ROMANIAN ECONOMIC AND BUSINESS REVIEW

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CONTENTS

THE RENT SEEKER

Walter Block[*]

Abstract

"Rent seeking" is perhaps the biggest and most harmful misnomer in all of political economy. This critique of the linguistics involved is not a mere verbal dispute. Rather, it has important implications for this field of study. Why is this important? It is because communication itself is important, and cannot be properly conducted with inaccurate language.

Key words: Rent; economic rent; rent seeking; real estate leasing

JEL classification: A 13

It is of course something of an exaggeration to say that communication is the most important thing for the survival of the human race. Other things take precedence, such as (clean) air, water, food, medical care. And, yet, the best way to obtain these other necessities is through cooperation. If we were each required to provide all of these things for ourselves, virtually all of us would soon perish. Specialization and the division of labor are prerequisites to economic cooperation. But, communication is a precondition for us working together. If we cannot communicate, we are as if trapped by the challenge of Babel: if we each speak a different language, communication is all but impossible; we cannot cooperate with one another under such conditions. And what, in turn, leads to good communication? It cannot be denied that accuracy in language is all-important. If you mean by "elephant" an animal with black and white stripes, and I use this word to convey the idea of something that we

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put on our feet, then, even though we speak the same English language,[1] communication is all but non-existent. The present paper is devoted to cleaning up a small, but important part of not only the English language, but all languages in which economics is spoken, since this is s mis-used by virtually all economists.

There are three very different concepts of "rent" often used by economists. One of them is very well known to the general public, the other two not at all. According to the first concept, to rent something is to purchase the use of it for a fixed time period stipulated by the terms of the lease. For example, one may rent a car for a day, a year, five years. Or one may lease a residential apartment or commercial or industrial space for a day (hotel or motel), for an hour (a different kind of hotel or motel) for a few months or several years. Other objects that commonly enter the rental market are fences (used during the construction of a building), sailboats, ships, folding chairs, silverware and plates (for weddings and parties), bicycles for a spin in the park, rowboats canoes and kayaks (for use on lakes and rivers). These are only the goods that are commonly rented or leased. But practically anything can be the subject of these types of commercial arrangements, even clothing (tuxedos) and television sets (in the case of some hospitals). Land, too, can be rented, although it is usually for longer durations of time than any of these other economic goods, sometimes, even, for as long as a century.

The second concept is called "economic rent." This is defined as an amount of money not needed to entice someone to do something, or, alternatively, as an amount of wealth which, if taken away from the person, will not change his behavior. For example, let us suppose that Arnold earns $10 million per year as an actor and that his next best alternative job is as a model, where he could garner only $1 million annually (assume his psychic income derived from both is equal). Then, we would say that of his present salary $9 million is economic rent while only the remainder is actual wages. This is because if we arbitrarily stole $4 million per year from him (or taxed these funds away from him which amounts to just about the same thing) reducing his take home pay to $6 million, he would still remain as an actor.

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[1] Well, we are both using words in this language, are we not?

Contrast that with the following case. This time, Arnold still earns $10 million, but none of it is economic rent. That means his opportunity cost, his next best option, is that salary minus, say, a single $1, or $999,999. Now, if we reduce his wage by as little, as, say, $2, again under the same assumptions about non-monetary benefits, and also assuming away all transactions costs, he will leave his present occupation and take up the other.[2] Nor is economic rent limited to the realm of labor economics. Land, machines, animals, capital, can also earn economic rent for their owners, as long as they will not be deflected from their present use by the loss of funds.

These two concepts of rent are hoary with tradition. People have been leasing objects from each other from time immemorial. And, economic rent has been with us for as long as there has been commercial interaction. Not so for the third concept, "rent seeking." This is of much more recent provenance (Krueger, 1974; Tullock, 1967).[3]

What, then, is rent seeking? Perhaps it would be the seeking of more remunerative leases on the part of landlords? Or, searching for jobs or employment of capital with large economic rent? If this was all there were to the concept, the present essay would not have been written. For rent seeking in either of those two senses would be entirely justified under the libertarian code. Given that economic rent and renting apartments are both legitimate, it would be strange if seeking out these things would be at all problematic. But this is not at all what is meant by "rent seeking." Rather, it is something rather more nefarious.[4]

What, then, is rent seeking? It is an attempt to gain unfair advantage against innocent parties: competitors, taxpayers, customers, suppliers. It does not constitute outright explicit theft, but it is close enough such that the difference between the two makes no never mind. For example, when domestic steel producers lobby for, bribe, blackmail, extort, legislators to initiate or raise a tariff against the importation of substitutes from abroad, that is rent seeking. Or when Wall Street banks orchestrate a bailout, that constitutes rent seeking.

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[2] A favored scheme of anti-liberty economists is to tax away people's economic rent on the ground that that it will not affect their behavior. These are "unearned profits" in the eyes of such scholars.

[3] See also Tullock 1980A, 1980B

[4] One purpose of writing the present essay is to defend "rent seeking" in either of the first two senses of such a phrase, vis a vis the one now to be introduced.

Or when auto makers in Detroit arrange for a subsidy with the power brokers in Washington D.C., that again is an example of this phenomenon. Or when farmers are paid by government to not grow crops, or when big pharma uses the Food and Drug Administration to exclude competition. This is all pretty despicable activity.[5]

Who are the scholars who have foisted "rent seeking" upon a morally inept economics profession? The economists responsible for this ethical outrage are the members of the Public Choice school of thought. They do not have a libertarian bone in their bodies. They cannot make the most basic distinction in all of political economy: that between coercive acts, such as their "rent seeking" and the seeking after rents in the first two senses of this work discussed supra.

If they were capable of making such an elementary distinction, they would have called this behavior they were describing something very different. For example, booty seeking, or theft seeking of political favoritism seeking or unfair privilege seeking or seeking illicit advantage.

In the view of Henderson (2008) "Rent seeking" is one of the most important insights in the last fifty years of economics and, unfortunately, one of the most inappropriately labeled." No truer words were ever said on this topic.[6] Bhagwati (1982) calls these "Directly unproductive, profit-seeking (DUP) activities." Although a vast improvement over "rent seeking," this does not cut the mustard either. For example, Jones goes into an ill-conceived business, loses money hand over fist and is consigned to bankruptcy. Was this effort of his "unproductive?" It is hard to deny this. Was it "profit seeking?" Of course it was. It was only inept. Was it an attempt to steal other people's money, as the third definition of rent seeking would have it? Certainly not. DUP, then, is over-inclusive.

Consider another rather innocuous word, "table." Suppose we were looking around for a phrase other than "rape" to describe that heinous and despicable action.[7] And posit that we hit upon "table seeking," or "tabling" for this purpose. Would not eyebrows be raised askance? Why oh why have we decided to mistreat a perfectly innocent word which now depicts what we mean by

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[5] Pasour (1986) defines this term as "…resource-wasting activities of individuals and groups seeking wealth transfers."

[6] For other critiques of this nomenclature on similar grounds, see Block 2000, 2002

[7] We need all the synonyms we can get in order to make writing more interesting.

"table?" This type of furniture is something which enables us to dine comfortably. Tabling also has a perfectly innocuous meaning: postponing a motion, according to Robert's Rules of Order. How would we characterize such people who launched this verbal innovation, and insisted upon using it despite numerous criticisms launched against it? One possibility is that they were deprecating the seriousness, the viciousness, of rape. Another is that they lack some sort of mental faculty. We would surely opine that folk of that sort are incapable of making a distinction between a depraved an immoral act such as rape on the one hand, and a piece of furniture of a meeting ploy on the other.

It is important that "rent seeking" a la Public Choice came far later in time than rent in either of these other two senses. For, as Humpty Dumpty said, words can mean anything we want them to be.[8] "Mustard," "elephant" and "happiness" can all be interchanged, if we wish hard enough upon a star. If rent seeking had come first, we would never have characterized the other wto concepts of rent with that now evil "rent." We would have steered as far away from that usage as the territory laid out by "rape" and "table" are at present different from one another.

Why is it important to linguistically distinguish between objectionable acts where violence is used against innocent people from those where it is not?[9] This is because it is imperative to promote the latter and reduce the incidence of the former. But actions follow thoughts, and thoughts follow language. If the distinction between the two becomes blurred, if there is no distinction that can be made between the two very different concepts, then our actions will not be biased in favor of the good and against evil.

What is to be done to rectify matters? First of all, we must lay blame where it belongs: squarely with the public choice movement. This language usage has spread like a virus into the entire economics profession[10] and from there to the general populace (Marotta, 2013). Unless and until it becomes clear as to who is responsible for this pox in the first place, it will prove even the more difficult to combat it. Second, a few, more than a few, mea culpas from those responsible not only for initiating this perversion of language but for allowing it to pass

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[8] http://en.wikipedia.org/wiki/Humpty_Dumpty
[9] Are you listening, Public Choicers?
[10] There is no need whatsoever to document this claim.

unscathed through their lips and word processors would be in order. If a few brave advocates of the Public Choice school were to speak out on this, admit guilt, and use other wordage to describe "rent seeking" that would be very helpful. Then and only then would our profession be on the long road ahead back to making these vital distinctions in political economy, and thus contribute to clarity instead of obfuscation.

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THE ACCOUNTING OF BONUS POINTS ACCORDING TO THE NEW LEGISLATIVE NORMS

Lucian C-tin Gabriel Budacia[*]

Abstract

Bonus points can be used in order to buy goods, free or low priced services, as part of a transaction of selling goods or services, under the condition of accomplishing certain additional aspects. Trying to make the clients loyal is a key aspect which should be integrated in the marketing strategies of enterprises in order to ensure a certain profitability and also the survival on the market. The advantages of making the clients loyal are numerous. Besides a constant sales volume, loyal customers have a higher buying rate and a certain predisposition to accept price changes more easily than the other clients. The condition for the recording as deferred income of bonus points is that the loyalty programme implemented by the entity allows at any moment the following information to be known: the value of the given bonus points; the expiring date of the bonus points; the value of the delivered bonus points; the value of the existing bonus points, which are to be delivered in the next period of time.

Key words: bonus points, accounting monography, OMFP 1802/2014

JEL Classification: M41

1. Introduction

Trying to make the clients loyal is a key aspect which should be integrated in the marketing strategies of enterprises in order to ensure a certain profitability and also the survival on the market. The reason why the enterprises should use time and money in order to make the clients loyal is extremely simple: gaining a new customer costs a lot more than keeping an old

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customer. Loyalty implies a marketing strategy with a view to building a long-lasting relationship with customers, from which each party has something to win. Therefore, this should be a win/win relationship in order for the customers to remain loyal.

The loyalty strategy can have different objectives, depending on the type of activity that the company develops. Depending on the targeted client type, loyalty can be oriented towards:

  a) Strategic clients – those clients that represent the main percentage of the turnover;
  b) Distributors – the goal is to reduce the risk of distributors changing their supplier;
  c) Risk clients – who could be tempted by the competition's offer.

Most of the times, this last category of risk clients represents all the clients. Thus, if the enterprise is active on a market where the competition is high and the competition offers similar products and services, the loyalty strategy should be oriented towards all the company's customers.

The methods used to make the clients loyal are varied and depend on the type of activity developed by the company. The communication with the client and the manner in which he or she is treated, is essential. These aspects are not necessarily part of a loyalty campaign, but they should be implemented on a daily basis. Among the most well known methods of making the clients loyal are: bonuses, sales, fidelity cards and other types of bonuses. However, innovation plays an important role in the loyalty strategy and the entrepreneur should constantly come up with new ideas which should differentiate him or her from the competition, in order to keep his present customers, but also to bring new clients.

The advantages of making the clients loyal are numerous. Besides a constant sales volume, loyal customers have a higher buying rate and a certain predisposition to accept price changes more easily than the other clients.

Moreover, loyal clients are the best ambassadors. They can recommend the company to others and their power of persuasion is greater than the one of a promotion campaign. All these advantages and effects lead to an increase of the turnover.

2. Clarifications brought by the Order of the Minister of Public Finances no. 1802/2014 regarding bonus points

Bonus points can be used in order to buy goods, free or low priced services, as part of a transaction of selling goods or services, under the condition of accomplishing certain additional aspects.

Bonus points should be registered as an identifiable component of the transaction in which they are granted in the account 472 "Deferred income"/ analytically distinct.

