $x_1=x(p_1)=y(p_0)=y_0$. On the other hand, the manufacturer will provide the buyer at the price requested, the quantity $y_1=y(p_1)$. Proceeding similarly, at the time t_n, the price offered by the buyer will be: $x_n=x(p_n)=y(p_{n-1})$ and the amount offered by the manufacturer: $y_n=y(p_n)$.

The readjustment process thus involves the following steps sequentially:

$y_0=y(p_0)$
$p_1=x^{-1}(y_0)$
$y_1=y(p_1)$
...
$p_n=x^{-1}(y_{n-1})$
$y_n=y(p_n)$
$p_{n+1}=x^{-1}(y_n)$
...
The question arises is the determining the equilibrium price p^* if it is exists.

From the above equalities, follow the recurrence relation:

$p_{n+1}=x^{-1}(y(p_n)) \ \forall n\geq 0$

The function $z=x^{-1}\circ y$ is strictly decreasing because $\frac{dz}{dp}=\frac{\frac{dy}{dp}}{\frac{dx}{dp}}<0$. But y being continuous, moving to limit in the recurrence relation above, follows: $p^*=z(p^*)$ therefore the equilibrium price p^* is a fixed point of the function $z=x^{-1}\circ y$.

The existence of a fixed point for the function z, requires some additional conditions.

We will say that a function $f:(a,b)\rightarrow \mathbf{R}$, $a<b\in\mathbf{R}$, is called a contraction application if $\exists C\in(0,1)$ such that: $\forall x,y\in\mathbf{R}$: $|f(x)-f(y)|\leq C\cdot|x-y|$.

Also, a function $f:(a,b)\to\mathbf{R}$, $a<b\in\mathbf{R}$, is called a Lipschitz application if $\exists L>0$ such that: $\forall x,y\in\mathbf{R}$: $|f(x)-f(y)|\leq L\cdot|x-y|$.

It is noted that a contraction application meets the requirement of Lipschitz. Also, any function of class C^1 such that $|f'(x)|<1\ \forall x\in(a,b)$ from the Lagrange's theorem is a contraction application.

Any application of contraction has at most one fixed point. Indeed, if $\exists x^*\neq y^*\in\mathbf{R}$ such that $f(x^*)=x^*$ and $f(y^*)=y^*$ then: $|x^*-y^*|=|f(x^*)-f(y^*)|\leq C\cdot|x^*-y^*|$ therefore $C\geq 1$ – contradiction comes from the assumption that $x^*\neq y^*$.

Considering now a fixed point $x^*\in\mathbf{R}$ and an initial value x_0, let the range $x_n=f(x_{n-1})$ $\forall n\geq 1$. We therefore have:

$$|x_n-x^*|=|f(x_{n-1})-f(x^*)|\leq C\cdot|x_{n-1}-x^*|\leq\ldots\leq C^n\cdot|x_0-x^*|$$

Passing to the limit as $n\to\infty$ follows: $\lim x_n=x^*$ therefore the range converges to the fixed point.

Also from Banach fixed point theorem, we have that any application of contraction admits a fixed point. Following these considerations, to have guaranteed the existence of price equilibrium, we will impose the additional condition that the application $z=x^{-1}\circ y$ must satisfy $|z'(p)|<1\ \forall p>0$.

In particular, for linear functions of supply and demand, we have:

$x(p)=a-bp$, $y(p)=c+dp$, $a,b,d>0$, $c<a$

from where:

$$z(p)=x^{-1}(y(p))=\frac{a-(c+dp)}{b}=\frac{a-c-dp}{b}$$

The equilibrium price is a fixed point of the function z, so we have:

$$\frac{a-c-dp^*}{b}=p^*$$

from where:

$$p^*=\frac{a-c}{b+d}$$

We have $z'(p)=-\frac{d}{b}$ therefore the condition $\frac{d}{b}<1$ or otherwise $d<b$ guarantees the existence of price equilibrium.

4. Conclusion

From the above, a first significant fact is that the economic equilibrium cannot occur under all conditions, being influenced primarily by prices charged by the buyer, followed by the manufacturers.

Another important result derived from the above analysis is to formulate the equilibrium conditions when supply and demand are of polynomial nature that extends the usual linear analysis.

The Walras or Marshall stability of the change in demand or supply has been treated for general functions, highlighting significant aspects of behavior change.

The dynamic stability after Kaldor has been broach using the fixed point theorem of Banach, extending the classical approach to a very general class of situations.

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Information and Knowledge; Communication

Trust Hierarchy Trees Applied in Team Management and Data Access

Laura Danilescu[1], Marcel Danilescu[2]

Abstract: Controlling access to data and information within organizations is an important concern today and also our aim. This paper is based on the concept of trust, which allows access control and control of actions that can be applied to data and information in documents held in computer systems. Methods we have used are: defining trust hierarchies applied to team members, data and actions. Results we have obtained are trust policies based on trust hierarchies.

Keywords: trust; document; trust hierarchy; hierarchy tree; actions hierarchy; trusting authorization policy

JEL Classification: M13; L86; L96

1. Trust Hierarchies

An organization consists of a number of members involved in achieving a particular purpose. In general, any organizational structure is a hierarchical type structure, which is a leader and members to execute various activities under his directions.

Organization does or does not trust the people involved in information-decision process within it. Information-decision process is manifested by the creation of documents containing data and information that are processed by individual (called subjects) belonging to the organization as result of different kind activities.

Trust is manifested by allowing access to various data and information, according to the position *subject* in a team. *Subjects* have many tasks to do according to the position in the team, and the team in the enterprise.

Teams are various working groups, formal and informal. Formal groups are those that form the organization (departments, services, offices, workshops, etc.) and informal groups or instant groups are created for a certain project and outgoing

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from achieving the goal. During the activity of these groups (formal and informal), the importance of every person, is based on trust given by the organization to each topic that is part of a group. Trust is differentiated, depending on the *subject's* position, activity and importance within the group (formal/informal) and the organization.

There may be a simplistic approach to these levels of trust like allow/deny (trust / distrust). Specialists in the field of sociology have established that the trust level adopted fuzzy values, i.e. values between 0.00 and 1.00, values which assigned roughly corresponding levels of confidence.

Approaching this kind of classification, based on labeling trust, not entirely correspond to reality, enables a faster classification of privacy levels by granting a trust level for the group which includes a *subject* and its heritage by all the subjects pertaining to that group.

To refine the trust level of staff, it can be assigned a correction factor that allows higher levels of trust to the maximum level, but this factor does not apply to all group members, but on individual cases.

2. Relation Between Personal Attributes and the Position in a Hierarchy

Every organization has personal expectations from employees. Meeting these expectations determine the hierarchical position in a team.

Generally, these expectations relate to personal attributes that make differentiation between team members. Further mention a few:

- communication skills;
- team-working skills;
- problem-solving skills;
- literacy skills;
- numeracy skills;
- general IT skills;
- timekeeping;
- business awareness;
- customer care skills;
- personal presentation;
- enthusiasm/commitment;
- enterprising;
- vocational job-specific skills;

- advanced vocational job-specific skills. (Martin, Villeneuve-Smith, Marshall, & McKenzie, 2008)

Not only the attributes presented are the most important, but these are generally accepted.

General trust is a sum of personal attributes. Every attribute has his importance in personnel evaluation. In a trust applied policy, the values of appreciation generated for every attribute is between 0.00 and 1.00. These attributes generates for every employee a general trust attribute, noted T_g. Also, every attribute has his distinguished importance in general trust attribute, importance which can be increased or decreased by a value noted I_v. Every position in the team has distinguished values for I_v. The general trust values are a media from all attribute's trust values. The difference between 1 and T_g represents the risk attributed to employee noted R_g.

$T_{gi} = \frac{\sum_{x=1}^{m} Txi}{x}$ and $R_g = \frac{\sum_{x=1}^{m} Rx}{x}$

where x represent an attribute evaluated of an employee i

$T_x + R_x = 1$

Generally, within a team, hierarchical structure is not a simple one in which each team member has a predecessor and a successor. The structure is arborescent. Thus, in this structure there may be people who have the same level of trust but different competence, and which require different activities. In fact, the team has assigned many tasks to perform. The team leader meets their execution. It makes task delegation to team members, considering their skills. Although the team works as a whole, some activities are performed by members with a lower level of trust and other activities are performed by members with increased competence and a higher level of trust.

In the context of information processing, in the work team, the team members that process this information manipulate data that requires a properly level of trust and appropriate actions to be applied on them. Therefore, it is obtained a **data tree** and a **tree of actions** to be performed.

We note with:

A_m = team members tree, based on trust hierarchies;
a_m = team members trust hierarchy;
A_d = tree of data to be processed;
a_d = data hierarchy;
A_c = tree of necessary actions for data processing;
a_c = actions hierarchy.

We find that for any members hierarchy a_m belonged to A_m there is a documents hierarchy a_d and a hierarchy of actions a_p.

To a hierarchy tree of a team (A_m) corresponds a data hierarchy tree (A_d) and an actions hierarchy tree (A_c). From this correspondence results a hierarchy of tuples of the form (a_m, a_d, a_c) representing actions performed by a team member on data. This hierarchy of tuples can be associated with an index action "i" and thus are obtained: (a_{mi}, a_{di}, a_{ci}, i) which represents the state of activities performed by a team member on data, at a time "i". This tuple can be called **state vector of a document**.

3. Conclusions and Future Research

As shown in previous articles mentioned in the references, reliable values assigned to team members, documents and actions, are centralized by Trusting Authorization Policy (TAP). Trust authorization is a research field towards which we have identified many challenges and many are turning to future research.

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Tourism and Sustainable Development

Travel Services Consumer Behavior Study at Meridian UTB

Bogdan Andronic[1]

Abstract: Purpose of the research is to study consumer behavior purchasing travel services offered by UTB Meridian. The main objectives of the research are: pre-purchase stage, the stage of purchase, post-purchase stage of the tourist product offered, having regard to the customer structure in terms of socio-professional category, age, income, gender. The collectivity investigated is represented by individuals from which the information were obtained, that is the tourists military personnel who have purchased services at UTB MERIDIAN - Eforie Nord. This collectivity is the population from which the sample will be drawn on which the investigation will be applied and the crowd on which the results of research will be generalized. To obtain the information direct contact is used by an investigator for better control of conditions under which the investigation is conducted. Based on this analysis, it appears that the main components of the "mix" of marketing on which we can act to attract tourism consumers and to determine a certain purchase behavior are: product policy, promotional policy and human resources.

Keywords: tourism; tourist service; tourist product consumer; marketing.

JEL Classification: L83; Q26; C12

1. Introduction

It is known that when deciding to purchase tourist spa treatment services, travelers in general evaluate all alternatives to be considered on its own experience in visiting other resorts of its kind in the country or based on information gained from personal and non-personal sources .We found out that the image on the diseases treated and procedures applied in UTB MERIDIAN - Eforie Nord is very clear, with no confusion with other profile companies in the country.

The research aims at studying consumer of tourist services behavior in UTB MERIDIAN - Eforie Nord and is based on a series of objectives related to the three stages of the process of purchasing services in general: pre-purchase, buying and

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post-purchase, taking into account the structure of customers in terms of socio-professional category, age, income, gender.