The sum which corresponds to the bonus points is recognized as income when the entity respects its obligation of delivering the prizes or when the period during which the clients can use the bonus points expires.

If the level of expenses which are necessary to respect the obligation of delivering the prizes surpasses their received or soon to be received counter value, when the client claims them, for the respective difference, the entity registers in its accountancy a provision.

The condition for the recording as deferred income of bonus points is that the loyalty programme implemented by the entity allows at any moment the following information to be known:

- The value of the given bonus points;
- The expiring date of the bonus points;
- The value of the delivered bonus points;
- The value of the existing bonus points, which are to be delivered in the next period of time.

If the entity does not have a recording system of bonus points which allows the above mentioned information to be known or if the entity uses other client loyalty systems, such as coupons, tickets, the recording will be:

- Current income registered in class 7 "Revenue accounts" for the sum total and
- Establishing a commission for the costs which are thought to be charged for delivering the obligations.

3. Accounting monography with examples regarding the recording of bonus points

The LuCo society gives its clients bonus points for each purchase. These points can be used for the purchase of some products or for the payment of future purchases. Bonus points are given in accordance with the value of the

acquisitions; therefore, for 10 lei spent, one bonus point is given. A bonus point is worth 0,2 lei.

Moreover, for some products which are part of an advertising campaign, value tickets are given and they can be used afterwards in a specific time frame for the reduction of the payment on another purchase.

In July 2015, sales are registered with a value of 200.000 lei. For the purchases which were made, 20.000 bonus points are given, with a value of 4.000 lei (20.000 bonus points x 0,2 lei/point = 4.000 lei). Products which are on sale are sold with a value of 25.000 lei, for which value tickets are given, with an amount of 1.000 lei. The VAT value is 24%.

1. The booking of purchases and given bonus points:

411 = "Customers"	%	200.000 lei
	707 "Sale of goods purchased for resale"	157.290 lei
	472 "Deferred income"	4.000 lei
	4427 "Output VAT"	38.710 lei

2. The payment:

5121 = "Cash at bank in lei"	411 "Customers"	200.000 lei

3. Inventory data regarding the sold products at an acquisition cost of 110.000 lei:

607 = "Goods for resale"	371 "Goods purchased for resale"	110.000 lei

4. Recording the sale of goods and of given value tickets:

411 = "Customers"	%	25.000 lei
	707 "Sale of goods purchased for resale"	20.161 lei
	4427 "Output VAT"	4.839 lei

5. Recording a provision which corresponds to the given value tickets:

6812 = "Provisions for risks and charges"	1518 "Other provisions for risks and charges"	1.000 lei

6. A customer accumulated 1.000 bonus points which he uses for the payment of some purchases with a value of 15.000 lei. The value of the bonus points is of 1.000 lei x 0,2 lei/point = 200 lei.

This sum is taken into account again in relation to the deferred income of the current period. The booking of the sales and of the current income: VAT for 15.000 lei / 1,24 x 24% = 2.903 lei.

The sum which will be cashed in along with the bonus points: 15.000 lei – 200 lei = 14.800 lei.

411 = "Customers"	%	14.800 lei
	707 "Sale of goods purchased for resale"	11.897 lei
	4427 "Output VAT"	2.903 lei

7. Establishing the deferred income from the use of bonus points:

472 = "Deferred income"	707 "Sale of goods purchased for resale"	200 lei

8. Cashing in the sum:

5121 = "Cash at bank in lei"	411 "Customers"	14.800 lei

9. Inventory data regarding the sold products at an acquisition cost of 7.000 lei:

607 = "Goods for resale"	371 "Goods purchased for resale"	7.000 lei

10. A customer purchases goods with a value of 10.000 lei and uses his tickets of 300 lei for the payment of the respective goods. For the discount of 300 lei, the value of the purchase is of 9.700 lei.

411 = "Customers"	%	9.700 lei
	707 "Sale of goods purchased for resale"	7.823 lei
	4427 "Output VAT"	1.877 lei

11. Taking up the provision which corresponds to the discount, with a value of 200 lei:

1518 = "Other provisions for risks and charges"	7812 "Write back of provisions for risks and charges"	300 lei

12. Cashing in the sum:

5121 = "Cash at bank in lei"	411 "Customers"	9.700 lei

13. Inventory data regarding the sold products at an acquisition cost of 4.500 lei:

607 = "Goods for resale"	371 "Goods purchased for resale"	4.500 lei

4. Conclusions

Differences between the new norm and the Order of the Minister of Public Finances no. 3.055/2009:

Order no. 3055/2009	Order of the Minister of Public Finances no. 1802/2014
Conditions regarding the recording of bonus points as deferred income: No specific conditions to accomplish.	*Conditions regarding the recording of bonus points as deferred income:* The following information should be known at any moment: • The value of the given bonus points; • The expiring date of the bonus points; • The value of the delivered bonus points; • The value of the existing bonus points, which are to be delivered in the next period of time. Different treatment: If the conditions are respected: - the respective sum is registered in account 472 "Deferred income" If the conditions are not respected or

	if other types of tickets, coupons, etc, are granted: - the current income is registered in the account of profit and loss and also a provision: 411 = 704/707/701 and 6812 = 1518

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*** Order of the Minister of Public Finances no. 3055/2009

SMART CITY, SMART ADMINISTRATION
AND SUSTAINIBLE DEVELOPMENT

Majlinda Keta[*]

Abstract

Good society should recognize the past to build the necessary policies for the present, in order to ensure continuity and sustainability of development. Smart city pointing efficiently all natural and human resources ensures an increase in individual and social life. Smart City requires: more citizens, more education, and more professionalism. Secondary data and qualitative method of data collection through semi-structured interviews of public administration representatives about sustainable development issues related with public administration. 14 interviews were developed with public administrative representatives. The results show that the public administration has the main responsibility in providing services to meet the needs of "smart citizen ". The smart administration deals with smart and "open" managers that with their professionalism and citizenship are able to use the most efficient instruments to carry out their mission. Albanian public administration was is far from the concept of an efficient administration. The legal framework that frames its activity during 25 years has undergone some significant changes, which substantially damaged its sustainable development. The philosophy of these changes is not based on organic need of development services to the people but in the political approach that facilitates the political parties to have under their control public administration. Instruments used to educate a free thought are a necessity for the Albanian society. Philosophical education has its primary role to educate and increase the values that transmits human capital.

Keywords: philosophical education, smart city, sustainable development, smart administration, citezens.

JEL Classification: Q01, R10.

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Introduction

Sustainable development has brought to the fore the functioning of the concept "smart city". But what does this intelligent city represent? Like any other concept "smart city" has evolved passing through very short periods of time. At the very beginning, related to the digital era "Smart City" was identified with "Digital City". Further on it was concluded that the digital city could not be referred to as being intelligent without its social organisation. Today it has included even the necessity of the society to live better and with quality. Hence, a natural, political, social and educational environment is requested to facilitate and satisfy the expectancy of the postmodernist man. Although there is not any final definition for such an intelligent city, its content has been already determined.

Smart cities and philosophical education

The logic of a "smart city" is based on the need to live in an ideal city, when cities in themselves are being transformed in super cities. Firstly, the logic of a smart city is based on the concept of stability.

- Technology, projects and policies tend towards an idea: the future is guaranteed if it is strongly rooted in the present and past. This means that the society must know the past thoroughly (in general, aiming at recognising weaknesses, shortcomings and failures) in order to develop necessary policies for the present to provide the continuity and stability of development
- In an intelligent city minimal demands are asked to be minimized and there is the tendency to meet the maximal demands of the society.
- The intelligent city must be an urban model; having the ability to manage and guarantee an increasing quality of social and individual life, effectuating all natural and human resources.
- The intelligent city should respond to the rising needs of the society and its individuals. That is why intelligent governance is in need.

- The success of the intelligent city is closely linked with technology, environment and natural resources. The latter remain the essential object for the realisation of this smart city.

How has the concept on the intelligent city changed through years?

Year 2000	Mid 2000s	From 2010
"smart city" as a digital one	"smart city" as a social all-inclusive city	"smart city" as a quality of life
ICT (information, communication, technologies)	Human Capital, civil inclusion	Governing, environment, services to citizens, qualities of life

As it is noticed above, the evolution of the content of the concept "smart city" results as follows:
- a- We are living in times of gigantic changes, which are focusing more than ever on two elements: man and technology.
- b- All approaches undoubtedly are linked with the individual on whom all needs and qualities of life focus.
- c- A smart city cannot be realised without a smart governing, a smart public administration.
- d- There cannot be an intelligent city without an intelligent society because the latter will require more from the citizen; more civility, more education and professionalism.
- e- The most substantial element of the "smart city" is education.
- f- Under such circumstances philosophical education gets a new dimension: education with civility and the capability of thinking, judging and acting starting from their selves.

Methodology

Secondary data and qualitative method of data collection through semi-structured interviews of public administration representatives about sustainable development issues related with public administration. 14 interviews were

developed with public administrative representatives from different governmental institutions such as Ministry of Social Welfare and Youth, Ministry of Education and Ministry of Health. Intentional sampling was used in this study, which is based on attempts to select the beneficiaries who meet the investigation criteria which have an experience in public administration (Coyne, 1997, 623). The interviewing process was interrupted when the theoretic saturation was reached, so there was no need for the interviewing process to continue. Semi-structured interviews wereconducted to gather information on a series of issues. Patton (1990) suggests some ways of constructing questions that provide access to get information on people's experiences.

The questions of the research guide attempt to collect information on various dimensions. The guide incorporates several sections: (i) public administration and sustainable development; (ii) smart administration and smart city; (iii) public administration into intelligent administration. After each interview, all of the data recorded on audiotape were transcribed immediately in order to ensure that the information was consistent with the context within which the participants communicated it. Transcripts were read several times so that the researchers became familiar with and had a deeper understanding of the collected information. The transcripts were reviewed repeatedly, and prominent observations were organized into categories and coded. This process was an attempt to permit the text to suggest the coding and analysis topics, as well as to restrict the prejudgments of researcher when choosing the topics.

Results
Sustainable Development and Albania

During these 24 years, after the transformation of the system from communism to democracy, Albania, under popular perception, has traversed insecurely and unsteadily and this has been clearly distinguished. This instability could be seen to a greater extend in the constant reforms which have exchanged one another without analysing firstly the results brought about by the previous reforms. The state representatives and governing policies indicate that they are far from the perception and demands for a sustainable

development on a national scale. The major problems posed by the world for the creation of a smart public administration aiming at the creation of a smart sustainable model seem still too far from being outlined in the process of policy-making under Albanian conditions. An essential element in conceptualizing the idea of a "smart city" is being referred to as follows:

a. Public administration for a sustainable development

20 years ago it was believed that globalisation would bring the end of the city as a concept. At that time no one could think that the city would not see its end but on the contrary the city of the global epoch would obligatorily become intelligent. This meant that the city should have in its centre the individual with his/her freedoms, rights and duties. "Smart city" requires "smart people" and "smart people" require maximal services. Thus, "smart people" and "smart administration" make up the binomial trend of postmodernism. The cities of the future (within several decades 75% of the world population will live in cities), ask the intelligent individual to create an intelligent relationship with the society, nature and labour. So there are cities where the individual asks and tends towards services exploiting resources rationally; exploiting information effectively thus exercising his/her rights and meeting his/her needs.

The result of the study show that the concept 'service' is the core of the activities of the intelligent city. Individuals create hundreds of ties, networks and relations, having exchanges at their basis. The quality of such a service depends on two elements: needs and possibilities. Different individuals enjoy different needs and they orientate their exchange towards these needs. On the other hand there exists the possibility in the large market of exchanges to maximise the service for their needs.

When we speak of services it is impossible not to address the problem to the rapport between the citizen and administration. Public administration is what in a broader sense makes up a wide network of indispensable and inevitable services for the citizen. A smart rapport between them provides the possibility of the stability of development. The quality of the data transmitting infrastructure and their management influences the efficacy and efficiency of

offered services to the citizen more and more. Public administration assumes in this way not only a multiple role but also one of great importance in setting up and promoting the "smart city". Why does it happen like this? The answer is found in its role as a promoter of interventions and coordination of development. Public administration implements the integration of various initiatives: it provides qualitative and quantitative data and information: it is the main responsibility of offering services and meeting the needs of the "intelligent citizen": it is the financial subject for services and their support and surely it must be a partner of other subjects and operators. It is not a coincidence that public administration is considered as an important link to guarantee a sustainable development.

b.   The Concept of "Smart Administration" in the Context of "Smart City"

It is true that the concept of an intelligent administration coincides with the political and philosophical concept of "open governance".