In each of the three stages were monitored a number of objectives as follows:

- in pre-purchase stage-determination of tourists needs and motivations who make them choose the services offered by UTB MERIDIAN - Eforie Nord from many specialized profile services on the market and the research of sources of information that the target group receives.
- in purchase stage reactions were followed during delivery of services to consumers who take part directly, depending on age, income, residence, gender.
- in post-purchase stage-investigation of reasons of satisfaction or disappointment of tourists and consumer loyalty study of the mentioned category related to services delivered in UTB.

2. Method and Methodology

As a method of collecting survey data investigation was used.

As an investigative tool a self-questionnaire was used. The questionnaire used to gather necessary information includes 20 questions and is structured in three parts: introduction, body area, classification area. The estimated time for completion is 15 minutes.

To obtain information direct contact is used by an investigator for better control of conditions under which the investigation is conducted.

Determination of the research sample was made using the formula:

$n = \frac{t^2 p(1-p)}{e^2}$ where:

t = 0.8 - factor represents the probability that results are guaranteed;

p = 0.60 - the proportion of the sample components which have the researched feature;

e = 0.03 - limit error accepted.

From calculations results n = 170 persons.

Findings of quality services and the quality-price ratio was made using semantically differential.

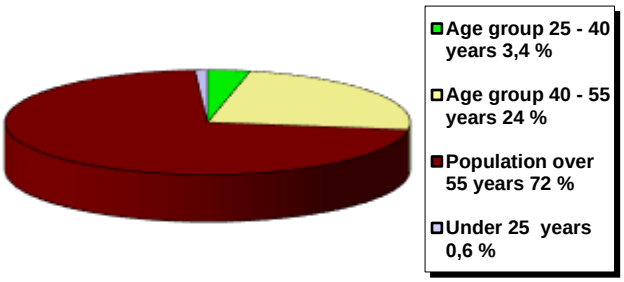
Analysis of the correlation between income level and the decision to return or not at UTB MERIDIAN - Eforie Nord of the sample members was carried out with χ^2 test.

3. Body of Paper

The survey was conducted among members of the sample number of 170. Of these, only 150 people were people who enjoyed the services unit, the other 20 being in the spa treatment unit area by chance or for purposes other than for purchasing travel services. After processing and analysis of data obtained through the investigation conducted has been found that:

72% of sample members are male (108 persons), while 28% are women (42 persons). This can be explained by diseases that are treated in this resort, diseases more common in men than in women.

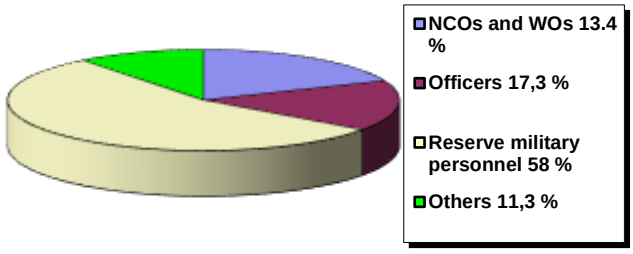
Graphical representation of the structure of the sample in terms of age:



As shown in the sample the age segment with the largest share is over 55 years. In this age group includes persons who seek medical services to treat some age specific diseases and not only. Touristic offer at UTB MERIDIAN - Eforie Nord interest in a very limited extent young people under 25 years (age segment with the lowest percentage) because at this age the diseases and disorders treated here are rare.

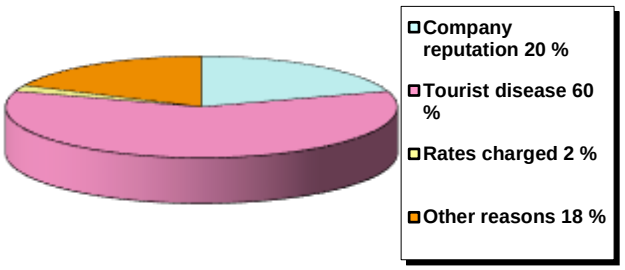
From the responses given by subjects interviewed, show that at UTB MERIDIAN - Eforie Nord come tourists from all counties except those in the west of the country (Timiș, Arad, Bihor) and the Transylvanian plain. This is explained by both long distance and especially by the existence of the resorts in the area "Felix" and "Herculane". It is interesting to note that a significant number of respondents are residing in Buzău and Ialomița counties - counties where there are competing stations ("Amara"-Ialomița, "Sărata Monteoru"-Buzău).

Structuring the sample according to socio-professional category of its members may be represented graphically as follows:



By analyzing the reasons behind tourists who purchase services in UTB MERIDIAN - Eforie Nord, we find that the largest share is held by those who come here to improve or cure their disease - 60%. Of the respondents 20% were attracted by the prestige of the spa treatment unit for the results obtained in the treatment of diseases and disorders by the application of spa procedures. The lowest share have those who have chosen this tourist destination because of the attractive tariffs charged: 2%. Of the tourists military personnel who come to the resort for other reasons: 18% - should be noted that 14% chose UTB MERIDIAN - Eforie Nord from a sense of fidelity. This percentage is added to those who have expressed their intention to return to the resort - 65%. This proves favorable interest rate on the respondents for the services offered by UTB MERIDIAN - Eforie Nord.

The category "other reasons" include: distance from place of residence, the vehicle required for travel, transportation costs to destination, the effects felt by beneficiaries in the application of spa treatments, the results obtained by relatives, friends, knowledge in the treatment of the same disorders as the respondents.



The analysis of information sources conclude that most subjects interviewed learned about the services provided in UTB MERIDIAN - Eforie Nord from personal sources (relatives, friends, acquaintances), or following the doctor's advice. Their proportion is 64% and 32%, which indicates that information was

acquired mostly through rumor. The percentage of 4% indicates that a very small number of subjects obtained information from non-personal sources.

To analyze the reasons of satisfaction or disappointment of tourists, were taken into account assessments of respondents regarding :

a) The quality of spa treatment services, as they are the defining element of the spa treatment unit in question;

b) The quality of services offered in UTB MERIDIAN - Eforie Nord, in general: accommodation, recreation, treatment;

c) Correlation between the quality of benefits and the price paid for them (price-quality ratio).

In considering these findings we used the semantic differential.

a) For spa treatment services, respondents were asked to express their views on the quality of benefits for each treatment group separately. Each attribute was evaluated in terms of quality on a five-step scale: very good, good, no opinion, unsatisfactory, highly unsatisfactory.

Each stage of assessment was associated with a grade: 5, 4, 3, 2, 1. Intensity of assessment is determined by the level that a person indicates on the scale. Finally a weighted score for each attribute (treatment) is calculated.

Grades given by groups of spa treatments

	Very U (1)	**U (2)**	**No opinion (3)**	**G (4)**	**Very G (5)**
Major Procedures	-	-	4	67	79
Minor Procedures	-	-	29	56	65
Others	-	-	127	12	11

We illustrate the calculation for major procedures:

$$\text{Major procedures} = \frac{0\times(1)+0\times(2)+4\times(3)+67\times(4)+79\times(5)}{150} = 4.55$$

In conclusion, the findings of the subjects investigated on the spa treatments offered in UTB MERIDIAN - Eforie Nord are generally favorable .In the procedures delivered ranks first major procedures (with a score of 4.55), followed closely by minor procedures (with a score of 4.24), indicating that patients are satisfied with the results of their application.

Lower score (3.22) obtained by the last group of treatments is because new services are less known by those interviewed on the one hand, and secondly that they are charged separately, not included in the price of treatment ticket. These procedures have a higher price than others, and therapeutic indications and their effects are not sufficiently known. The fact that few of the subjects purchase spa services from the last group can be explained by the fact that most customers of the spa unit are older persons, characterized by a certain reluctance to "new" and said change. It must be mentioned however, that investigated persons who benefited from these services appreciate that their quality tends to "Good" (favorable).

b) To study the findings of tourists on the spa unit activity in general, they were asked to express their views for each service: accommodation, meals, entertainment, treatment. Hierarchy of assessments of interviewees was made using a seven steps scale. The grades were awarded from 1 for "extremely poor" to 7 for "extremely good" with 4 for neutral feedback - "No opinion". Next to each note is passed the number of respondents from the total 150.

Table 1. Grades awarded for each service provided in UTB MERIDIAN - Eforie Nord

Service	**Grades**						
	1	2	3	4	5	6	7
Accommodation	-	-	-	4	9	59	78
Meals	-	-	-	4	11	60	75
Leisure	5	7	20	17	15	35	51
Treatment	-	-	-	3	4	63	80

For example, the score for accommodation is calculated as follows:

$$\text{Accommodation} = \frac{0\times(1)+0\times(2)+0\times(3)+4\times(4)+9\times(5)+59\times(6)+78\times(7)}{150} = 6.40$$

Based on these calculations we can conclude that the overall picture on the quality of tourism services provided in UTB MERIDIAN - Eforie Nord is favorable with an average of 6.13.

In the unit activity, the spa treatments ranks first with a score of 6.52, followed by accommodation services (score 6.40) and meals (score 6.37), on the last place recreational services with a score of 5.26.

While in general travel services consumers in UTB MERIDIAN - Eforie Nord welcome spa treatments in terms of beneficial effects experienced as a result of their application, they are unhappy with the organization to carry out the procedures. Thus, 60% of those surveyed believes that in the treatment rooms

expect too much, while 40% consider that the time limit for a procedure is too small.

Regarding the treatment base, the subjects investigated welcome the existence of modern equipment and facilities used for various treatments and staff competence showed in spa procedures.

Quality of touristic services provided in UTB MERIDIAN - Eforie Nord can be studied also according to socio-professional category and income levels of respondents. Thus an individual score for each attribute was obtained and overall score is found by calculating the arithmetic average.

Table 2. Grades awarded according to the socio-professional category

	Socio-professional category.			
	Officers	**NCOs and WOs**	**Reserve**	**Oth.**
Accommodation	6.03	5.9	6.59	6.64
Meals	5.96	5.8	6.57	6.64
Leisure	3.07	2.75	6.44	5.52
Treatment	6.07	6.25	6.58	6.70
General Average	5.28	5.17	6.54	6.37

It is noted that the highest score is given by elderly people (6.54). The smallest grade, still tending to a positive assessment is given by the Officers and NCOs.

Grades awarded by each socio-professional category result from the following tables:

Table 3. Officers and NCOs: 20 persons = 13.4% of all subjects investigated

Service	**Grades**						
	1	2	3	4	5	6	7
Accommodation	-	-	-	2	2	12	4
Meals	-	-	-	1	6	9	4
Leisure	3	2	12	3	-	-	-
Treatment	-	-	-	1	1	10	8

Table 4. Officers: 26 persons = 17.3% of all subjects investigated

Service	Grades						
	1	2	3	4	5	6	7
Accommodation	-	-	-	2	4	11	9
Meals	-	-	-	3	3	12	8
Leisure	2	5	8	11	-	-	-
Treatment	-	-	-	2	3	12	9

Table 5. Reserve personnel: 87 people = 58% of all subjects investigated

Service	Grades						
	1	2	3	4	5	6	7
Accommodation	-	-	-	-	3	30	54
Meals	-	-	-	-	2	33	52
Leisure	-	-	-	1	8	30	48
Treatment	-	-	-	-	-	36	51

Table 6. Other socio-professional categories: 17 persons = 11,3% of all subjects investigated

Service	Grades						
	1	2	3	4	5	6	7
Accommodation	-	-	-	-	-	6	11
Meals	-	-	-	-	-	6	11
Leisure	-	-	-	2	7	5	3
Treatment	-	-	-	-	-	5	12

c) Analyzing the answers of those investigated, it appears that the relationship between the quality of benefits received and prices paid for these benefits is considered favorably by 66% of those investigated, 26% had no opinion and 8% considered a negative price-quality ratio. This percentage (8%), consists of sections: officers, NCOs and WOs who are very demanding in terms of services quality. On the other hand, they have higher incomes compared to socio-

professional categories visiting the spa treatment unit and are willing to pay more money to get a high quality.

Jacob and Kyner define loyalty as "indirect behavioral response expressed over time by a given individual, on one or more brands taken from a whole in terms of a psychological process of decision."

So loyalty is the result of a psychological process resulting in a preference and expression of a particular social behavior towards a brand, meaning that specific adhesion. For service firms, nurturing a sense of loyalty among customers is by providing quality services at a level expected by them. And the sample under analysis, consumer expectations on quality of services have two levels of expression of interest: accepted and desired. Between these two levels there is a tolerance area which is the limit in which a service is assessed as satisfactory in terms of quality. The tolerance area varies from one touristic consumer to another in the degree of training, personality, intelligence , the degree of his culture and sex, as well as from a service to another for the same consumer.

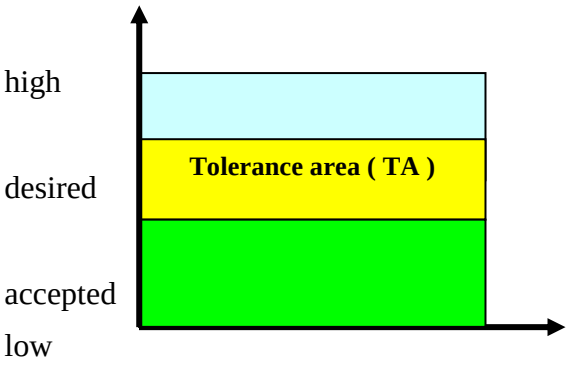


Figure 1. Tourist services

It appears that due to the high quality of tourist services, spa treatment unit has managed to cultivate among its customers a sense of loyalty. Thus, 30% of surveyed came at UTB MERIDIAN - Eforie Nord several consecutive years. In the percentage of 30% are represented all socio-professional categories mentioned in this marketing research, but in the reserve personnel has the largest share (68.75%), followed by officers and NCOs (16.25%) and other (15%).

Then we use the χ^2 test to analyze the correlations between a number of variables and the intention to return to the UTB MERIDIAN - Eforie Nord:
1. Analyse of correlation between income levels and sample members decision to return or not to UTB MERIDIAN - Eforie Nord.

The calculated value of χ^2 is determined using the formula:

$$\lambda^2 = \sum_{i=1}^{r} \sum_{j=1}^{k} \frac{(Q_{ij} - A_{ij})^2}{A_{ij}}$$

Qij = frequency of line i and column j that results from observation

Aij = frequency of line i and column j that is expected under the null hypothesis;

$$Aij = \frac{\text{Total line} \times \text{Total column}}{\text{Total subjects surveyed}}$$

r = number of rows, k = number of columns.

Table 7. Distribution of answers of subjects investigated:

Visiting Frequency / Income levels	**Plans to return**	**Undecided**	**No intention to return**	**Total**
< 1,200	28	14	6	48
1,200 – 1,800	38	14	12	64
1,800 – 2,400	18	11	9	38
Total	84	39	27	150

Setting the null hypothesis, that the distribution of the total assessments should have the same proportions in each subgroup, the frequencies should be:

Table 8. Null hypothesis:

Visiting frequency / Income level	**Plans to return**	**Undecided**	**No intention to return**	**Total**
< 1,200	27	12	9	48
1,200 – 1,800	36	17	11	64
1,800 – 2,400	21	10	7	38
Total	84	39	27	150

The calculated value of χ^2(χ^2 cal.) is:

$$\chi 2 \text{ cal.} = \frac{(28-27)^2}{27} + \frac{(38-36)^2}{36} + \frac{(18-21)^2}{21} + \frac{(14-12)^2}{12} + \frac{(14-17)^2}{17} + \frac{(6-9)^2}{9} +$$
$$+ \frac{(12-11)^2}{11} + \frac{(9-7)^2}{7} = 3.201$$

The theoretical value of $\chi 2$ corresponding to (r -1) (k - 1) = (3-1) (3-1) = 4 degrees of freedom is 5.991.

Comparing χ^2 cal. with χ^2 theoretical is obtained 3.201 <5.991. So, at a significance level of 0.05, the intention of returning at

UTB MERIDIAN - Eforie Nord does not depend on the income of those investigated.

2. Analyse of correlation between socio-professional category of those interviewed and their intention to return to the UTB MERIDIAN - Eforie Nord.

Table 9

Socio-professional category / Visiting frequency	**NCOs and WOs**	**O**	**Res.**	**Oth.**	**Total**
Plans to return	13 (15)*	5 (11)	61 (49)	5 (9)	84
Und.	8 (7)	9 (5)	15 (22)	7 (5)	39
No intention to return	5 (4)	6 (4)	11 (16)	5 (3)	27
Total	26	20	87	17	150

(*) = Null hypothesis

The calculated value of χ^2(χ^2 cal.) is:

$$\chi 2 \text{ cal.} = \frac{(13-15)^2}{15} + \frac{(8-7)^2}{7} + \frac{(5-4)^2}{4} + \frac{(5-11)^2}{11} + \frac{(9-5)^2}{5} + \frac{(61-49)^2}{49} + + \frac{(15-22)^2}{22} +$$
$$\frac{(11-16)^2}{16} +$$
$$+ \frac{(5-9)^2}{9} + \frac{(7-5)^2}{5} + \frac{(5-3)^2}{3} = 18.768$$

For (r - 1) (k - 1) = (3-1) (4-1) = 2 x 3 = 6 degrees of freedom, the value of χ^2 theoretical is 12.592

As χ^2 cal. > χ^2 theoretical (18.7682 > 12.592), the null hypothesis is not accepted. So, the intention of returning at UTB MERIDIAN - Eforie Nord is influenced by socio-professional category of selected sample members.

3. χ^2 test is also useful to analyze the correlation between income level of the interviewed and visiting frequency at UTB MERIDIAN - Eforie Nord.

Table 10

Income level / **Visiting frequency**	**<1,200 lei**	**1,200 - 1,800 lei**	**1,800 - 2,400 lei**	**Total**
Frequently	20 (15)*	21 (20)	5 (11)	46
Rare	6 (9)	9 (13)	14 (7)	29
By chance	5 (5)	5 (8)	6 (3)	16
First time	17 (19)	32 (26)	10 (14)	59
Total	48	67	35	150

(*) = Null hypothesis

The calculated value of χ^2(χ^2 cal.) is:

$$\chi 2 \text{ cal.} = \frac{(20-15)^2}{15} + \frac{(6-9)^2}{9} + \frac{(5-5)^2}{5} + \frac{(17-19)^2}{19} + \frac{(21-20)^2}{20} + \frac{(9-13)^2}{13} + \frac{(5-8)^2}{8} + \frac{(32-26)^2}{26} + \frac{(5-11)^2}{11} + + \frac{(14-7)^2}{7} + \frac{(6-3)^2}{3} + \frac{(10-14)^2}{14} = 21.08$$

χ^2 theoretical value corresponding to (r -1) (k - 1) = (4-1) (3-1) = 6 degrees of freedom is 12.592. χ^2cal.> χ^2 theoretical (21.08> 12.592) so, at a significance level of 0.05, the null hypothesis is not supported, ie the frequency of visits to the firm depends on income level respondents.

4. Finally, analysis of the correlation between gender of subjects investigated and the frequency of visits to UTB MERIDIAN - Eforie Nord, shows that the frequency of visiting the unit is influenced by the gender of visitors.

Table 11

Gender of visitors / Visiting frequency	**Male**	**Female**	**Total**
Frequently	38 (35)*	10 (13)	48
Rare	18 (20)	11 (9)	29
By chance	7 (12)	9 (4)	16
First time	45 (41)	12 (16)	57
Total	108	42	150

(*) = Null hypothesis

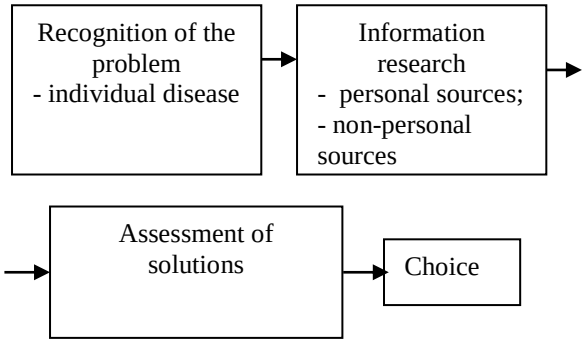
The calculated value of χ^2(χ^2 cal.) is:

$$\chi 2 \text{ cal.} = \frac{(38-35)^2}{35} + \frac{(18-20)^2}{20} + \frac{(7-12)^2}{12} + \frac{(45-41)^2}{41} + \frac{(10-13)^2}{13} + \frac{(11-9)^2}{9} + \frac{(9-4)^2}{4} + \frac{(12-16)^2}{16} = 11.316$$

Theoretical value of χ^2 corresponding to (r -1) (k - 1) = (4-1) (2-1) = 3 degrees of freedom is 7.815. χ^2cal.> χ^2 theoretical (11.316> 7.815), so the null hypothesis is not accepted.

4. Conclusions

In the pre-purchase stage, touristic consumer behavior can be described as founded on the following decision process:



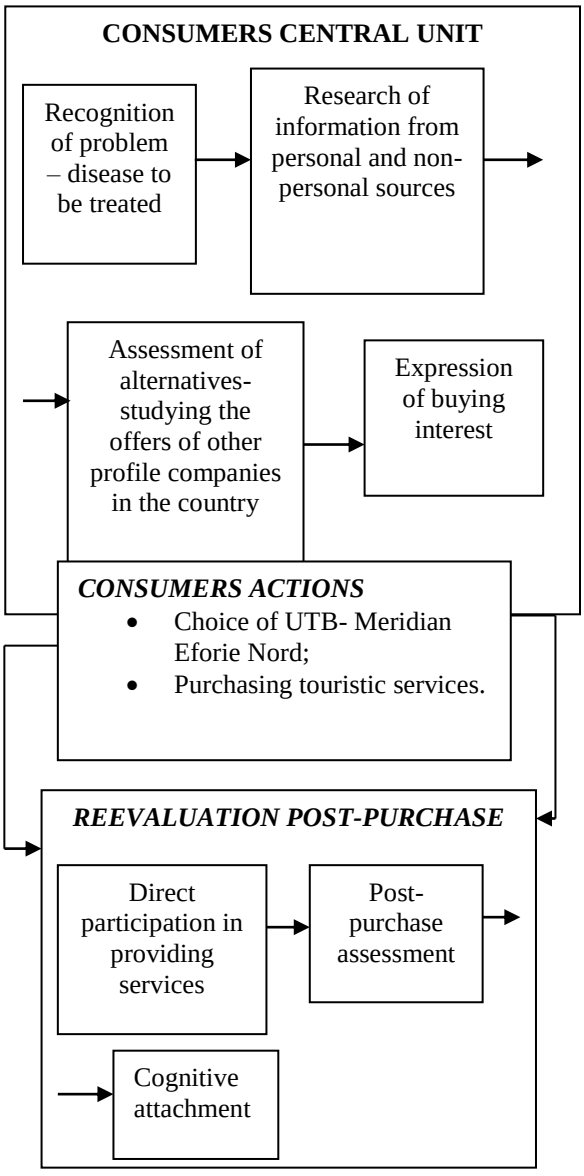
- Most subjects especially appreciates the kindness of the staff from the accommodation and catering facilities and staff competence in the treatment units.
- Diversity of treatment procedures offered by competent medical personnel is assessed positively.