Open governance in fact is the third phase of a new approach the government took over as a result of trying to adapt with new technology. One of the best connoisseurs of the society of communicative means Manuel Castells says that «Internet decides via communication in a public Agora by selecting people without any distinction to give voice to their worries and share their hopes. Controlling the masses through such a public Agora is perhaps the most important issue of the policy created by the development of the Net» (Castells, 2009, 178).

What did such a development of the technology of communication bring? Regarding the technology the results show that undoubtedly it brought the need of establishing of new rapports between the citizen and services offered. On the other hand, it brought the need to find and adapt the best forms of possibilities offered by technology to reach stability and development of the public administration itself. Internet networks have transformed their users not merely as consumers but as information producers. In fact through Internet the

real war for real Freedoms is waged. It looks like a grass-root movement. Social networks are the instruments, additionally they are the sites where communication from underneath is realised.

This radical transformation in civil communication brought in respectively the necessity that governance should use technology to improve governing. Hence a new approach was born known as E-governance.

The Content of the Concept E-governance

- Using informing and communicating
- Offering qualitative information and services by the institutions
- Raising the possibilities of the government to offer a better governing
- Facilitating services for citizens

The fast distribution of such a model has become the trend of Public Administration. A few years were just enough to see the results. E-governance was widely elaborated in the language of politics and practices during Clinton's governance but it did not strongly affect the qualitative fulfilment of the needs and services offered to people. The cause was simple. The same manner of vertical acting and communicating, which had ruled before, was moved to the Internet. So technology had changed but not the content of thought and action. Consequently it became impossible to realise that real communication with the citizen even though information was transmitted faster than before.

The society of the 21st century could not develop according to the model of the 20th century society. This was more than true for the public administration and institutions, too. The need for a Smart Administration would mean the necessity for 'a Different Administration'. What would change in the concept of a "smart administration"? The kernel of the concept as being at the service of the citizen demanded the reshaping of the form and content of this administration. That is why, Smart Administration means:

- Sustainable development of informative and serving activities towards the citizen

- Smart and 'open' administrators with their professionalism and civility are able to exploit instruments efficiently in order to carry out their mission

- Open data which provide for the reshaping of relations between citizens and governance

- In democracy responsibility is required and explanations ask for transparency. In the contemporary democracy Freedom of information which on its part encourages explanations via transparency, is the most important expression of a deep national commitment to ensure Open Governance. The heart of this commitment as put forward by Obama: "is the idea that responsibilities must belong to the administration as much as they do to the citizens."

Based in the analyse of the results it is clearly seen that the concept of collaborating freedom and democracy lies in the essence of public administration transformation into the port-modern model. In fact freedom as a model of thinking and acting is a real expression of a functional democracy. But viewed vertically this approach has to do with two pillars: on one hand a very skilful public administration, not simply professional but also well educated with a new way of thinking and acting on the basis of freedom, is demanded. On the other hand it demands educated citizens with freedom as a manner of thinking and acting. Both approaches consider Freedom as a responsibility. As a result the problem remains: all instruments which serve to educate a free way of thinking should be found. Certainly philosophical education has among all these integral instruments its primary role. The need of the society for this philosophical education is expressed by the strategy of philosophical education determined by UNESCO which is the need widely spread on a global scale.

c. Albanian Public Administration in need of being transformed into an intelligent administration

How are public administration and governance represented in the 21st century Albania? Based in the results of the interviews the public administration is in its content and to some extend in its form far from the concept of an efficient administration. The laws in force framing its activity for 25 years have experienced visible changes now and then, changes which have really damaged its sustainable development.

The Department of Public Administration (DAP) created by a decision of the Council of Ministers, Nr. 443, date 05.09.1994, as a unit within the structure of the Council of Ministers which in conformity with the programme of the government would implement studies, draft-laws and draft-bills. Two years later the Law on Civil Service, Nr. 8095, date, 21.03.1996 "For the civil service in the Republic of Albania" was endorsed. This law aimed at putting an end to the politicisation of administration, and building up a civil service based on merits. At the same time, a division between political and techno-professional functions on the basis of which it was thought that the system of career would work, was created. The endorsement of this law was followed by the decision, Nr. 657, date, 16.09.1996 "For some Regulations of Ethics in Civil Service". The object of this decision was improving the Albanian Civil Service and strengthening public trust and support towards it by determining behavioural rules and regulations of those persons working for the civil services. During 1996-1999, some lawful changes were passed, which aimed at the best applying of the law in civil services. In 1999 the Parliament of Albania passed the Law Nr. 8549, date, 11.11.1999 "The Status of the Civil Officer". The endorsement of this law on 27th of January, 2000, provided the possibility to start implementing a completely different system in managing human resources in the institutions of the central administration, independent central institutions and units of local authorities (districts and municipalities). Law Nr. 8549, date, 11.11.1999 "The Status of the Civil Officer" reconfirmed some institutions which would supervise the implementation of the reform in civil services by providing special and extended competences never seen or experienced before. Within a decade, public administration looked as if it had completed its whole legal frame to realise effectively its mission. Despite these interventions, the politicisation of the administration and moreover filling it up with partisan militants rather than professionals would remain the strongest criticism of all EU reports on it. In 2012 the Law on the Organisation and Functioning of State Administration came into effect. Again, as the result of political clashes in the country it was asked to amend the Law for the Status of the Civil Officer. After a lot of debates in October, 2013, the new Law Nr. 152/2013 "For the Civil Officer" was passed. This Law abrogated a series of legal acts.

Only one year after the consensual endorsement of this Law, the latter became subject of many changes which affected several articles and it is undergoing another phase of changes. These changes on the legal plane have created a somewhat unsustainable situation there at the detriment of the development and functioning of the Public Administration. The philosophy of such changes does not depend on the organic need to develop services for the citizen but on the political approach which makes it easier for the political subjects to establish their control over public administration. This method of thinking of the Albanian politics is the continuity of the psychology and mentality on state and public administration inherited from the past. State authority has always considered public administration as its property with which it guarantees its Power.

This wrong approach from the philosophical point of view has brought with itself a chaos in the way this public administration functions. Let us stop here for a while and analyse the vicious circle in which this philosophy moves.

The concept of the Albanian for Freedom is a concept which has nothing in common with philosophical concept of freedom. Freedom and equality for the Albanian are expressions of his/her natural existence and consequently they are co-linked and co-inherited. Freedom, like freedom free of limits and equality like equality of values have taught the Albanian not to recognise the real freedom of mind (thought) and action. Clumsy (in his/her mind) in practice, the Albanian has tried hard to follow blindfolded 'number One'. This approach inherited from history seems being in the centre of the relations which characterise public administration. Thus, the functioning of public administration does not tend to improve the services towards the citizens but to improve behavioural conducts towards the One. This is approach nr. 1. The second has to do with the wrong concept on authority. Historically authority is considered as a personal merit and state as a property. The link between power and authorities has happened quite as historical symbioses from which only the citizen has lost. Considering state as a property might lead us to think that undoubtedly the administration has been considered similarly, as a property. That is why the freedom for intervention by the authority in the construction and functioning of this administration has this base of philosophy. The political colouring of public administration is an expression of lack of civic culture

which in its core is characterised by deficiencies in the field of education by means of freedom of mind

The Model of Civil Officers in Albania

In theories on public administrators, there exist three methods mostly felt in relation with the role of the bureaucrat as an officer of public administration.

- Liberal Model of William Niskanen, according to whom the bureaucrat exercises some 'pressure' over politics to maximise the role of the bureaucratic budget

- Model of political preferences (with Von Galer as its representative) which pretends that politics takes over priorities to the bureaucrat and when policies are not clear and unsustainable then he/she might feel temporarily powerful.

- Model of bureaucratic structuring (with Patrick Dunleavy as its representative), which looks upon the bureaucrat as a means of politics to achieve electoral purposes and his/her power is based mainly on the fact that he/she controls the costs.

The bureaucrat in Albania seems to be near the third type. This exists as a result of the manner according to which public administration has been constructed in our country. Firstly the reasons are economical because of the limited budget of public administration, entirely determined by the state budget. Similarly the mission of funds distribution is full of political hues (which ask for consensus) rather than administrative. If we add to such factors the militant character of the process of officers' selection for public administration, the result is that our model appears mixed which complicates the managing role of the public administration officer and slows down the fulfilment of the citizen's needs.

Consequences:

Starting from the Albanian philosophy of organizing, functioning and using of public administration, it is concluded that our public administration is characterised by:

- The tendency towards politicisation, which influences not only the politically differentiated services but also ruining of the social cohesion that usually creates a functional public administration.

- The tendency towards corruption because of non-feasibility in finding financing roads and reducing costs, and the philosophy of 'the chair' (post) as private property has forced the population to have a high perception of corruption and studies of foreign organisms list Albania as a country with the most corrupted public administration.

- The tendency towards the lack of ethics. Russo stressed that "wisdom of power, operation of laws, honesty of those with authority, people's trust ...' are at the bases of institutions...and especially the general desire for the public well-being (Ruso, 1998). It is understandable that the citizen demands not only the service needed but also he/she wants to take it in a civil and ethical manner. Our officer is characterised by laziness and arrogance, which derive from our cultural heritage and the wrong comprehension of the position of a public administration.

Nevertheless, when we say tendency we mean the danger negative approaches carry with themselves. These are in fact the characteristics exposed by the officers of our public administration. This is not just a perception but a result of continuous conclusions from international institutions, which monitor the activity of our public administration.

Considering the actual demands for an efficient and effective public administration at the service of the individual's needs, our cultural heritage and shortages in moulding this individual with the freedom of the mind, the need for a sustainable education on the bases of philosophical education becomes indispensable. In tens of trainings organised by public administration there has not be detected a single model with a philosophical contemporary approach which encourages integrity via freedom of the mind or thought.

Conclusion

The use of new technologies in public administration which get introduced being dictated not only by the real needs for them but also by the demands of

the international community (EU etc) pose the threat of being turned into an "iron cage" as envisaged by Weber, when he thought about the unity of technologies with the bureaucratic power. Technology and the use of networks and Internet alienate the bureaucrat physically from the citizen. Under the conditions when the citizen and bureaucrat become intelligent in their free way of thinking and cooperating, the relationship between the individual and public administration is in favour of stability. But when the two extremities of the rapport suffer from an unsustainable culture, which lacks an inner civil education, this unity is in fact a break of the rapport of the citizen with the state. This break leads to the alienation of the citizen, his indifference and all this might bring about animosity expressed in reciprocal relations.

That is why the return of attention to educational schemes has become emergent in order to confront with as little cost as possible the use of new technologies. In global developments it is quite impossible to think that special countries might follow their road without being crossed by these developments. Certainly Albania will follow the steps for the creation of a "smart city" model.

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ECONOMETRIC MODEL USED IN DECISION-MAKING PROCESS OF COMPANY FINANCING

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Abstract

Over time, SMEs financing resulted in many debates starting with the general economic background up to the correct interpretation of financial statements on which the financing decision is based. In a more restricted way, the financing decision is finding, in the most appropriate and fair manner, the correlations between financial data, and it concerns all Romania-based financial institutions, mindful of the lessons taught by the financial crisis, the new Basel III. Thus, banks have created internal rating models, proving the viability of the loan applicant by calculating the PD.

In this case study, we conducted an econometric modeling based on the logistic regression which, starting from a financial module consisting of 7 ratios, calculates the PD for a time horizon of 12 months, for a company applying for funding. The study highlights, both theoretically and practically, the advantages and the limits of econometric modeling. We used data from 25 Romanian-based companies, collected over a period of 4 years, from 2008 to 2011, resulting in a database consisting of 100 observations processed using the STATA statistical processing software. The results of the econometric model – the impact over the PD are interpreted and validated by calculating the odds ratio of PD.