- Equipment in the treatment facilities and modern equipment, enjoy a positive assessment from those interviewed.
- Among the complaints relating to services may be mentioned those relating to: the organization of carrying out treatment procedures, length of procedures applied, the movement of tourists from the hotel to the treatment, the level of information provided about spa procedures and their effects to treat diseases.

On post-purchase stage from the research of reasons of satisfaction or disappointment of spa care recipients in UTB MERIDIAN - Eforie Nord, one can draw the following conclusions:

- Treatment procedures applied are rated favorably by most consumers. Perception of their quality in terms of effects felt by every tourist is "good" to "very good".
- Treatments to prevent premature aging and acupuncture are relatively new spa services introduced in the portfolio of services and spa facility and they are less known by the subjects interviewed. Advertising measures are necessary so to make known these services and their application in treating the effects of disease.
- The quality level of all services rendered at UTB MERIDIAN - Eforie Nord: accommodation, meals, recreation, treatment is considered favorable.
- Report of tariffs and the quality of tourism benefits is considered favorable, in general, but differentiated by socio-professional categories. Officers and active NCOs looks very demanding in terms of diversity and quality benefits, and the previous analysis shows that not all services satisfy these requirements. It is therefore necessary measures for the improvement and diversification of services (recreation).
- Through the high quality benefits and outstanding results obtained in the treatment of disorders and diseases, health treatment unit has managed to cultivate among a large number of customers a sense of fidelity with beneficial consequences on the activity of the spa business unit.
- In terms of age, the best segment of the population represented, is aged over 55 years. In this respect we can conclude that offer of the spa treatment unit is adapted to the manifested demand. It is of course the case of reserve military personnel.
- Between age, socio-professional category and income levels of members of the sample studied there is a direct connection: the highest weight belongs to retired military personnel whose incomes mainly fall between 1,200 and 1,800 lei.

Using lessons learned from the analysis made in the previous chapter, we can develop a model of the process of purchasing travel services offered by UTB MERIDIAN - Eforie Nord.



Based on this analysis, it appears that the main components of the "mix" of marketing on which one can act to attract touristic consumers and to determine a certain purchase behavior are: product policy. promotional policy and human resources.

Regarding the product policy to improve the quality and increase the attraction force of the benefits of the tourist product the following measures are proposed: diversification of recreational facilities, additional facilities and modern equipment in the treatment base, improving the organization of carrying out treatment procedures, building own base of treatment, measures to conserve natural healing factors (water and mud from the lake) exposed at risk of pollution.

With regard to promotional policy UTB MERIDIAN - Eforie Nord, bear in mind that whatever the nature of media and techniques used promotional activities must meet specific objectives integrated into a promotional program .We recommend the following measures:

1. Making a sales promotion campaign to increase touristic demand and stimulate the fidelity of consumers towards the unit. The main instruments to promote sales may be:

a) at point of sale advertising, ie advertising activities conducted on: commandments garrison, pensions and social security departments, inspectorates county gendarmes or other places of sale of the tourist product offered by UTB MERIDIAN - Eforie Nord (travel agencies, various companies).

b) advertising contests: organized to create an atmosphere of interest around the spa treatment unit and for nurturing a sense of loyalty among consumers. These contests can be based on the promise of a substantial gain or stay free (suitable for two people) received from a competition that calls for the qualities of observation, insight and creativity of the participants, and their knowledge of resort "Eforie Nord UTB in general and MERIDIAN - Eforie Nord in particular.

2. Making an advertising campaign (national and local television, local radio station and national - in particular Radio Romania News - through posters, leaflets, newspapers) to help promote a brand name on the one hand and act on potential consumer, causing a buying behavior, on the other side.
3. Setting up inside the unit of a public relations department.
4. Putting posters on the occasion of the organization of local and in neighboring towns of artistic, cultural and sporting events (soccer, volleyball, entertainment, etc.).
5. Printing of promotional brochures to be made known the activity of the spa unit, treatments provided, diseases treated and the attractions of the resort.
6. Participation at domestic trade fairs and exhibitions on topics of tourism in general and medical spas in particular.

7. Establishment of a site in which to summarize the main advantages of the spa unit facilities and touristic services and the possibility of contacting representatives of the spa treatment unit for additional information.

Regarding the human resources policy is required:

- Hiring an optimum number of specially trained health professionals to better serve patients in treatment units;
- To improve patient-medical specialist relationship is needed for the latter to provide additional information about the procedures used and their effects on diseases treated;
- Measures for providing incentives for staff aiming to a high quality service.

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General Presentation of Basic Notions of Tourism Industry

Anca Gabriela Turtureanu[1]

Abstract: This paper aims at exposing key terms behind the phenomenon of organizing the national tourism and worldwide, the market manifestations of tourism components, the whole tourism industry in hotel and restaurant facilities, firms composition, to the recreational, spa treatment and tourists transport, business travel service to the population of all economic activity which concerned with preparing, promoting and developing tourism products. The tourism industry implies a tourism heritage, which, by its attraction, determines the integration of areas, regions or countries and international circuits. In the economic analysis of tourism phenomenon are used terms, concepts, methods and techniques to be purely economic or mathematical or statistical. The purpose of these actions is to analyze the profitability of tourism businesses, but also to study ways to increase economic efficiency and social activity of tourism at the micro level and macro.

Keywords: concepts; specific terms; travelers; tourism industry

1. Introduction

One of the main socio-economic phenomena of our century is to develop a rapid and remarkable continuity of domestic and international tourism, both at Earth and at regional level.

Tourism, as a economy and socially phenomenon, has undergone significant growth outstanding development boom in the second half of the twentieth century. The desire to travel and to experience new places known since antiquity, although at first these were aimed mainly wishes of war, conquest of new territory or trade.

Perhaps the first who wanted to travel a lot and have facilitated the trips were the ancient Greeks. The concluding contracts of mutual visits, friendly, with people of the same occupation, thus obtaining safety of the journey. The visitation agreement could inherit from father to son.

They were thus involved relatively large masses of people to visit holy places, healing baths, to the places of festive games. Most important was the movement toward healing baths of Rome, the city with 854 popular baths and 14 luxury baths.

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The first tourist guide appearing in 1130 and written by Aimer Picaud, a French monk.

Tourism, in the sense of visiting some places, is met in its first events at Marco Polo (XIII), then journeys of British aristocracy through Europe (XVIII), to David Livingstone in his famous journey through Africa (sec. XIX). The founder of organized tourism is considered Thomas Cook in 1841 that provides trips between Loughborough and Leicester by train.

Over the time, are beginning to diversify the travel motivations, being outlined increasingly the tourism activity, due to religious activities, use of curative baths, traveling journeymen and students to universities, travel to new worlds etc.. Parallel to increased passenger traffic were developed the hotels industry, communications, transportation, activities for tourism.

Transformation of passenger traffic in tourism itself began with the eighteenth century and was manifested primarily by increasing the number of British travelers that specifically were heading to France, Switzerland, Italy.

Over the years, tourism has taken various definitions, some focusing especially on the side of entertainment.

Thus, M. Peyromaure Deborg defined tourism as "action, desire, art, of traveling for own pleasure". In 1880 Guy E. Frenler states that "tourism in the modern sense, is a phenomenon of our times, based on knowledge of the need to restore the health and environmental change, growing feeling for the beauty of nature, as a result of trade development, industry and improvement of means of transport ".

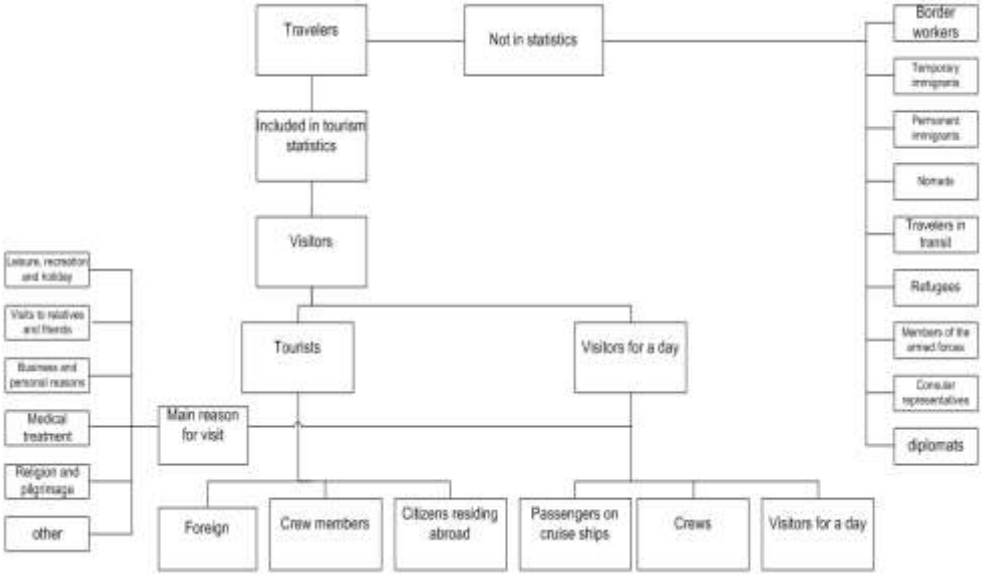
2. Specific Terms

Tourism in the modern sense, means all the measures implemented for the organization and development of recreational trips or other purposes, made, either through organizations, companies and specialist officers, either on their own, for a limited time as well as the industry that contribute to tourist needs.

In terms of beneficiaries tourism can be defined as all activities of a persons traveling outside their usual (work, shopping and so on.), for more than a specified time and where the main purpose of travel is different from taking up paid employment at visitation.

Tourism potential is influenced by several factors: natural factors (remaining approximately constant over time) and economic factors, demographic, political, psychological (which are characterized by a strong dynamics, and the possibilities of control in the desired direction).

Some factors influence tourism for long periods of time. They are: world population growth, increasing incomes, increasing free time, modernization of transport and communications.



Graphic 1. Classification of international travelers
Source: World Tourism Organization (WTO)

The tourist is a person who travels to another area outside the residence for a different purpose than that of practicing a profession paid.

International tourists are that tourist who lives at least 24 hours in another country than his home in a entertainment purposes, vacation, health, business, etc..