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JEL Classification: C15, E51, G21, G24, G32, G33

1. Introduction

The research aims at elaborating an econometric model based on the logistic regression function, by which the creditor may determine the PD of a company, thus being able to take the correct financing decision. The article is divided into several parts, as follows:

In the first part, we make a brief presentation of previous studies in this field, the nowadays trends and the research methodology, in order to be able to theoretically and economically substantiate the econometric model.

The second part is the most consistent one, and it consists in a case study which analyzes 25 Romania-based companies, all operating in the field of transportation, over a period of 4 years, using 100 observations in order to calculate the PD. The econometric model is based on a financial module that comprises, in the author's opinion, the 7 most important financial ratios pertaining to company liquidity, solvability, profitability and activity. To make it more robust, the financial module has been transformed by means of normalizing one of the ratios and applying logarithms to another one. Then, we elaborated an OLS model based on the linear regression and we eventually made a logit model based on the logistic regression function. In order to interpret the logit function, we calculated the marginal effects and the result of the score function, which was then validated by calculating the likelihood of PD. All these were possible as the elaborated econometric model used the STATA statistical processing software.

The research ends with the presentation of the conclusions, of the model's limits and advantages.

2. Theoretical and Economical Substantiation of the Econometric Model Used in Taking the Financing Decision

For decades, specialists in the area, and especially those working in commercial banks and facing more or less demand from companies, have been interested in determining the Probability of Default (PD) and hence the lending decision. Even since the 60s, thorough studies in the area or alternatives

estimating business failure began to appear, such as the univariate and multivariate models elaborated by [Beaver, (1967)], [Altman, (1968)], by using certain financial ratios. While Beaver studied 14 financial reports, Altman used the Multiple Discriminant Analysis (MDA) in order to solve the problem of inconsistency related to Beaver's univariate analysis and to perform a much more complex financial profile of the companies studied. Thus, the multiple discriminant analysis has been used for many years by various authors, such as [Deakin, (1972)], [Edmister, (1972)], [Blum, (1974)], [Taffler i Tisshaw, (1977)], [Bilderbeek, (1979)], [Micha, (1984)], [Gombola et al., (1987)], [Lussier, (1995)], [Altman et al., (1995, 2005)], etc. Due to the limitations of this model (MDA), where the two basic assumptions of the model were breached, the ratios were standardized and they did not show the importance of the various variables, [Ohlson, (1980)] applied, for the first time, the conditional logit model in order to conduct the PD. The practical benefits of the logit methodology are that it does not require the restrictive assumptions of the MDA and it allows working with disproportionate samples. After him, most of the scholarly literature, such as the following authors: [Gentry et al., (1985)], [Keasey i Watson, (1987, 1991)], [Platt i Platt, (1990)], [Mossman et al., (1998)], [Charitou i Trigeorgis, (2002)], [Becchetti i Sierra, (2002)], used the logit models in order to predict the default of a company (PD).

Thus, a wide range of statistical methods may be used to make scoring functions, among which the most common and used over time were decision trees, neural networks and expert systems, linear regression and lately, logistic regression. This is how scoring models arose. They are used for calculating the probability of default by comparing the loan applicant financial ratios to the financial ratios of previously studied loan applicants, also taking into account how they behaved over the years in terms of loan repayment. Starting from the limitations of the scoring models used over time, nowadays the logistic regression is the method used mostly. The scoring model pays an important part in the loan granting or denying decision, as it is part of the lending policy practiced by each commercial bank.

In practice, the logistic regression is the most widely used method as it models the relation between a set of (categorical, continuous) independent variables and a (nominal, binary) dichotomous dependent variable which

usually appears when it indicates the affiliation to two categories (presence / absence, yes / no). Supposing that the values of the binary variable are coded 0/1, where value 1 generally expresses the occurrence of a certain event, it means that the result of the model is an estimate of the probability of this event actually happening, depending on the values of the independent variables.

Therefore, in this case study we assumed that the explanatory variables multiplied by the relevant coefficients are linearly correlated with the natural logarithm of the default rate [Mays, (2001)]:

$$Ln \frac{PD}{1-PD} = b_0 + \sum_{i=1}^{n} b_i X_i$$

(1)

where:

PD – probability of default of a company over a time horizon of 1 year,

x_i – company's financial ratios,

b_0 – constant,

b_i – coefficients of relevant financial ratios of the score function.

Generally speaking, the default is a borrower's failure to comply with the obligations undertaken in the loan contract signed with his creditor. The Basel Committee on Banking Supervisions (2006) defines the default as a situation in which at least one of the following events occurs:

- the bank determines that the borrower is unlikely to pay its obligations to the bank in full, without recourse to actions by the bank such as the realization of collateral;

- the borrower is more than 90 days past due on principal or interest on any material obligation to the bank.

In our case study, default will stand for the company's incapacity to meet its debt obligations / to pay the loans granted by the bank.

Eventually, calculating the PD means calculating a score, according to the formula (2) bellow, which normally determines the rating of each loan applicant and depending on this and on the classification in certain rating categories / intervals one also determines the probability of default over a 12 month horizon.

$$PD = \frac{1}{1 + e^{-b_0 - \sum_{i=1}^{n} X_i Y_i}}$$

(2)

Within the calculated score, the most important rating is (greatly) held by the financial ratios and that is why, further on, we shall only refer to these ones, as they can be precisely calculated and the results obtained are accurate and not influenced by subjective factors. Financial ratios are considered financial risk factors and together they make up the financial module, which is the most important when it comes to assess the customer risk. Financial ratios summarize the financial reports used to calculate a customer rating. Out of the important financial ratios, I chose 7 that I considered the most relevant and that I used as variables in order to see how they affect a bank's financing decision.

The 7 financial ratios taken into account and selected as components of the financial score module are:

a)   from the solvency ratios category:

Gearing = [ST Interest Bearing Debt (ST Bank Loan + Other ST Loans) + LT Interest Bearing Debt (LT Bank Loans + Other LT Loans) – Cash & Bank Deposits] / Equity;

Gearing is a general term describing a financial ratio where the denominator is a form of capital belonging to the owner (or capital) and the numerator represents the borrowed funds. Gearing measures the effect of financial leverage, which demonstrates the degree to which the activities of a company are financed from funds of owner as compared to funds of creditor.

Leverage III = Debt / Assets;

Interest Coverage = EBITDA / Interest Expense;

b) from the profitability ratios category:

Return of Equity = net profit / equity;

EBITDA Margin = Earnings before interest, tax, depreciation and amortization / total revenues;

c) from the liquidity ratios category:

Quick Ratio = (Cash + ST Receivables) / Current Liabilities;

d) from the category of ratios showing the company's activity:

              Inventory Ratio = Inventories / Sales x 365.

Grading and the expected theoretical impact of the 7 financial ratios over the PD are presented in table no. 1.

Table no. 1: Financial ratios used in scoring model and their expected / assumed impact over the PD

Ratio	Definition	Notation	PD (Expected)
Gearing	[ST Interest Bearing Debt (ST Bank Loan + Other ST Loans) + LT Interest Bearing Debt (LT Bank Loans + Other LT Loans) – Cash & Bank Deposits] / Equity	R12	+
Leverage III	$$\dfrac{Debt}{Assets}$$	LRL	+
Interest coverage	$$\dfrac{EBITDA}{Interest\ expences}$$	R14	-
Return of equity	$$\dfrac{net\ profit}{equity}$$	ROE	-
EBITDA MARGIN	$$\dfrac{\text{Earnings before interest, tax, depreciation and amortisation}}{\text{total revenues}}$$	Ebitda _margin	-
Quick ratio	$$\dfrac{Cash\ +\ ST\ Receivables}{Current\ Liabilities}$$	rli	-
Inventory ratio	$$\dfrac{Inventories}{sales} \times 365$$	Inventory _ratio	+

Source: author's compilation

In terms of economic theory, the interpretation of Table no. 1 shows that:
- liquidity ratios show the company's capacity to pay short-term debts and generally, higher liquidity equals a lower probability of default;

- solvency ratios show the company's capacity to pay long-term debts and generally, the higher the debt burden, the greater the probability of default of the company;
- profitability ratios show the company's capacity to make profit, and the higher this capacity, the smaller the PD;
- activity ratios show how efficiently the company uses various inputs, generally having different effects on the PD; the "+" sign showing that the higher the ratio, the higher the PD, while the "-" sign shows that the higher the ratio the smaller the PD.

3. Case Study Conducted by Applying the Econometric Model and Determining the PD of Romania-based Loan Applicators Activating in the Field of Transportation

In the case study bellow, we built an econometric model which calculates, based on a financial module considered a basic one and consisting of 7 financial ratios, the probability of default on a time horizon of 12 months, for a SME that applied for financing and that operates in the road transportation area.

According to this econometric model, it is assumed that the explanatory variables represented by the 7 financial ratios, multiplied by relevant coefficients, are linearly correlated with the natural logarithm of the default rate, so that by using the function (1) described in chapter 2 above, the amount of the left is called the logit transformation of the probability of default (PD).

Afterwards, this equation is used in order to obtain the formula of the probability of default. The formula may be transcribed using the logit curve by applying formula (2) presented above in chapter 2.

As to the financial score, financial ratios based on accounting data are considered as explanatory variables. The model uses a dummy dependent variable (0/1) built with value 1 for companies in default and with value 0 for viable companies, which means that the score obtained in the econometric model corresponds to the probability of a company to face default.

In the practical part of the case study we used data collected from 25 companies operating in the field of transportation, financed by a top Romanian-based European bank. The data were taken from the financial statements of the companies, processed by the bank during 2008 – 2011, and therefore we have a

database consisting of 100 observations (25 companies x 4 years = 100), that we are going to present in the tables bellow.

Table no. 2: Econometric model ratios for 2008

Company Id	Year	R12	R14	ROE	rli	Inventory _ratio	LRL	Ebitda _margin	Dummy variable 1=default 0=viable
		X	X	%		days	%		
1	2008	2.01	6.93	0.08	0.55	27.90	76.26	0.1239	0
2	2008	0.34	9.79	2.52	2.01	13.97	65.65	0.1450	0
3	2008	3.47	8.58	16.87	0.35	11.77	83.84	0.2128	0
4	2008	1.10	4.90	8.77	0.81	3.42	78.00	0.0890	0
5	2008	0.55	7.84	2.75	0.52	12.53	42.52	0.1044	0
6	2008	2.25	2.92	0.06	0.19	37.44	74.57	0.1750	0
7	2008	2.20	5.90	32.00	0.50	1.00	85.90	0.1150	0
8	2008	0.45	8.19	37.86	0.74	34.69	47.04	0.3401	0
9	2008	4.50	3.24	1.71	0.42	48.20	86.64	0.1107	0
10	2008	0.91	10.49	46.95	1.15	7.97	69.18	0.1156	0
11	2008	3.03	5.72	36.16	0.35	3.96	81.11	0.2725	0
12	2008	1.71	10.03	0.70	0.68	0.29	66.63	0.1233	0
13	2008	0.42	14.19	46.26	1.34	9.27	50.55	0.2001	0
14	2008	7.33	5.51	40.80	0.46	13.07	95.35	0.0395	0
15	2008	2.11	6.67	23.89	0.75	2.45	72.04	0.2902	0
16	2008	4.74	6.25	5.50	1.16	5.15	90.11	0.1914	0
17	2008	2.23	3.28	12.35	0.79	81.04	74.55	0.2062	0
18	2008	0.16	328.68	110.97	0.61	82.71	88.51	0.0552	0
19	2008	3.91	6.57	7.70	0.67	2.41	87.84	0.1997	0
20	2008	3.84	5.11	0.51	1.24	999.90	82.65	0.2207	0
21	2008	26.11	5.00	42.74	0.99	14.45	97.57	0.1671	0
22	2008	-1.36	4.39	81.16	0.64	237.71	78.34	0.3193	1
23	2008	1.83	10.77	11.31	0.76	13.94	73.16	0.1597	0
24	2008	3.34	10.76	13.90	0.76	6.13	96.55	0.0237	0
25	2008	4.19	3.35	55.28	0.13	119.89	91.73	0.1067	1