Based on the recommendations of the Ottawa Conference (June 1991), can distinguish the following categories of tourism:

- Domestic tourism, made when residents of a country visit places of their own country;
- Outgoing (outgoing tourism and outbound tourism), when residents visits a foreign country;
- Inbound tourism (incoming tourism or inbound tourism), referring to a situation where a country is visited by foreigners.

By combining these forms between them, two by two, we can define three categories of tourism:

- Internal tourism, including domestic tourism and the receiver;
- National tourism, including domestic tourism and the issuer;
- International tourism, consisting of inbound tourism and the issuer.

Table 1. Conceptual framework

Concepts	Observation units	Main related characteristics
Visitor	Visitor	Classes (Overnight visitor-tourist-/same-day visitor-excursionist) Country of residence / regions Demographics
	Travel party	Size
Trip	Tourism trip	Main purpose Duration Main destination Modes of transport Types of accommodation used Organization Expenditure
Tourism industries	Establishment	Monetary Output Intermediate consumption Gross value added Compensation of employees Gross Fixed Capital Formation Non-monetary Non-monetary characteristics specific to each tourism industry
Employment	Establishment (in the tourism industries) Households	Persons Size Status in employment Jobs Duration of work Full-time equivalent jobs

Source: http://unstats.un.org/unsd/tradeserv/egts/CG/IRTS%20compilation%20guide%207%20march%202011%20-%20final.pdf

The tourism industry is the component "offer" of the tourist market and includes all enterprises and facilities designed for production of services in a given country. The result output includes a set of specific facilities and services grouped in different variants in a single unit, valued at a specific ambience created by natural and anthropogenic factors of attraction in a city or country.

The tourism industry is based on the following components:

- means and accommodation;
- facilities and food services;
- facilities and services for leisure, conferences and congresses;
- air, rail, road, river or sea;

- tourist information offices;
- travel agents, tour operators, other intermediaries;
- other activities to serve tourists (rental vehicles, sports equipment, health-related activities)

Tourism industries (also referred to as *tourism activities*) are the activities that typically produce *tourism characteristic products.*

Tourism characteristic products are those that satisfy one or both of the following criteria:

1 *Tourism expenditure* on the product (either good or service) should represent a significant share of total *tourism expenditure* (share-of-expenditure/demand condition);

2 *Tourism expenditure* on the product should represent a significant share of the supply of the product in the economy (share-of-supply condition). This criterion implies that the supply of a *tourism characteristic product* would cease to exist in meaningful quantity in the absence of visitors.

Table 2. List of categories of tourism characteristic products and tourism industries

Products	**Industries**
1. Accommodation services for visitors	1. Accommodation for visitors
2. Food and beverage serving services	2. Food and beverage serving activities
3. Railway passenger transport services	3. Railway passenger transport
4. Road passenger transport services	4. Road passenger transport
5. Water passenger transport servcies	5. Water passenger transport
6. Air passenger transport services	6. Air passenger transport
7. Transport equipment rental services	7. Transport equipment rental
8. Travel agencies and other reservation services	8. Travel agencies and other reservation servies activities
9. Cultural services	9. Cultural activities

Products	Industries
10. Sports and recreational services	10. Sports and recreational activities
11. Country-specific tourism characteristic goods	11. Retail trade of country-specific tourism characteristic goods
12. Country-specific tourism characteristic services	12. Other country-specific tourism characteristic activities

Source: http://media.unwto.org/en/content/understanding-tourism-basic-glossary

International tourist movements represents all commercial transactions (services, goods) that precede, accompany and arising from international travel.

3. Conclusions

Tourism has a significant impact on economies, societies and cultures countries. The action should occur on many levels, from boosting economic growth to improve the social fabric of the upper turning natural and material resources to improve living conditions. Obviously, tourism contribution to economic and social progress, the intensity of its action differs significantly from country to country depending on its level of development and the policy pursued towards him.

Although most experts, including international organizations, believes that tourism exerts positive influence and that it should be encouraged, even if sometimes has bad consequences, are experts consider it - and in particular, international tourism - produce more effects social and cultural harmful than other types of economic development.

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Analysis of the Touristic Circulation and Proposals to Increase the Touristic Potential in Dâmboviţa County

Bogdan Andronic[1]

Abstract: The beauty of the landscape. but also the hospitality that we meet in the Dâmboviţa County, make this area to be favorite of many tourists, both Romanian and foreigners. The touristic circulation had significant increases in each year, being influenced by many factors, which have led to the increase of the revenues for those who own units of touristic reception and for the inhabitant people of the area. For the possibility of this area's development and to attract a larger number of tourists, the environment is an issue which must be considered a priority. Is envisaged a clean natural environment in this county, respectively a better promotion of the environmental actions.

Keywords: tourism; rural tourism; indicators; statistical analysis

JEL Classification: L 83

1. Introduction

Tourism has become a business nowadays as important as that done in other key sectors in the global economy (industry, agriculture, trade). Tourism potential existing in our country is on an upward slope. Romania is becoming a destination for many tourists, because it can satisfy the most demanding customer segments.

For the future tourism to grow, currently being insufficiently exploited, we consider it necessary to propose a series of measures to revive and boost tourism activities, a socio-economic impact analysis and of their present and perspective consequences, drafting a strategy aimed at developing a set of objects identified to create a true tourism industry that are judged to be absolutely beneficial environmental effects.

We used the method of analysis of the touristic circulation indicators. To analyze the dimension of the touristic circulation from the Dâmboviţa County, we researched the evolution of the indicators: number of tourists. number of nights spent, average length of the stay. Following the analysis, we made a forecast using

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the following methods: method of average growth, method of average index of dynamic and method of the linear trend. In conclusion, the optimal method of forecast was established as being the method of the linear trend.

2. Body of Paper

Analysis of tourist traffic indicators

The number of tourists are all visitors, both Romanian and foreigners who have been in Dâmboviţa county, being registered in tourist accommodation units. Evolution of tourist arrival in the series analyzed is shown in the following table:

Table 1. Number of arrivals of tourists stay in Dâmboviţa county in 2004-2008

YEAR	**STS**		
	Total	**Romanian**	**Foreign**
2004	64035	57907	6128
2005	58245	52522	5723
2006	60892	56048	4844
2007	68352	63029	5323
2008	72276	66564	5712
YEAR	**DYNAMIC INDEXES**		
	Total	**Romanian**	**Foreign**
2004	1	1	1
2005	0.910	0.907	0.934
2006	0.951	0.968	0.790
2007	1.067	1.088	0.869
2008	1.129	1.149	0.932
YEAR	**CTURE INDEXES**		
	Total	**Romanian**	**Foreign**
2004	100	90.43	9.57
2005	100	90.17	9.83
2006	100	92.04	7.96
2007	100	92.21	7.79
2008	100	92.10	7.90

Source: www.insse.ro

Foreign tourist arrivals were registered on a continuous upward curve during the five years analyzed, only in 2005 had a downward trend. Also the evolution of Romanian tourists who arrived in this area has had an upward trend in tourist arrivals from 64.035 in 2004 to 72.276 in 2008. Romanian tourists in total share of tourists increased from 90.43% to 92.10% during the period under review.

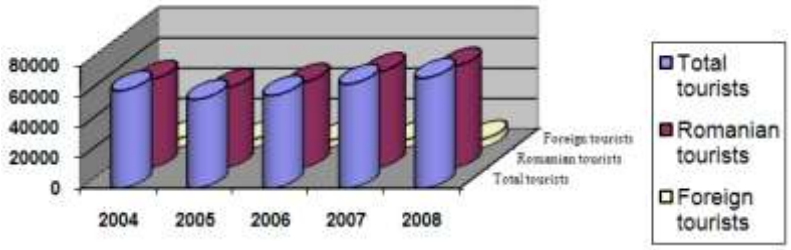

Figure 1. Evolution of tourist arrivals in 2004-2008

We believe that this increase in the number of arrivals in Dâmboviţa county was because the offered tourist services have begun to live up to certain standards, natural and human resources of the area managed to attract tourists. Most tourists were mostly accommodated in hotels, offering the highest quality, leading to the conclusion that the arriving tourists are demanding in choosing accommodation. School and preschool camps, motels, urban tourist hostels and rural tourist hostels as they charge lower rates have been chosen also.

Another important indicator used in the analysis of tourist traffic is the number of overnight stays in tourist accommodation units. During the five years analyzed, overnight stays in Dâmboviţa county is shown below:

Table 2. Number of nights spent by tourists in Dambovita county in 2004-2008

YEAR	**IGHT STAYS urist)**		
	Total	**Romanian**	**Foreign**
2004			
2005			
2006			
2007			
2008			
YEAR	**IC INDEXES**		
	Total	**Romanian**	**Foreign**
2004			
2005			
2006			
2007			
2008			
YEAR	**TURE INDEXES**		
	Total	**Romanian**	**Foreign**
2004			
2005			
2006			
2007			
2008			

Source: www.insse.ro

The table above shows that in 2004-2008, the number of overnight stays had an upward trend up to 302,230 overnight stays, with the exception of 2005 when the lowest value was recorded. Number of overnight rose to 248,565, compared to 2005 when 243,800 overnight stays were recorded, showing a difference of 4,765 nights, so an increase of 1.95%. A significant increase is noted during 2008, which registered an upward trend of 12.82% compared with 2007 and of 22.40 % compared with 2004.

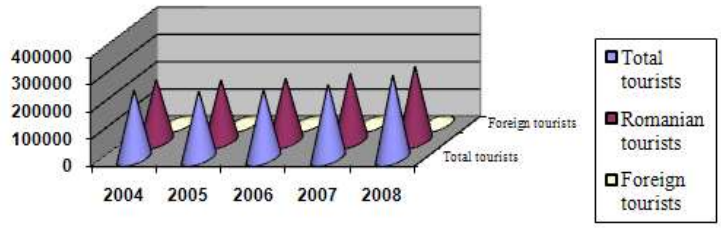

Figure 2. Evolution of the number of nights spent in 2004-2008

Source: www.insse.ro

The third indicator of tourism activity that we analyzed is the average length of stay, which is calculated by dividing the total number of overnight stays by the number of arrivals of tourists and is the average number of days of tourist accommodation in Dâmboviţa County.

Table 3. Average stay in 2004-2008

Year	AVERAGE LENGTH OF STAY		
		anian	

The average length of stay in tourist structures recorded for the period under review an increasing trend from 3.86 in 2004 to 4.18 in 2008. In 2006-2007, the average length of stay was in a slight decrease from 4.08 to 3.92.