Source: author's compilations based on the companies' financial statements

Table no. 3: Econometric model ratios for 2009

Company Id	Year	R12	R14	ROE	rli	Inventory _ratio	LRL	Ebitda _margin	variable 1 = default 0 = viable
		X	X	%		days	%		
1	2009	2.59	10.71	-30.84	0.52	29.13	78.43	0.2017	0
2	2009	0.13	18.91	0.80	1.25	9.19	64.94	0.1918	0
3	2009	2.05	8.68	11.89	0.46	18.29	77.90	0.1904	0
4	2009	0.60	11.44	15.71	0.71	3.57	75.21	0.1400	0
5	2009	0.31	7.41	1.12	1.02	25.55	37.48	0.1341	0
6	2009	1.76	1.72	-20.21	0.14	38.24	71.74	0.0757	0
7	2009	2.50	4.70	17.50	0.90	3.00	81.30	0.1108	0
8	2009	0.78	5.51	8.31	0.46	89.01	58.48	0.2785	0
9	2009	3.22	4.33	0.46	0.40	93.70	85.76	0.1472	0
10	2009	0.50	12.51	8.03	1.25	8.89	63.33	0.0830	0
11	2009	1.73	6.47	6.26	0.39	22.24	73.78	0.2863	0
12	2009	1.93	3.71	-21.90	0.69	0.01	71.90	0.0688	0
13	2009	0.43	17.38	12.81	2.09	6.95	45.72	0.1492	0
14	2009	8.94	3.70	2.03	0.35	5.43	93.66	0.0363	0
15	2009	1.87	4.34	-22.42	0.64	3.79	73.82	0.3205	0
16	2009	6.50	0.07	-217.77	1.47	6.28	93.08	0.0017	0
17	2009	1.62	7.39	18.29	0.86	101.73	70.23	0.2863	0
18	2009	-0.09	94.25	94.47	1.05	68.44	76.73	0.0659	0
19	2009	2.98	6.87	59.98	1.38	1.33	82.99	0.2398	0
20	2009	6.41	2.94	16.94	1.51	12.70	90.59	0.1255	0
21	2009	17.20	5.66	51.59	1.30	13.99	97.61	0.1146	0
22	2009	0.32	33.82	53.24	0.15	253.05	65.97	0.2748	1
23	2009	1.93	6.68	0.43	0.75	14.25	73.69	0.1443	0
24	2009	1.03	12.08	79.18	0.75	3.17	85.33	0.0533	0
25	2009	1.45	4.71	45.95	0.26	106.60	84.56	0.1383	1

Source: author's compilations based on the companies' financial statements

Table no. 4: Econometric model ratios for 2010

Company Id	Year	R12	R14	ROE	rli	Inventory_ratio	LRL	Ebitda_margin	variable 1=default 0=viable
		X	X	%		days	%		
1	2010	2.17	6.63	22.83	0.68	27.61	74.24	0.1491	0
2	2010	-0.17	24.31	1.99	3.21	16.95	69.31	0.1328	0
3	2010	0.96	23.25	22.85	0.57	11.39	75.76	0.1785	0
4	2010	0.29	26.20	23.13	1.50	6.41	68.88	0.1627	0
5	2010	0.09	15.99	10.11	2.59	25.98	14.83	0.1622	0
6	2010	2.16	3.54	-7.03	0.35	28.40	75.88	0.1474	0
7	2010	2.40	4.57	0.31	0.69	4.58	81.17	0.1023	0
8	2010	0.58	4.65	2.83	0.83	46.02	48.50	0.1929	0
9	2010	2.31	7.69	0.17	0.31	75.35	84.13	0.1409	0
10	2010	0.76	13.62	7.79	1.59	11.32	65.81	0.0903	0
11	2010	1.09	10.80	12.78	0.48	7.64	61.00	0.2701	0
12	2010	1.58	2.32	3.18	0.74	3.80	69.27	0.1346	0
13	2010	0.11	11.96	16.42	3.40	7.66	22.59	1.2918	0
14	2010	8.54	4.18	4.64	0.36	8.09	92.39	0.0296	1
15	2010	0.82	8.51	24.40	0.83	6.48	59.75	0.2874	0
16	2010	3.68	7.47	36.25	1.07	2.86	90.94	0.1271	0
17	2010	1.23	6.80	9.36	0.75	116.11	66.43	0.2136	0
18	2010	-0.08	207.90	42.42	1.18	59.11	63.08	0.0687	0
19	2010	1.45	16.56	42.92	1.19	0.05	72.84	0.1695	0
20	2010	4.76	2.62	11.11	1.29	6.57	90.82	0.0526	0
21	2010	3.02	9.02	81.73	1.27	18.01	90.02	0.0971	0
22	2010	0.49	137.45	5.68	0.40	167.95	62.64	0.1865	1
23	2010	0.90	8.23	18.54	0.92	9.11	66.67	0.1157	0
24	2010	1.88	31.79	56.72	0.48	5.09	79.57	0.0425	0
25	2010	1.48	7.76	16.45	0.19	110.10	82.19	0.1315	1

Source: author's compilations based on the companies' financial statements

Table no. 5: Econometric model ratios for 2011

Company Id	Year	R12	R14	ROE	rli	Inventory_ratio	LRL	Ebitda_margin	variable 1=default 0=viable
		X	X	%		days	%		
1	2011	0.96	10.95	-1.64	0.94	20.49	72.30	0.3314	0
2	2011	-0.40	18.34	-0.94	2.72	8.36	77.83	0.0786	0
3	2011	1.18	14.54	22.23	0.28	18.27	72.57	0.1489	0
4	2011	0.73	19.11	19.13	1.23	13.45	73.60	0.1187	0
5	2011	0.42	155.48	25.48	0.99	24.77	39.19	0.1758	0
6	2011	1.76	3.59	8.29	0.36	12.93	70.51	0.1251	1
7	2011	3.09	4.61	0.69	0.76	5.63	83.44	0.0807	1
8	2011	0.42	5.09	8.77	1.15	47.40	66.48	0.1755	1
9	2011	4.15	8.67	0.31	0.22	85.18	92.29	0.1318	1
10	2011	1.69	7.86	4.16	2.62	11.16	72.63	0.0866	0
11	2011	0.82	17.77	40.58	1.03	14.90	54.08	0.2381	0
12	2011	1.13	3.22	1.74	1.66	2.79	69.46	0.0763	0
13	2011	0.40	12.52	23.39	2.00	3.04	39.92	0.1183	0
14	2011	6.56	6.09	12.45	0.66	6.37	93.36	0.0213	1
15	2011	0.23	14.04	46.18	0.84	2.98	45.85	0.2752	0
16	2011	2.20	12.10	12.05	1.29	1.51	85.94	0.1284	0
17	2011	0.61	8.51	25.03	1.32	107.72	57.51	0.2143	1
18	2011	-0.03	176.35	38.06	1.64	68.49	54.21	0.0771	0
19	2011	1.58	13.33	41.87	0.99	0.02	68.97	0.1640	1
20	2011	8.25	1.29	6.71	0.88	8.59	93.45	0.0295	1
21	2011	0.90	13.13	82.37	1.17	7.28	83.48	0.0778	0
22	2011	-0.10	135.80	65.67	1.07	13.54	52.13	0.1313	1
23	2011	0.26	18.28	49.29	1.08	16.47	54.05	1.4202	0
24	2011	-0.02	28.70	19.34	0.65	5.43	74.29	0.0317	0
25	2011	0.68	10.73	54.39	0.15	118.12	72.76	0.1253	1

Source: author's compilations based on the companies' financial statements

In order to estimate the PD using the econometric model made based on the seven financial ratios calculated according to the formula from table no. 1, three of the data used in the model were processed in relation with the initial data used so that the econometric model may become more robust, as follows:

- for the ratio R12 (gearing) we used the normalization calculated according to the formula:

$$\frac{indicator - \min}{\max - \min};$$

- for R14 (interest coverage) and Inventory_ratio (inventory ratio) a logarithm was used, because all the data of the sample are positive.

The data that resulted are presented in table no. 6.

Table no. 6: Ratios modified in order to estimate a more robust econometric model

Company Id	Year	R12[1]	Ln R14[2]	ROE	rli	Ln Inventory _ratio[3]	LRL	Ebida _margin	Dummy variable 1=default 0=viable
1	2008	0.122679	1.93586	0.0008	0.55	3.32862669	0.7626	0.123884186	0
1	2009	0.143793	2.371178	-0.3084	0.52	3.37176857	0.7843	0.20167876	0
1	2010	0.128504	1.891605	0.2283	0.68	3.31817803	0.7424	0.149099709	0
1	2011	0.084456	2.393339	-0.0164	0.94	3.01993696	0.723	0.33135922	0
2	2008	0.061886	2.281361	0.0252	2.01	2.63691217	0.6565	0.144992938	0
2	2009	0.054241	2.939691	0.008	1.25	2.21811594	0.6494	0.191780062	0
2	2010	0.04332	3.190888	0.0199	3.21	2.83026783	0.6931	0.132814508	0
2	2011	0.034947	2.909084	-0.0094	2.72	2.12345843	0.7783	0.078585481	0
3	2008	0.175828	2.149434	0.1687	0.35	2.46555392	0.8384	0.212766923	0
3	2009	0.124135	2.161022	0.1189	0.46	2.90635446	0.779	0.190392371	0
3	2010	0.084456	3.146305	0.2285	0.57	2.43273578	0.7576	0.178492328	0
3	2011	0.092465	2.676903	0.2223	0.28	2.90526037	0.7257	0.148889818	0

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[1] for R12 (gearing) we used the normalization calculated according to the formula $\frac{indicator - \min}{\max - \min}$

[2] for R14 (interest covarage) a logarithm was used, because all the data of the sample are positive

[3] for Inventory_ratio (inventory ratio) a logarithm was used, because all the data of the sample are positive

4	2008	0.089552	1.589235	0.0877	0.81	1.22964055	0.78	0.08896348	0
4	2009	0.071351	2.437116	0.1571	0.71	1.2725656	0.7521	0.139952818	0
4	2010	0.060066	3.265759	0.2313	1.5	1.85785927	0.6888	0.162747047	0
4	2011	0.076083	2.950212	0.1913	1.23	2.59897911	0.736	0.118671779	0
5	2008	0.06953	2.059239	0.0275	0.52	2.52812577	0.4252	0.104381733	0
5	2009	0.060794	2.00283	0.0112	1.02	3.24063732	0.3748	0.134137068	0
5	2010	0.052785	2.771964	0.1011	2.59	3.25732701	0.1483	0.162188142	0
5	2011	0.064798	5.046517	0.2548	0.99	3.20963324	0.3919	0.175762358	0
6	2008	0.131416	1.071584	0.0006	0.19	3.62273965	0.7457	0.174987698	0
6	2009	0.113578	0.542324	-0.2021	0.14	3.64388209	0.7174	0.075727769	0
6	2010	0.12814	1.264127	-0.0703	0.35	3.34638915	0.7588	0.147363991	0
6	2011	0.113578	1.278152	0.0829	0.36	2.55955019	0.7051	0.125071221	1
7	2008	0.129596	1.774952	0.32	0.5	0	0.859	0.114995491	0
7	2009	0.140517	1.547563	0.175	0.9	1.09861229	0.813	0.11078782	0
7	2010	0.136877	1.519513	0.0031	0.69	1.521699	0.8117	0.102289563	0
7	2011	0.161995	1.528228	0.0069	0.76	1.72810944	0.8344	0.080735391	1
8	2008	0.06589	2.102914	0.3786	0.74	3.54645146	0.4704	0.340144899	0
8	2009	0.077903	1.706565	0.0831	0.46	4.48874872	0.5848	0.278549883	0
8	2010	0.070622	1.536867	0.0283	0.83	3.82907608	0.485	0.192945957	0
8	2011	0.064798	1.627278	0.0877	1.15	3.85862223	0.6648	0.175454325	1
9	2008	0.213324	1.175573	0.0171	0.42	3.87535902	0.8664	0.110655492	0
9	2009	0.166727	1.465568	0.0046	0.4	4.54009819	0.8576	0.14722461	0
9	2010	0.1336	2.039921	0.0017	0.31	4.32214393	0.8413	0.140930394	0
9	2011	0.200582	2.159869	0.0031	0.22	4.44476666	0.9229	0.131751834	1
10	2008	0.082636	2.350422	0.4695	1.15	2.07568449	0.6918	0.115600541	0
10	2009	0.06771	2.526528	0.0803	1.25	2.18492705	0.6333	0.082969594	0
10	2010	0.077175	2.611539	0.0779	1.59	2.42657107	0.6581	0.090306188	0
10	2011	0.11103	2.061787	0.0416	2.62	2.41233596	0.7263	0.086617378	0
11	2008	0.159811	1.743969	0.3616	0.35	1.37624403	0.8111	0.27247194	0
11	2009	0.112486	1.867176	0.0626	0.39	3.10189247	0.7378	0.286290847	0
11	2010	0.089188	2.379546	0.1278	0.48	2.0333976	0.61	0.27007957	0
11	2011	0.079359	2.877512	0.4058	1.03	2.70136121	0.5408	0.238085732	0
12	2008	0.111758	2.305581	0.007	0.68	-1.2378744	0.6663	0.12334857	0
12	2009	0.119767	1.311032	-0.219	0.69	-4.6051702	0.719	0.068772236	0
12	2010	0.107026	0.841567	0.0318	0.74	1.33500107	0.6927	0.134613247	0
12	2011	0.090644	1.169381	0.0174	1.66	1.0260416	0.6946	0.076290623	0
13	2008	0.064798	2.652537	0.4626	1.34	2.22678338	0.5055	0.200140907	0