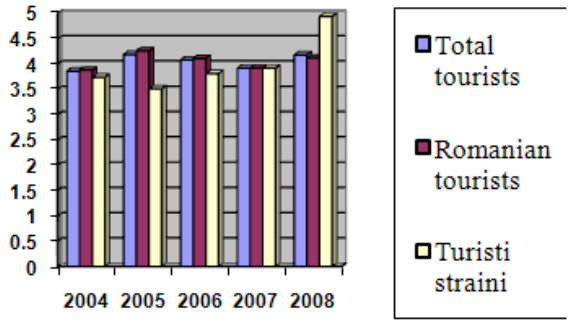

Figure 3. Evolution of the average stay in 2004-2008

3.1. Prospects for Tourist Traffic

To estimate the future development of tourist traffic in the next three years, it was taken into account arrivals of tourists, the situation being presented in the following tables. The coefficient of variation was calculated by three methods: average growth method, average dynamic index method and the linear trend method. Results a coefficient of variation of 7.497% through the average growth method, of 7.382% through average dynamic index method and of 5.197% through the linear trend method.

a. Average growth method

Year	y_i		$Y_i = y_1 + \overline{\Delta} * t_i$	$(y_i - Y_i)^2$
2004	64,035		64,035.00	0
2005	58,245		66,095.25	61,626,425.06
2006	60,892		68,155.50	52,758,432.25
2007	68,352		70,215.75	3,473,564.06
2008	72,276		72,276.00	0
Total	323,800		340,777.50	117,858,421.37

$\overline{\Delta} = \frac{y_n - y_1}{n-1}$ = 2,060.25 ; $\bar{y}$ = y_i/n =64,760 ; $\sigma = \sqrt{\frac{\Sigma(yi - Yi)^2}{n}}$ = 4,855.07;

$v = \frac{\sigma}{\bar{y}} * 100$ = 7.497% > 5% ;

b. The average dynamic index method

Year	y_i	t_i	$Y_i = y_1 * I^t$	
2004	64,035	0	64,035.00	
2005	58,245	1	66,002.682	639.32

2006	60,892	2	68,030.828	873.78
2007	68,352	3	70,121.295	07.98
2008	72,276	4	72,275.999	0016
Total	323,800		340,465.806	,921.08

$I = \sqrt[n-1]{\Pi I_{i/i-1}} = \sqrt[n-1]{I_{i/1}} = \sqrt[n-1]{\frac{y_i}{y_1}}$ **=1.**030728236; $\sigma = \sqrt{\frac{\Sigma(yi - Yi)^2}{n}}$ = 4,780.69 ;

$\bar{y}$ = y_i/n = 64,760; $v = \frac{\sigma}{\bar{y}} * 100$= 7.382% > 5%

c. The linear trend method

Year	y_i	t_i	t_i^2	$y_i * t_i$	$Y_i=a+b* t_i$	$(y_i-Y_i)^2$
2004	64,035	-2	4	-128,070	59,442.20	21,093,811.84
2005	58,245	-1	1	-58,245	62,101.10	14,869,507.21
2006	60,892	0	0	0	64,760.00	14,961,424.00
2007	68,352	1	1	68,352	67,418.90	870,675.61
2008	72,276	2	4	144,552	70,077.80	4,832,083.24
Total	323,80	0	10	26,589	323,800.0	56,627,501.90

a = $\bar{y}$ = 64760 ; b= $\frac{\sum y_i * t_i}{\sum t_i^2}$ = 2,658.90 ; $\sigma = \sqrt{\frac{\Sigma(yi - Yi)^2}{n}}$ = 3,365.34;

$v = \frac{\sigma}{\bar{y}} * 100$= 5.197% > 5% ;

Since the coefficient of variation for each method (v) is greater than 5%, we choose to forecast the method that has the lowest coefficient of variation, ie linear trend method.

Table 4. Forecast for the number of arrivals of tourists in Dambovita county in 2009-2011

Year	t_i	$Y_i= a+b* t_i$
2009	5	72,737
2010	6	75,396
2011	7	78,055

We observe an increase in tourist arrivals in Dâmboviţa county in 2009-2011, thanks to the growth of household income, but also because of higher service quality offered in this area.

We believe that regardless of the type of tourist accommodation and its degree of comfort, quality of services must ensure optimal conditions for spending a holiday more enjoyable for tourists. It is also important that the units are diverse, so tourists

can choose their accommodation for next year and depending on their financial capability.

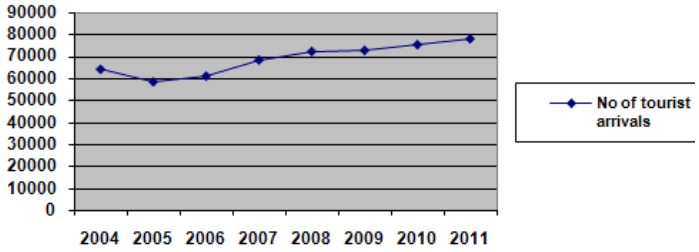

Figure 4. Forecast of number of arrivals in Dâmboviţa County for 2004-2011

As for the number of arrivals of tourists in the county of Dâmbovița, we make the forecasts for the number of overnight stays, using the three methods mentioned previously. After calculations, we obtained a coefficient of variation of 6.354% using average growth method, 6.007% using the average dynamic index method and 4.104% through linear trend method.

a. Average growth method

Year	y_i	t_i	$Y_i = y_1 + \overline{\Delta} * t_i$	$(y_i - Y_i)^2$
2004	246,917	0	246,917.00	0
2005	243,800	1	260,745.25	287,141,497.56
2006	248,565	2	274,573.50	676,442,072.25
2007	267,889	3	288,401.75	420,772,912.56
2008	302,230	4	302,230	0
Total	1,309,401		1,372,867.50	1,384,356,482.37

$\overline{\Delta} = \frac{y_n - y_1}{n-1}$ = 13,828.25; $\bar{y} = y_i/n$ = 61,880.20;

$$\sigma = \sqrt{\frac{\Sigma(yi - Yi)^2}{n}} = 16{,}639.45;$$

$$v = \frac{\sigma}{\bar{y}} * 100 = 6.354\% > 5\%;$$

b. The average dynamic index method

Year	y_i	t_i	$Y_i = y_1 * I^t$	$(y_i - Y_i)^2$
2004	246,917	0	246,917.00	0
2005	243,800	1	259,715.360	253,298,706.21
2006	248,565	2	273,177.09	605,755,171.06
2007	267,889	3	287,336.584	378,208,550.66
2008	302,230	4	302,229.99	0.00000049
Total	1,309,401		1,369,376.038	1,237,262,427.93

$I = \sqrt[n-1]{\Pi I_{i/i-1}} = \sqrt[n-1]{I_{i/1}} = \sqrt[n-1]{\frac{y_i}{y_1}}$ =1.051832643; $\sigma = \sqrt{\frac{\Sigma(yi - Yi)^2}{n}}$ = 15,730.62;

$\bar{y}$ = y_i/n = 261,880.20;

$v = \frac{\sigma}{\bar{y}} * 100$= 6.007 % > 5% ;

c. The linear trend method

Year	y_i	t_i	t_i^2	$y_i * t_i$	$Y_i = a + b * t_i$	$(y_i - Y_i)^2$
2004	246,917	-2	4	-493,834	234,937.20	143,515,608.04
2005	243,800	-1	1	-243,800	248,408.70	21,240,115.69
2006	248,565	0	0	0	261,880.20	177,294,551.04
2007	267,889	1	1	267,889	275,351.70	55,691,891.29
2008	302,230	2	4	604,460	288,823.20	179,742,286.24
Total	1,309,401	0	10	134,715	1,309,401.00	577,484,452.30

a = $\bar{y}$ = 261,880.20; b= $\frac{\sum y_i * t_i}{\sum t_i^2}$ = 13,471.50; $\sigma = \sqrt{\frac{\Sigma(yi - Yi)^2}{n}}$ = 10,746.95;

$v = \frac{\sigma}{\bar{y}} * 100$= 4.104 % < 5%;

Given that by the average growth method and the average dynamic index method, the coefficient of variation (v) is greater than 5% and through the linear trend method we obtained a coefficient of variation of less than 5%, we will choose this one order to predict the next three years.

Table 5. Forecast for number of nights spent by tourists in Dâmboviţa county in 2009-2011

Year	t_i	$Y_i = a + b * t_i$
2009	3	302,295
2010	4	315,766
2011	5	329,238

After forecasting the number of overnight stays, as in the case of the number of arrivals of tourists, we see an upward trend for the next three years to them.

Clearly, in the near future will increase the number of overnight stays of tourists, but we think it should be taken certain measures, including the following: improving the infrastructure in order to more easily reach the sights, but also promote intense in the area, both internally and internationally.

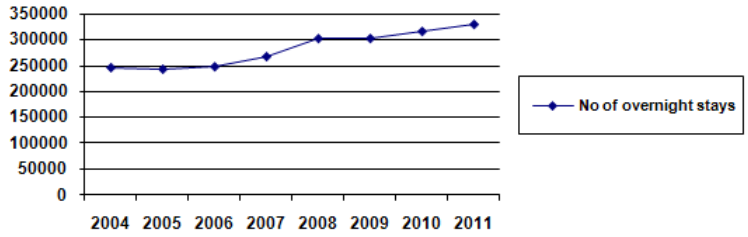

Figure 5. Forecast the number of overnight stays in Dâmboviţa county for 2004-2011

Next in the table below, follows the forecast for the average stay:

Table 6. Forecast for the average stay in Dâmboviţa county for 2009-2011

Year	**Y_i**
2009	4.16
2010	4.19
2011	4.22

There is an increase in the average stay for the next period, 2009-2011, Romanian tourists and foreigners will be further impressed by the improvements will be made in this county.

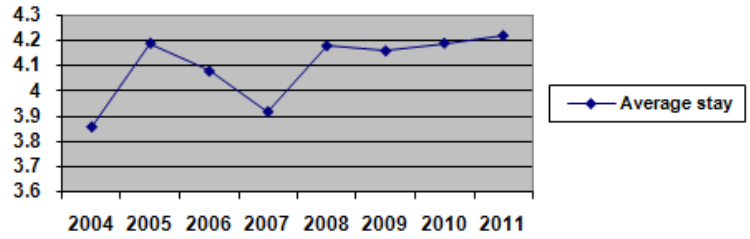

Figure 6. Average stay in Dâmboviţa county forecast for 2004-2011

3.2. Proposals to Exploit Tourism Potential

When it wants to develop tourism in an area ,that must be done carefully so as not to damage the natural environment. This should consider the promotion of architecture in harmony with the natural environment, preserving wildlife and natural features, minimizing energy consumption and waste, promote

environmental activities, knowledge development and environmental education, promoting services and products that reflect the local culture .

As a general action to promote Dâmboviţa county, in the development program can enroll the following:

1. framing touristic objectives in the general management plan of the settlements, in compliance with existing environmental regulations;
2. promoting business tourism in the city of Târgovişte;
3. creation and promotion of tourism programs on "Folklore Dâmboviţa" to capitalize on traditions, sites history, customs of the areas by organizing seminars, fairs and exhibitions, performances;
4. leasing of land for tourist destinations to build new hotels or motels, treatment centers, this being favorable in the area Moroeni and Pucioasa;
5. accessing internal and external funds for the rehabilitation of historical monuments and architectural ensembles in the county;
6. development of tour packages : ecotourism , rural tourism , mountain sports, increased weekend tourism practice, and religious tourism;
7. development and improvement of transport infrastructure to facilitate access to the area; of this problem is taking care Dâmboviţa County Council by accessing grants;
8. expanding and improving tourist information network to meet the needs of tourists by setting up several tourist information points- in this respect there is one in the resort of Pucioasa-and also digital info-kiosks in tourist-oriented places;
9. attracting tourism operators from Dâmboviţa County at the national and international fairs to inform potential tourists about the beauty of the area;
10. greater involvement of local administrations and councils in promoting tourism activities;
11. broadening the entertainment bases, respectively the diversification of leisure;
12. development of the equine industry by building a racecourse for the organization of international and national competitions, setting up a riding school;
13. planning a golf course to attract certain categories of social classes, such as business people, foreign tourists, politicians;
14. the opening of restaurants with different specific (fishing, hunting, diet, lacto-vegetarian, Chinese);
15. building a modern go-karts tracks and one for motocross where you can organize international competitions, this would be possible in near Moreni;
16. improve existing services by upgrading their hotels and lifting some of the class units;

17. to exploit the potential of the county particularly hunting and fishing, will be used hunting lodges, places of observation and special places for fishermen along the river.