13	2009	0.065162	2.85532	0.1281	2.09	1.93874166	0.4572	0.149216328	0
13	2010	0.053513	2.481568	0.1642	3.4	2.03601198	0.2259	1.291761331	0
13	2011	0.06407	2.527327	0.2339	2	1.11185752	0.3992	0.118330417	0
14	2008	0.316345	1.706565	0.408	0.46	2.57031953	0.9535	0.039520992	0
14	2009	0.374954	1.308333	0.0203	0.35	1.69193913	0.9366	0.03632637	0
14	2010	0.360393	1.430311	0.0464	0.36	2.09062873	0.9239	0.029645477	1
14	2011	0.288315	1.806648	0.1245	0.66	1.85159947	0.9336	0.021322025	1
15	2008	0.12632	1.89762	0.2389	0.75	0.89608802	0.7204	0.290186501	0
15	2009	0.117583	1.467874	-0.2242	0.64	1.33236602	0.7382	0.320514902	0
15	2010	0.079359	2.141242	0.244	0.83	1.86872051	0.5975	0.287352024	0
15	2011	0.057881	2.64191	0.4618	0.84	1.0919233	0.4585	0.275196952	0
16	2008	0.22206	1.832581	0.055	1.16	1.63899671	0.9011	0.191389305	0
16	2009	0.28613	-2.65926	-2.1777	1.47	1.83736998	0.9308	0.001716722	0
16	2010	0.183473	2.010895	0.3625	1.07	1.05082162	0.9094	0.127118213	0
16	2011	0.129596	2.493205	0.1205	1.29	0.41210965	0.8594	0.12835303	0
17	2008	0.130688	1.187843	0.1235	0.79	4.39494286	0.7455	0.206249677	0
17	2009	0.108482	2.000128	0.1829	0.86	4.62232224	0.7023	0.286271492	0
17	2010	0.094285	1.916923	0.0936	0.75	4.75453802	0.6643	0.213634871	0
17	2011	0.071715	2.141242	0.2503	1.32	4.67953527	0.5751	0.21431985	1
18	2008	0.055333	5.795085	1.1097	0.61	4.41534051	0.8851	0.055162717	0
18	2009	0.046232	4.545951	0.9447	1.05	4.22595745	0.7673	0.065917945	0
18	2010	0.046596	5.337057	0.4242	1.18	4.07940011	0.6308	0.068747978	0
18	2011	0.048416	5.172471	0.3806	1.64	4.22668775	0.5421	0.077051427	0
19	2008	0.191846	1.882514	0.077	0.67	0.87962675	0.8784	0.199741918	0
19	2009	0.157991	1.927164	0.5998	1.38	0.28517894	0.8299	0.239794623	0
19	2010	0.102293	2.80699	0.4292	1.19	-2.9957323	0.7284	0.169474959	0
19	2011	0.107026	2.590017	0.4187	0.99	-3.912023	0.6897	0.163963795	1
20	2008	0.189297	1.631199	0.0051	1.24	6.90765527	0.8265	0.220710521	0
20	2009	0.282854	1.07841	0.1694	1.51	2.54160199	0.9059	0.125479425	0
20	2010	0.222788	0.963174	0.1111	1.29	1.88251383	0.9082	0.052608716	0
20	2011	0.349836	0.254642	0.0671	0.88	2.15059874	0.9345	0.029514364	1
21	2008	1	1.609438	0.4274	0.99	2.67069441	0.9757	0.167104498	0
21	2009	0.675646	1.733424	0.5159	1.3	2.63834279	0.9761	0.114592741	0
21	2010	0.159447	2.199444	0.8173	1.27	2.89092716	0.9002	0.097113755	0
21	2011	0.082272	2.5749	0.8237	1.17	1.98513086	0.8348	0.077787265	0
22	2008	0	1.479329	0.8116	0.64	5.47105144	0.7834	0.319335059	1
22	2009	0.061158	3.521052	0.5324	0.15	5.5335871	0.6597	0.274772835	1

22	2010	0.067346	4.92326	0.0568	0.4	5.12366632	0.6264	0.186483748	1
22	2011	0.045868	4.911183	0.6567	1.07	2.60564827	0.5213	0.131302436	1
23	2008	0.116127	2.376764	0.1131	0.76	2.63476241	0.7316	0.159747904	0
23	2009	0.119767	1.899118	0.0043	0.75	2.65675691	0.7369	0.144280193	0
23	2010	0.082272	2.107786	0.1854	0.92	2.20937271	0.6667	0.115675697	0
23	2011	0.058973	2.905808	0.4929	1.08	2.80154054	0.5405	1.420160397	0
24	2008	0.171096	2.375836	0.139	0.76	1.81319475	0.9655	0.02374333	0
24	2009	0.087004	2.491551	0.7918	0.75	1.15373159	0.8533	0.053291224	0
24	2010	0.117947	3.459152	0.5672	0.48	1.62727783	0.7957	0.042452448	0
24	2011	0.04878	3.356897	0.1934	0.65	1.69193913	0.7429	0.031725627	0
25	2008	0.202039	1.20896	0.5528	0.13	4.78657466	0.9173	0.106731695	1
25	2009	0.102293	1.549688	0.4595	0.26	4.66908351	0.8456	0.138343911	1
25	2010	0.103386	2.048982	0.1645	0.19	4.70138904	0.8219	0.13147669	1
25	2011	0.074263	2.373044	0.5439	0.15	4.77170106	0.7276	0.125328152	1
	average	0.13325	2.21488	0.19038	0.93890	2.51229	0.72595	0.17225	0.00000

Source: author's compilations based on the companies' financial statements

Afterwards, we built an OLS model based on linear regression, and the results are presented in table no. 7.

Table no. 7: Results of linear regression

Source	SS	df	MS		Number of obs =	100
Model Residual	3.3360599 11.1039401	7 92	.333722843 .120695001		F(7, 92) =	2.77
					Prob > F =	0.0118
Total	13.44	99	.135757576		R-squared =	0.1738
					Adj R-squared =	0.1110
					Root MSE =	.34741

Score	Coef	Std. Err.	t	P > I t I	[95% Coef. Interval]	
R12	-.104073	.3421407	-0.30	0.762	-.783594	.575448
LRL	.0739799	.3084856	0.24	0.811	-.5386991	.6866589
R14	-.040036	.0449522	-0.89	0.375	-.129315	.049243
ROE	.1545935	.130882	1.18	0.241	-.1053493	.4145364
Ebitda _margin	-.1203986	.2102282	-0.57	0.568	-.5379299	.2971328
rli	-.1036065	.0625121	-1.66	0.101	-.2277609	.0205479

Inventory _ratio	.0628169	.020355	3.09	0.003	.0223901	.1032437
constant	.1396044	.2875433	0.49	0.628	-.4314813	.7106902

Source: author's compilation using the STATA statistical processing software

By interpreting the results of the linear regression from table no. 7, we may conclude that for the calculated score function, the variables:
-   inventory rate is significant for a significance threshold of 5% (p=0.003 < 0.05), and
-   the current liquidity rate is significant for a significance threshold of 10 % (p=0.101).

However, the linear probability model has certain serious drawbacks[4], such as:
-   there are problems with the disturbance term. As usually, the value of the dependent variable of the observation has a nonstochastic component and a random component. The nonstochastic component depends on Xi and parameters. The random component is the residual term. Even if it is easy to calculate the nonstochastic component in the observation, because the distribution of the disturbance term has only two specific values (1 / 0), this means that the standard errors and the usual statistical tests are invalidated;
-   another problem is that the predicted probability may be greater than 1 or less than 0 for extreme values of Xi.

Due to these disadvantages of the linear model, we built a logit model based on the logistic regression function, and therefore we present the results obtained in table no. 8.

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[4] Christofer, Dougherty. 2001. "Introduction to Econometrics", third edition, Oxford University Press

Table no. 8: Results of Logistic Regression and Significance Thresholds

Logistic regression Log likelihood = -31.466983				Number of obs =	100	
				LR chi2(7) =	25.00	
				Prob > chi2 =	0.0008	
				Pseudo R 2 =	0.2843	
Score	Coef	Std. Err.	z	P > I z I	[95% Conf. Interval]	
R12	1.009765	3.018666	0.33	0.738	-4.906712	6.926242
LRL	-2.185196	3.469383	-0.63	0.529	-8.985061	4.61467
R14	-.4077934	.3798857	-1.07	0.283	-1.152356	.3367689
ROE	1.742624	1.400063	1.24	0.213	-1.001449	4.486697
Ebitda _margin	-9.607359	5.798962	-1.66	0.098	-20.97312	1.758398
rli	-1.772536	.92319	-1.92	0.055	-3.581955	.0368829
Inventory _ratio	.8338336	.3062988	2.72	0.006	.2334991	1.434168
constant	.4434332	3.194651	0.14	0.890	-5.817967	6.704833

Source: author's compilation using the STATA statistical processing software

After interpreting the data from table no. 8 we may conclude that the last three variables (financial ratios) are the one significant for the model of estimation of the PD:
- Ebitda_margin (ebitda margin) that has a significance threshold of 10% (p=0.098);
- rli (quick ratio) that has a significance threshold of 5% (p= 0.055);
- Inventory_ratio (inventory ratio) that has a significance threshold of 1% (p= 0.006).

In order to be able to interpret the logit function, we calculated the marginal effects and the result of the z function in table no. 9.

Table no. 9: Logit estimation. Dependent variable: score

Variable	Mean	b	Mean xb	f(z)	bf(z)
R12	0.13325	1.009765	0.134551186	0.104157541	0.105175
LRL	0.72595	-2.185196	-1.589246836	0.104157541	-0.22802
R14	2.21488	-0.4077934	-0.903144785	0.104157541	-0.04247
ROE	0.19038	1.742624	-1.829049006	0.104157541	0.181507
Ebitda _margin	0.17225	-9.607359	-0.305319843	0.104157541	-1.00068
rli	0.9389	-1.772536	0.782886367	0.104157541	-0.18462
Inventory _ratio	2.51229	0.8338336	1.114032794	0.104157541	0.08685
constant	1	0.4434332	0.4434332	0.104157541	0.046187
Total			-2.151856923		

Source: author's compilation using the STATA statistical processing software

The model's results confirm the relation between the 7 financial ratios selected and the company's possibility to default, so that:

Z = C(1) * R12 + C(2) * LRL + C(3) * R14 + C(4) * ROE + C(5) * EBITDA_MARGIN + C(6) * RLI + C(7) * INVENTORY_RATIO + C(8)

The score function bellow, F(Zi), which actually indicates the probability of default (PD), over a 12 month time horizon, of the company that applied for a loan, is:

$$\text{F(Zi)} = \frac{1}{1+e^{-Z_i}} = \frac{1}{1+e^{-2.151856923}} = 0.104157541$$

(3)

4. Conclusions on the Model Result Interpretation, Advantages and Limits of Model Application

As a result of our research and after interpreting the results obtained, we may conclude the following:

I) As to the financial ratios previously highlighted as significant for the PD over a 12 month period:

- An increase by one percent in the ratio noted rli, representing the current liquidity rate, decreases the probability of default (PD) by 18.46%;
- An increase by one percent in the ratio noted Ebitda_margin, representing the incomes obtained before the payment of interests, fees, depreciation and amortization, decreases the probability of default (PD) by 100%;
- An increase by one percent in the ratio noted Inventory_ratio, representing the inventory turnover, increases the probability of default (PD) by 8.68%.