Of all these targets, are priority improving and developing primary access routes to and from the county, which would facilitate the movement and also increase the number of visitors. To achieve most of the promotional targets, it should be a close liaison between those in charge of promotion and the public institutions, the latter supporting the former both financially and by consulting.

Analysis of occupancy of different accommodation capacity of Dâmboviţa county, is shown in the following graphs:

Table 7. Accommodation capacity in the Dâmboviţa County in number of housing units, 2004-2008

Tourist accomodation strucures -total	**2004**	**2005**	**2006**	**2007**	**2008**	$\bar{y}$	$\overline{\Delta}$	$\bar{I}$	$\bar{R}$
Hotels	10	10	9	9	10	9.60	-	100	-
Hostels	1	1	1	1	1	1.00	-	100	-
Motels	3	3	3	3	3	3.00	-	100	-
Villas	1	1	1	1	1	1.00	-	100	-
Cottages	4	4	3	3	4	3.60	-	100	-
Camps for schoolchildren and preschoolers	4	4	4	4	4	4.00	-	100	-
Urban tourist boarding	3	4	3	8	9	6.40	1.50	132	32
Rural guesthouses	7	14	8	9	11	9.80	1.00	112	12
TOTAL	33	41	37	38	43	38.40	2.50	107	7

Source: Statistical Yearbook of Dâmboviţa county, 2010

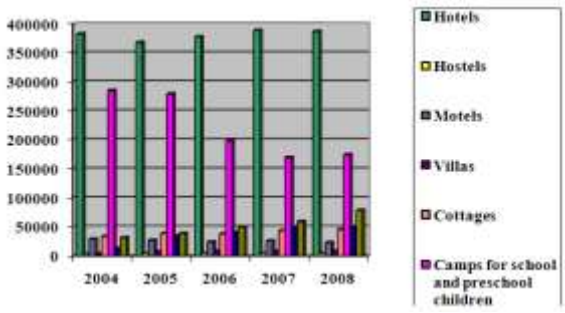

Figure 7. Evolution of tourist accommodation capacity in Dâmboviţa County, 2004-2008

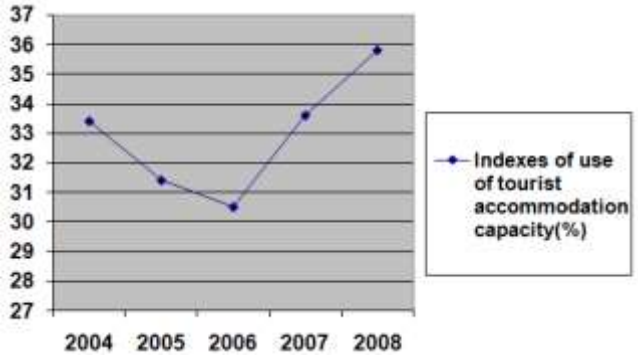

Figure 8. Evolution of the use of accommodation capacity in operation between 2004-2008

The result is a significant reserve of unused accommodation, and therefore, promoting tourism in the area should focus on qualitative aspects rather than quantitative ones such as extending the existing accommodation capacity.

For a program to promote tourism in an area to be effective, it is necessary to do this promotion unit for each region that has tourism potential.

This calls up the establishment of an association in Dâmboviţa county, which aims right that promotion. Association members may be: travel agencies, travel agency owners or managers of different types of accommodation units and other entities interested in promoting tourism. The program for promoting the area should contain the following:

1. achievement of promotional materials for the media (articles, broadcasts), web pages, various brochures, guides, catalogs, posters and distributing them ;
2. organising a tourism fair that takes place presenting the most important areas of the county;
3. involvment of faculties students in promoting activities through the specialty practice;
4. achieving an advertisement on the legends and myths specific to Dâmboviţa County;
5. production of billboards and locating them near tourist attractions;
6. making tours and organizing camps for students to see the beauty of the area at preferential prices;
7. when setting up a promoting association, their representatives should contact the private companies and could offer a package like “A weekend of for the month employee and his family” or for more employees, depending on the resources of the firm;
8. the development of tourist products to promote religious tourism.

We proposed a tourist circuit in Dâmboviţa county, which will last four days and will be called "Discovering Dâmboviţa ." Tourist route involves the displacement of a number of 25 persons and is designed for people fond of art and Romanian tradition, persons over 35 years which have an average level of income.

Day 1:

Departure from Bucharest North at 9:00 and will travel the following route Bucharest-Târgovişte-Pucioasa-Pietroşiţa-Moroieni. Moroieni.

We will arrive at 11:00 in the city of Târgovişte, hotel accommodation will be at ***"Dâmboviţa", located downtown. Lunch will be taken at the restaurant and then at 15:00 the major sights will be explored.

Group of tourists will travel to visit the at the Royal Court the Chindia Tower, this being built by Vlad Tepeş, then goes to Metropolitan Complex and the Dealu monastery. Next we will visit the Museum of Târgovişteni Writers, Museum of Printing and Old Romanian Books and Gheorghe Petraşcu Workshop House.

The program of the day will end by watching an interesting theater performance at theater Tony Bulandra".

Day 2:

We will have breakfast at 8:30 at the hotel restaurant after which we will head by bus to the resort Pucioasa, a small resort, but stylish and inviting that draws you in its beauty and good taste. We will visit the exhibition of the Ethnographic and Folk Art from the early nineteenth century. Since this time there will be "Folk Craftsmen Fair", where artisans from all over the country come to display their skills, we make them a visit where we will be able to purchase various souvenirs.

Then you will go to the restaurant " Licurici" ,a rustic restaurant, after that we continue to move towards Pietroşiţa and we will accommodate at the guesthouse "Alecsander".

Day 3:

Breakfast at 8:30 at the guesthouse "Alecsander". It follows the visit at Pietroşiţa Museum, which by the objects and documents exposed reveals the history of places and then the Memorial House" Ion Heliade Rădulescu".

Tourists will travel by coach to Moroieni a fairly attractive area and will go to the Ialomita cave, Bears Gorge, Great Zănoagei Gorge. In the evening we will head to the Bolboci cottage located 25 km from Moroeni, where accommodation will be made.

Day 4:

Breakfast will be taken at 8:30, after which there will be a hike through the surrounding area. We go to Lake Bolboci, although is an artificial lake, is framed in a wonderful setting. It will be also a two-three hours trip to Tătarului Gorges, Orzea Gorges, Horoabelor Canyon.

We will have lunch and then we will return to Bucharest.

4. Conclusions

Following the study, we found that tourism in this area is an emerging economic sector and has significant growth potential in the coming years if there will be a significant promotion. They were relaunched some tourist centers and there have been started programs for sustainable development of the area.

This area has an impressive number of tourism resources, natural and human resources, which are not valued at their fair value. In recent years, the county authorities began to implement tourism projects that have sought extension of mountain tourism, cultural tourism, rural tourism, leading to increasing tourist flow in this region.

It appears that the tourist traffic in Dâmbovița County has continuously increased in recent years, which led to the development of tourism and of the economic zone by default. We believe that the practice of rural tourism is mainly the reason in increasing of the tourist arrivals.

In our view in order to develop this area and to attract a larger number of tourists, the environment is an issue to be considered. Without a clean natural environment, tourism can not be developed as a qualitative activity ,and for this purpose the promotion of environmental actions should be included among priorities.

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Economic History

Aspects of Romania's Economic Effort in the Second World War

Ștefan Gheorghe[1]

Abstract: Romania's participation in the Second World War was caused by loss of an area of approximately 1/3 of the national territory and has 6 million inhabitants, for the three neighbors of the Romanian state, that the Soviet Union, Hungary and Bulgaria will be the reason fundamental of Romania's participation in military operations on both fronts, east and west of the Second World War. Although Romania's war economic effort, amounted to the enormous amount of 1,200,000,000 dollars in 1938 currency, a situation an honorable fourth place in the hierarchy of the United Nations that led the fight against Germany, co-belligerent status, the country justly deserved our will be refused for political reasons known only to the Great Powers. Of all the states, are in a situation somewhat similar to that of Romania, no one made an effort not so much military or economic in defeating Germany.

Keywords: war damages; economic and financial war effort; human and material losses

JEL Classification: N0; O10

Romanian historiography, or prior to 1989, on military-political situation of Romania in the Second World War and immediate postwar years, it boasts a large number of studies and papers able to elucidate some of the most controversial debates, material and human damage that quantifying the Romanian economy in the second world war. Compared with the existing situation in the communist period when the particulars of the highest censure intentions researcher to a research the topics and express their opinions publicly, today we are faced with an avalanche of studies, articles and information capable to talk about numbers, data, official statistics or not, able to highlight the disparate aspects of the same problems.

The difficulty of such analysis on Romanian economic performance in the second world war is so obvious and our intention is to contribute to a lesser extent to the overall effort to identify the economic losses suffered by the Romanian state during the conflict and that no to consider territorial Rapture

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in summer 1940 that decisively undermined Romania's economic and military capacity. Of course, during the communist regime will be subject, as far as possible avoided, mentioned in extremis and without being given due weight, is in complete disagreement with the touch of brotherly camaraderie and friendship that had presented repeatedly and ostensibly the official organs of the party . Bringing the discussion of these issues would have been liable to interfere with relations between the two communist countries, such that the subject will be "forgotten" the Romanian historiography, which will resume only in moments of tension external relations, thus demonstrating ambitions of independence of the Romanian communist leaders in Bucharest to their masters in the Kremlin.

Romania's participation in the Second World War was driven by political considerations and strategic needs generated by international political developments of the mid twentieth century. Loss of an area of approximately 1/3 of the national territory and has 6 million inhabitants, for the three neighbors of the Romanian state, that the Soviet Union, Hungary and Bulgaria will be the central one of Romania's participation in military operations on both fronts, the east and west of the Second World War. Study of the Romanian-Soviet relations, starting with the end of the second world war, confirms that assigns the role of barometer of these relationships in terms of the amount taken from the Soviet economic obligations into account both economic provisions of the armistice of September 12, 1944 and those made after signing the peace treaty in Paris in 1947 between Romania and the United Nations.

Evidence in this case, the importance of Romania held economics obligations towards the Soviet Union and other allies, the general relations taken by the Romanian authorities with the Soviet Union, are of particular importance for any action made in order to capture and understand the correct nature too Romanian-Soviet interference frequent throughout the last half century.