II) As to the financial ratios that have little influence on the PD:

- An increase by one percent in the ratio noted R12, representing the degree to which a company's activities are financed by funds of the owner as compared to the funds of the creditor, increases the probability of default 10 %;
- An increase by one percent in the ratio noted LRL, representing the ratio of liabilities and assets, decreases the probability of default by 22 %;
- An increase by one percent in the ratio noted R14, representing the ratio of EBITDA and the interest-related expenses, or, more exactly, how many times the interest-related expenses are covered by the incomes obtained before the payment of interests, fees, depreciation and amortization, decreases the probability of default by 4.2 %;
- An increase by one percent in the ratio noted ROE, representing the ratio of the net profit and equity, increases the probability of default by 18.15%;

Considering that this logistic regression econometric model was built using the STATA statistical processing software, with this software we are able to validate the results obtained above, by calculating the odds ratio of the probability of default (PD). This is possible because the econometric model built in STATA is directly related to the notion of *odds* (calculation of odds ratio), usually noted *odds report,* which indicates the probability of "success" and the probability of "failure". Generally speaking, odds represent the calculation / ratio of the probability of success so that y = 1 (in our case, for the probability of default to occur), when x (in our case, the logit variables used) increases by one unit, as follows:

- if / or > 1, than the odds report (odds ratio) for y = 1 increases;
- if / or < 1, than the odds report (odds ratio) for y = 1 decreases.

Thus, if we ask STATA to calculate the odds ratio of PD rather than the logit function, we obtained the results presented in table no. 10.

Table no. 10: Odds Ratio of PD

Logit score R12 LRL R14 ROE Ebitda_margin RLI Inventory_ratio, or
Iteration 0: log likelihood = -43.966988
Iteration 1: log likelihood = -34.793236
Iteration 2: log likelihood = -31.945642
Iteration 3: log likelihood = -31.472154
Iteration 4: log likelihood = -31.466986
Iteration 5: log likelihood = -31.466983

Log likelihood = -31.466983	Number of obs =	100
	LR chi2(7) =	25.00
	Prob > chi2 =	0.0008
	Pseudo R2 =	0.2843

Score	Odds Ratio	Std. Err.	z	P > I z I	[95% Coef. Interval]	
R12	2.744956	8.286106	0.33	0.738	.0073968	1018.659
LRL	.1124557	.390152	-0.63	0.529	.0001253	100.9545
R14	.6651162	.2526682	-1.07	0.283	.3158917	1.400415
ROE	5.712313	7.997598	1.24	0.213	.3673469	88.82756
Ebitda _margin	.0000672	.0003899	-1.66	0.098	7.79e-10	5.803131

rli	.1699015	.1568514	-1.92	0.055	.0278212	1.037572
Inventory _ratio	2.302127	.7051388	2.72	0.006	1.263012	4.196153

Source: author's compilation using the STATA statistical processing software

After interpreting the data from table no. 10, as a result of asking the STATA statistical processing software to calculate the odds ratio of PD rather than the logit function, we obtain the following results:

- R12 (Gearing) > 1, therefore the probability of default (PD) increases;
- LRL (Leverage III) < 1, therefore the probability of default (PD) decreases;
- R14 (Interest Coverage) < 1, therefore the probability of default (PD) decreases;
- ROE (Return of Equity) > 1, therefore the probability of default (PD) increases;
- Ebitda_margin (EBITDA margin) < 1, therefore the probability of default (PD) decreases;
- RLI (Quick ratio) < 1, therefore the probability of default (PD) decreases;
- Inventory_ratio (Inventory Ratio) > 1, therefore the probability of default (PD) increases.

To conclude, the results obtained by calculating the odds ratio of PD fully validate the results obtained with the logistic regression econometric model used for calculating the PD for a time horizon of 12 months, for a SME applying for financing.

One must notice that the final results obtained are not identical to the initial expectations, formulated at the beginning of the practical research, when, in table no. 1, we mention the theoretically expected impact over the PD of the 7 financial ratios selected to build the financial module used within the logistic regression econometric model in order to estimate the PD. Our explanation for the final results obtained is the following:

- 5 financial ratios (variables), the significant variables included, record the same results as the expected ones, in terms of their impact over the PD;

- 2 financial ratios (variables), which include only the variable considered not to have a significant impact on the econometric model built, record different results as compared to the expected ones, in terms of their impact over the PD. The results are different due to the limitations of the model, and further on we shall present these limitations too, but especially due to the fact that during the period analyzed, that is 2008 – 2011, Romania went through a period of acute crisis, and freight transport was one of the most affected businesses. It is normal that during such periods modifications occur, and such modifications are not found during stability and economic growth periods, especially if one takes into account the fact that many SMEs, and especially those operating in the transportation field, aimed at obtaining as lower profits as possible (or even losses) from the accounting perspective. The purpose was to avoid payment of taxes, considered very high, especially due to the economic crisis period.

We would like to mention the following limits of this model:

- not taking into account the behavioral factors, which usually increase the predictive power. The influence of the behavioral factors on an applicant's credit decision is a very subjective one, can be interpreted in many ways and therefore it is easy to bring claims against it, and this is why it was not introduced in the model we built for calculating the PD. Still, the model is a robust one, as we also calculated the financial ratios for the companies in default, and consequently the model uses a dependent dummy variable (0/1) built with value 1 for the companies in default and with value 0 for the viable companies. As a result, the score obtained according to the model corresponds to the probability that a company defaults;

- the use of only 100 observations. Actually, they are based on the calculation of 700 relevant financial ratios, and on the calculation of 7 financial ratios for each one of the 25 companies that contracted and maintained the credit relation over 4 complete financial years (2008 - 2011) respectively. We would like to mention that in the top European bank where these observations were made, the 25 transport companies

represent the entire database that exists in the entire Romanian network of that respective bank, as we   eliminated from the sample the companies for which the financial data for the 4 completed financial years were not available and the companies that were never granted credits by that bank. Fewer companies were included in the sample due to the fact that the analyzed period, namely 2008 – 2011, is a period of profound economic crisis in Romania and Europe, when transport companies encountered great financial problems, and many of them had limited activity. Some other companies disappeared, due to loss of orders or markets (especially those working for the lohn industry, one of the most affected by the crisis, and whose markets were in European countries facing major economic problems, such as Spain, Greece, Portugal, Italy), as well as due to default, as we all know their specific behavior, characterized by the purchase of many expensive vehicles mainly by leasing and bank loans;

    - unexpected results obtained by two of the seven financial ratios analyzed. But none of them has an important significance threshold so they can only have little influence on the econometric model used to estimate the PD. Moreover, this is due to the fact that the analysis was performed during the crisis and to the specificity of the transport companies comprised in the sample;

    - the relevance of the results estimating the PD only for the transport companies, due to the reasons presented above. The use of the model for companies operating in other fields of activity alters the PD predicting precision. But this limitation is normal, as all big European banks try to estimate the PD specifically for each industry and even taking into account the country where the company operates. When it comes to Romania, it is well known that debt burden of most transport companies is high and their net profits are small, especially reported to turnover (or many of them even intentionally record losses, from the accounting perspective).

    There are many advantages of this econometric model estimating the PD of a loan applicant, and the most important ones are the following:

- homogeneity of results is a strong point of the model, as we aimed at analyzing companies that operate in the same industry, namely freight transportation, that bear the same NACE code and a yearly turnover or a group turnover not exceeding EURO 5 million, thus being SMEs (SME in the European bank where the study was conducted);

-   the results are representative, as we took the financial data corresponding to financial analyses made by a leading Romania-based European bank, for all clients operating in this industry who submitted their financial statements over a 4 year period, from 2008 to 2011. The 100 observations made over the 4 completed financial years were based on final financial reports (December balance sheet indicators and indicators resulted from the calculation of related balances);

-   confirmation of the link between the solvency, profitability, liquidity, activity ratios and a company business failure;

-   the selection of the 7 most important financial ratios in the financial module on which the model is based, representing the most important groups: solvency, profitability, liquidity, activity;

-   relatively quick and easy calculation of the 7 financial ratios (variables) which together constitute the financial score module, by which one calculates a score starting from the sole scores of the financial risk factors (financial module score). Consequently, the PD is easy to determine too.

- expressing the degree of risk of the company by the final score obtained as a result of performing a correct financial analysis concerning the loan applicant. This is directly associated with the probability of the company going bankrupt;

- compliance with the provisions on the approach based on internal rating models set out in the Basel Accord;

- fulfillment of the criteria required by the bank supervision authorities.

Whatever the advantages and the limits of the econometric model estimating the PD of a loan applicant, as a result of our research we conclude that it is

extremely important that the creditor uses it correctly, because at least it allows:

- to make the right credit decision;

- initially to maintain, and later on to increase the bank's profitability, considering the deterioration of the economic environment, the accelerated growth of bad loan portfolios which have impact on the banks' balance sheets and on the possibility to support the country's real economy through new funding, which is extremely important especially for the development of SMEs;

- calculation of Risk Weighted Assets and setting a fair price for loans: higher risk customers shall obtain more expensive loans, while lower risk customers will get less expensive funding.

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PROPOSALS FOR ESTABLISHING THE LEGAL SETTLEMENT OF PROSTITUTION

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Abstract

The present study discourses a series of conclusions regarding legal provisions for prostitution, as a phenomenon in the context of having a succession of criminal and administrative regulations and giving the prospect of a more permissive legislation in which prostitution could be practiced as an authorized occupation in Romania.

Key words: prostitution, Penal Code, authorized occupation.

JEL Classification: K20.

Following the idea of a non-incriminated prostitution activity, by abrogating the relevant legal provision regarding this criminal deed, a redefinition of the notion comes as a necessity, trough:

- sanctioning the phenomenon with administrative tools, in its whole or taking into consideration only some of its manifestations that would affect public order (for example activities like attracting clients, practicing prostitutions in locations situated near public authorities headquarters, schools, cultural or religious establishments etc.) or public behavior (for example obtaining incomes from *high class* prostitution and not subjecting them to public taxes);

- enforcing a legal permissive regulation system, in order to increase legal activities of prostitution and decrease illegal activities of such kind;

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- enforcing a criminal or administrative offence for illegal practicing of prostitution, when the term in defined.

In our opinion, the current legal definition of the prostitution is a satisfactory one, as we find in the legal text of our Penal Code, taking into consideration that the text dates from the beginning of the '90s.

The double punishing standard, both penal and as an administrative offence (even if the administrative part should be only about attracting clients), led to various effects, mostly negative ones, creating an unfortunate image of the legal system in this matter and also allowing the enforcement authorities to choose between the sanctionatory regime that they would apply in each situation (since the law claims the necessity of proving the occupational nature of the offence). A legal clear definition of the notion comes as mandatory for the future and this could be done as a general rule, taking into consideration the necessity of a permissive or a restrictive provision regarding *modus operandi* and social effects of the prostitution. A future legal provision regarding prostitution should make a clear distinction between the prostitution activities and other activities that may have an artistic, educational, cultural, medical, erotically, sexual, pornographic or entertaining purpose but also may have some common features with prostitution (e.g. Pornographic productions with paid actors, video chat, erotic massage etc.).

The enforcement of a permissive regulation comes as mandatory towards the idea of preventing this activity to be controlled by criminal organizations representing a real danger for public order, the prostitutes, their families and sometimes, even for the clients.

We appreciate that a good definition of this social phenomenon would be the following: prostitution consists in a person's action of committing sexual activities with one of more persons, for the purpose of obtaining material advantages, outside and artistic, educational, medical or scientifical environment.

The legal provisions has to establish warranties for the purpose of:

- Assuring restrictive penal regulations punishing human trafficking for sexual purposes, panderism that involves constraining or deceiving the victims or situations in which someone takes advantage of a person being unable to defend herself or expressing his or her will;

- Maintaining a moderate penal sanctionatory provision for committing unauthorized prostitution and panderism that doesn't involve constraining or deceiving of the prostitute, but his or her free will;

- Enforcing an administrative sanctionatory system for the infringement of legal activities of prostitution.