Another aspect of the lack of popularity of the matter, among many topics discussed by Romanian researchers during the communist regime will be, undoubtedly, the permanent concern of the Romanian authorities before 1989 to not tackle the issue of economic contribution and Romania's military to shorten the second world war, that in itself represents a proof of friendship to the "great friend of the east" whose economic and military effort had not questioned any way. Territorial losses in the summer of 1940

seriously affected the Romanian state's defense, resulting in the reduction Built resources (due to decrease by about 1/3 of number people), for which, in early 1941, "military service was contained 1.57% of the population, number of active Army being only 211,768 people (16,389 officers, 29,299 NCOs, 166,000 band). "Thanks to measures taken by the Romanian authorities, to June 22 of the Romanian Army combat forces are will improve considerably when Romania entered the war of the total amounted to about 628,168 troops, of which 432,624 troops will be operating. In the losses suffered by the Romanian army in the battle for Bessarabia and Bukovina statistics speak on average about 24 396 soldiers, including a large number made up of the dead.

Restoring border east and north-east of Greater Romania, represented one of the stated objectives of the Romanian authorities, but the release of two Romanian provinces would not mean-as hoped and an important part of the heads of political parties-end military operations of the army Romanian in the second world war. Amid talks with the German and analyzing the strategic and military respectively Bucharest will shortly submit to the German command had decided to continue the war and across the river, while the Romanian economy was not fully prepared for such an offensive the enormous costs involved in military logistics, military equipment, and human resources related course. Moreover, to compensate for shortages of labor, the production will be militarized effort is focused on meeting the needs of front or German side, respectively.

Despite all the shortcomings of the military campaign against the Soviet Union, between June 22, 1941 and August 23, 1944, the Romanian army had an important contribution in support of war on the southern flank of the German-Soviet front, Romania being on second place after Germany in terms of scale military and economic war effort. The entire duration of military operations against the Soviet army, some data centralized by the General Staff, the Romanian army lost military campaign in the East 624 740 71 585 soldiers of the dead, 243,622 wounded and 309,333 missing. These significant losses of military personnel plus numerous material losses recorded by the Romanian army, throughout DURING Soviet war, but especially during the broad military offensive on the Soviet front in Moldova.

On August 23, 1944 Romanian military campaign ends in anti-Soviet war, not without heavy losses in the number of missing in battle, not to mention

the material losses suffered in the bombing, occupation of territory or military equipment. Romania was Germany's most important ally on the Eastern front, possessing in 1942 a number of 26 Romanian divisions, compared to only eight Italian, 12 Hungarian and a fluctuating number of Finnish military units. Following these rather impressive military forces from the 46 allied military units held by the Germans on the Eastern Front, more than half were made up by the Romanian, is a natural consequence and suffered considerable number of human losses, proportional to the number of sent to the front.

A memo Statistical Service of the Romanian Army in October 1945, on the situation of human losses during the campaign in East evaluate Disappeared number about 309,533 troops, noting that this figure had fallen included both prisoners and the dead battlefield M.St.M. Romanian, having a clear situation of the deceased and Romanian prisoners, separated by category. No less important will be wearing the economic costs of war with Germany, August 23, 1944 when he found the Romanian economy controlled by German capital, German claims due to the Romanian state is calculated to be worth about 1.5 billion DM. Mobilization of a large military contingent will weaken the capacity of Romanian industrial production, had to maintain the same levels of production effort. Moreover, the transition economy on a war footing and it will channel financial resources and economic importance, normally were for other purposes, and maintenance costs requiring special Romanian troops on the front. Allied bombing, carried out primarily on the economic centers of primary importance, and they will cause considerable loss of the Romanian economy, particularly the oil industry is concerned, while registering a large number of casualties.

The deficits caused indirect Romanian economy will mention, in particular, non-equivalent exchange of currencies of two countries, artificially increasing the German mark compared with the Romanian leu, causing an undue increase in the price of products imported from Germany in comparison with the Romanian goods exported, and an increased purchasing power of German soldiers who "emptied" the Romanian market of certain products, by artificially increase the price. German Troops of the Romanian territory, system of payments and deductions resulting from transport and communications activities will be other "hot spots" in collaboration with the Third Reich anti-Soviet war. While military units and German import-export companies are supplying the minimum prices of essentials products, imported from Germany were absolutely representative

for Romanian market needs, is delivered at prices far "swollen". Romania's complex situation internationally makes it extremely vulnerable to such claims of German ally, who was aware of the basic lack of any side effects such economic cooperation of the Romanian side. All these considerations, the shadow Romanian-German cooperation, resulted from the fact that, once accepted participation in the military campaign in the east, escaped from the Romanian authorities to the "small details of collaboration", although the legal situation of the Romanian state was like an independent and sovereign to fight against a common enemy. Comradeship in arms of two armed soldiers thus apparent from the terms of a military or political alliance treaty with Romania participating in the war on its own initiative, to free Bessarabia and Bukovina.

The events of August 23 will radically change Romania's international political conditions, which will be urged to fight for the same reasons, along with former enemies and former allies against. This turning Romania into the war progress, to cause considerable benefit to the United Nations, will be enormous cost, the Romanian authorities and military units "found only one time before two enemies", which cost her a large number of Romanian soldiers taken prisoner by Soviet troops. With all the losses of men and material of war, Romania will be able to align on 23 August, thanks to a cautious policy pursued by M.St.M. Romanian, five operational divisions, fully war, plus 29 other divisions, consisting largely of recruits and other regular, stationed troops in the sedentary services on the battlefield. Romanian military units in the front, were mostly disorganized and destroyed by the Soviet offensive, the military campaign against Nazi Germany will be made with these divisions of recruits in the country maintained constant by M.St.M. care.

The signing of the Armistice Convention between Romania and the United Nations September 12, 1944 will constitute the overall framework that will run Romania's military campaign against Germany and its satellites. Implement its terms be the responsibility of the Allied Commission (Soviet) control, as agreed Romania Big Three will throw into the arms of the Soviet Union. Brutal interference of representatives of the Audit will decisively affect the internal political events, while disturbing the state budget through massive withdrawals of goods seized in the Armistice Agreement. Although the document as "null and void" in Vienna dictate decision August 30, 1940, Article two of the Convention stipulate that Romania has to pay war damages worth 300 million dollars USSR and then other allies taking into

account parity of U.S. $ 35 ounce of gold (according to reference year 1938 and not 1945 when the devaluation of the dollar was about six times the level of reference!). Romanian side expressed objections Ion Christu in talks with the Soviet showed that Romania could not support such an amount without being seriously impair the economic losses already given due participation in war and any costs incurred by Romania until the end of war.

In determining the amount of the Soviet assume that Romania has an income of about $ 2 billion annually while taking into account the Romanian figure of 600 million dollars. The argument is based on the fact that:

a. Romania held a war that has caused serious damage and human;

b. Romania continued to participate in war with the Allies and it will still cost enough;

c. Data used by the Soviet no longer valid because they were referring to Romania Mare and that when there are no discussions.

In order to apply the provisions of this Convention the two sides will conclude in Moscow in January 16, 1945 a new Convention way of payment of damages established by the Soviet Union as war: $ 150 million oil, $ 54 million timber, cattle and grain, 96 million U.S. dollar sea and river vessels, mechanical and railway material, and these prices are fixed in the year 1938 with an increase of 15% for mechanical material, rail and ship and 10% for other products. In May 1945 signed between the two governments, a new Romanian and Soviet economic cooperation agreement which established the Soviet-Romanian joint ventures (Sovrom) which will increase Romania's economic outbuilding to the USSR Improve as quickly decided to Romanian-Soviet relations and to obtain the liberation of Transylvania, the Romanian authorities will send to the front a larger military units than the 12 divisions provided the text of the armistice, passing widespread economic tasks of the Convention. As the number of Romanian troops engaged in military operations against German troops, it amounted to about 538,536 troops, a total of 1,100,000 assigned to the United Nations mobilized. Romanian armies have crossed between August 23, 1944 and May 12, 1945 1,700 km, in an average of 6 miles a day, have forced 12 streams, 20 mountains, taking the 3831 localities of which 53 major cities. All these feats were made with the sacrifice of 169,822 soldiers killed, wounded and missing. Romania's contribution to the cause of the United Nations will be significant, resulting in shortening the war by about 200

days and giving them an advantage strategic, significant human and material. Although Romania's war economic effort, amounted to the enormous amount of 1,200,000,000 dollars in 1938 currency, a situation an honorable fourth place in the hierarchy of the United Nations that led the fight against Germany, co-belligerent status, the country justly deserved our will be refused for political reasons known only to the Great Powers. Of all the states are in a situation somewhat similar to that of Romania, no one made an effort not so much military or economic in defeating the Nazi war machine.

Although fluctuating, because the Romanian-Soviet military protocol signed on 26 October, the Romanian military manpower employed theater will be permanently located above the minimums required by the Convention of Armistice. Moreover, Romania's contribution was all the authorities and people endeavoring to support significant military campaign of the Romanian troops. any military organizations, bands or any other association or military units have continued fighting the United Nations after the return of weapons against Germany on 23 August. For example, Italy has contributed with 100,000 supporters to the cause of the United Nations, while the five divisions of infantry and two squadrons of aircraft will continue fighting in Northern Italy from Germany. If Hungary is the number of 10 divisions, Bulgaria - a division of pro-fascist, Yugoslavia - 3 divisions, nine brigades plus a division and a cavalry guard. In France the number of those who continued fighting the Allies will rise to that of a fast and divisions in Poland, about 20 to 25,000 troops. Memorandum submitted by Romania at the Paris Peace Conference, recalled, in addition to military and economic war effort made by our country directly, the amount of obligations met by July 1, 1945, on behalf of the Convention and Article 3 in the amount 77 billion, currency in 1938.

The Romanian advance payment reduce damage to the United Nations subjects in Romania from 25% to 80%, limiting damages to August 23, removal of exemption for United Nations countries, recognition right to receive compensation from Germany and Hungary, and recognition of claims against Germany DM 1.056 million but they were not considered. Treaty in its final form will contain many provisions unfavorable Romanian side, some as unduly:

a. Failing a co-belligerent status in Romania despite the economic and military effort or a ranked fourth in the world after the USA Soviet Union and the United Kingdom.

b. Obligation to pay damages to the United Nations from subjects with September 1, 1939 despite the fact that Romania entered the war on June 22, 1944

c. Payment of damages nationals after August 23, 1944 even if they were made by German and Hungarian armies

d. Requirement giving up claims against Germany even though not each order

According to the Romanian side, the effort to implement the Armistice Agreement of 12 September 1944 and until February 12, 1947, the date of adoption of the Paris Peace Treaty Romania was to allocate significant financial resources as follows: $ 75 million military maintenance Soviet war damages (spread over 8 years) $ 300 million, return on assets of $ 320 million, 200 milion irregular levies $ 150 million U.S. dollars reintegration rights of nationals of the United Nations and those, 50 million other tasks.

The defeat of Nazi Germany, much desired and welcomed by most people in Eastern and Southeastern Europe, not be cause for maximum enjoyment, whereas alternative communist system imposed a brutal Soviet model, will be repudiated in most of Eastern societies, disturbed by the war and "liberating Red Army". Hundreds of thousands of people would feel the full "benefit issuance Soviet" and political consequences of the transformation systems of their countries' regimes popular "Soviet-inspired, constituting a real and significant economic loss, and the policy issued by the Red Army all states!

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