In the development of this social phenomenon, we observe two forms of prostitution: the ordinary one and the luxurious one. The second category can produce outrageous incomes giving the way they are being obtained. Regarding this aspect, in a future permissive regulation, we could take into consideration the Belgian provision that limits the maximal value of the requested fees. Therefore, our future regulation should provide the right of a person to request money for sexual services, but the fee for an hour shouldn't be higher than minimal wage, regardless of the activity of the prostitution.

A non incrimination in the criminal legislation combined with administrative sanctions will not be enough to control this social phenomenon.

It is only a coherent legal provision for this activity, enforced after observing regulations form other states and taking into consideration the Romanian legal expertise in this matter, both before and after World War II, that can lead to transforming a negative social aspect into an acceptable activity for society, economy, fiscality and public health.

In our opinion, the only way to improve the lifestyle of the Romanian prostitutes and to provide control over this activity is enforcing a legal permissive system, including special provisions for protecting the rights and freedoms of prostitutes. Such legal provisions should include:

- Protection for the person practicing prostitution towards her employer and client;
- Creating a contractual relation, legal and moral, between the prostitute ant the client, in order to protect both their interests and the interests of third parties;
- An obligation for the prostitute to return the fee to the client in case the sexual service is not provided and the right to request the fee in the opposite situation;
- Interdiction for the employer and client to force the prostitute in providing a sexual service;

- The right of the prostitute to select the clients and to refuse a certain type of sexual service;
- The possibility for the prostitute to claim the payment of the fee in a court of law, personally, without the involvement of the pander;
- In case of a employer – employee relation, the obligation for the parties to close a written employment contract, so that the employee can have a right to social care and pension;
- Express obligation for the employer to pay taxes including to social care and pension funds;
- Legal provisions for prostitutes that want to practice this activity as a liberal profession (having to pay takes like an employer);
- Limiting the legal responsibility of the prostitute or the pander, if they prove they obey all the legal regulations;
- Public authorities and local administration having to authorize the prostitution activity;
- Obligation for the prostitute to periodically (monthly) medical visits;
- Sanitary and public order verifications made at certain periods of time;
- Minimal age both for prostitutes and clients at 18 years old.

In case internal authorities should choose a permissive legal system for practicing prostitution in Romania, we appreciate that expertise of countries like Belgium, Germany, Austria, Holland, Spain, Denmark, Switzerland, Hungary, Greece, Turkey, Mexico, Columbia, Venezuela, Australia and New Zeeland should be analyzed, and also the causes for which there have been some legal changes in U.S.A., United Kingdom, France, Italy, India, China, Japan, Brazil and Argentina.

In case of such a legal regulation for the sexual workers acting in brothels or other special location for paid sexual services (west European system[1]),the provision of the Criminal Code should include *an exception of appliance for persons that found or work in those location, in the conditions provided by the relevant special law.*

The legal texts regarding prostitution must exclude pejorative formulations (e.g. *prostitute* or *person practicing prostitution*). The legal text could include

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[1] E.g. Spanish, Belgian system or German System –Eros Centers.

expressions like: sexual worker, provider, authorized person, authorized person for providing sexual services and others.

The legal terminology mustn't exclude the possibility for men to practice this activity and shouldn't create discriminative situation for men in this matter.

A permissive regulation for legally practice of prostitution has to be enforced along with a penal one regarding prison punishments for illegal practice of this activity. There is also a possibility for instating an administrative sanction for prostitution, but it wouldn't be as efficient as a penal one regarding prostitution.

In order for Romania to be forced to withdraw herself from The Convention on Action against Trafficking in Human Beings, the prostitution activity should be legally authorized as an independent profession and less as an activity that involves getting hired in a brothel (that would be owned and financed by another person) or working in an Eros Center, in which parts of a real estate is rented for practicing sexual activities. Also, there is the need of taking this activity away from the criminal groups that control it in the present time, that exploit and traffic the prostitutes.

After analyzing the foreign provisions, we have come upon restrictive, permissive, limitative or prohibitive legislations, that are concentrated in some distinctive directions:

 - a severe sanctionatory legal system (in Iran, Afghanistan, North Korea, South Arabia, Tanzania, Kenya, Egypt, Vietnam and others);

 - a moderate legal system, sometimes conditioning the repeating of the practice in order to be sanctioned (Romania at the moment, Russia, Ukraine, Haiti, Japan, Thailand, South Africa and others).

In some countries, only the client is punished (Sweden, Norway, Iceland and others) or both parties (Illinois, Alaska, Colorado, Texas, New York and others);

 - a generally permissive system with administrative sanctions for some manifestations of the deed (Romania after enforcing the New Criminal Code, United Kingdom, France, Spain, Italy, Canada, Bulgaria, India, U.S.A. – Arizona, Columbia, Brazil, Argentina, Israel, Dominican Republic, R.D. Congo, Ethiopia and others);

- a permissive system, precisely regulated, sometimes doubled by a fine punishment or even penal sanctions for practicing prostitution in non authorized conditions (Germany, Holland, U.S.A. – Nevada, Switzerland, Austria, Greece, Hungary, Turkey, Columbia, Venezuela, Ecuador, Peru, Chile, Uruguay, Paraguay, Bolivia, Mexico, New Zeeland and others). A future permissive legal system of this activity should use the expertise gathered from enforcing the mentioned above provisions by making a detailed analyses of their social effects.

A future legal system should include provisions regarding the condition for obtaining the authorization form local authorities as well as from the Ministry of Internal Affairs, local bureaus of the Ministry of Health. Also, persons practicing prostitution should be noted in the data bases of fiscal authorities in order for them to pay both income and authorization taxes. Local authorities could establish areas in which locations for sexual services would be founded.

In this regulation, the person practicing prostitution would have to assure the confidentiality regarding the client's identity. This aspect mustn't be mentioned or made public, excepting the cases involving judiciary or administrative procedures, sanitary aspects and at the request of a court of law, police or public order authorities, administrative authorities.

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IMPACT OF OIL AND NATURAL GAS PRICES ON THE TURKISH FOREIGN TRADE BALANCE: UNIT ROOT AND COINTEGRATION TESTS WITH STRUCTURAL BREAKS

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Abstract

Energy is one of the main inputs in the industrial production process. There have been remarkable increases in global production with the industrial revolution and globalization. The raising energy demand as a result of the increases in global production has been predominantly met by nonrenewable resources such as oil, natural gas and coal. Consequently we have experienced significant increases in energy prices especially as of oil shocks in 1970s. This study investigates the role of energy in the chronic foreign trade deficits of Turkey by using Hatemi-J (2008) cointegration test and Toda-Yamamoto (1995) causality test during the period 1997:01-2015:03. We found that there was long run relationship among the foreign trade deficit, oil and natural gas prices and real effective exchange rate and there was unidirectional causality from oil and natural gas prices to the foreign trade balance..

Keywords: Foreign trade balance, crude oil price, natural gas price, cointegration with structural breaks, causality test

JEL Classification: F32, F36, O16, O57, Q43

1. Introduction

Industrial production has increased continuously with the industrial revolution and globalization process. Increases in the energy prices have

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accompanied with the increases in production. The course of the crude oil and natural gas prices were presented in Chart 1. The sharp increases in energy prices has had caused disruptive effects in the economies of the countries which are net energy importers.

Chart no.1 Crude oil price* and natural gas price** (1997:01-2015:03)
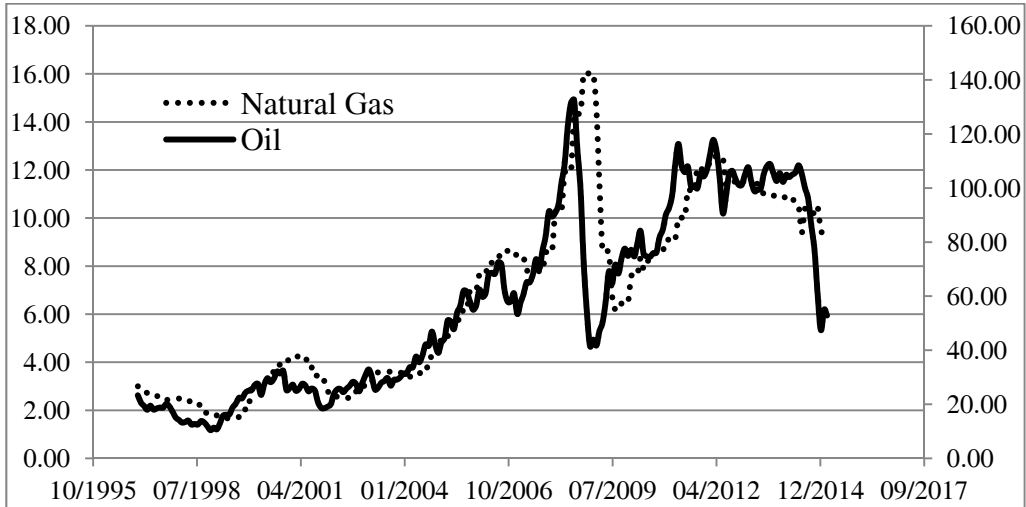

Source: *IMF (2015)*, Primary Commodity Prices

* USD per barrel (simple average of Dated Brent, West Texas Intermediate, and the Dubai Fateh spot prices)
** USD per million metric British Thermal Unit (Russian natural gas border price in Germany)

Increases in prices of oil and natural gas affects the economies through monetary, trade and financing effects (Bernanke et al. (1997)). Trade effects emerge from the changes in quantities and prices of the exported and imported goods due to increases in energy prices. On the other hand the monetary effects emerge from the deflationary pressure as a consequence of the reactions by monetary authorities. Finally financing effects emerge from the capital transfers due to increases in asset prices and profits in energy exporting countries (Bernanke et al., 1997:1415).

Current account deficit is a chronic problem of Turkish economy and foreign trade deficits have had the largest share in current account deficits. Turkey has had experienced trade deficits since 1950s. The Turkish foreign trade balance during the period 1960-2013 was presented in Chart 2. Turkish economy had trade deficits except crisis years such as 1994, 1998, 1999, 2001 and 2002 during this period. On the other hand Turkey is a net energy importer and provides most of the energy requirement by import. The energy import as a percent of energy use reached from 12.33% in 1960 to 73.10% in 2012. So Turkey becomes vulnerable to the possible increases in the energy (especially oil and natural gas) prices.

Chart no.2 Energy imports (% of energy use) in Turkey (1960-2013)
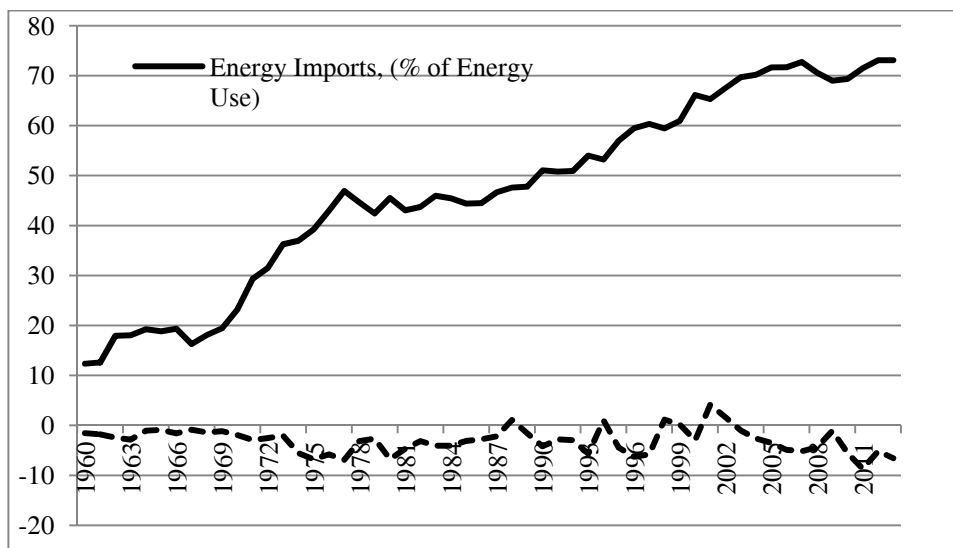
Source: *World Bank (2015a and 2015b)*

This study examines the relationship between crude oil and natural gas prices and foreign trade balance in Turkey during the period 1997:01-2015:03 by using Hatemi-J (2008) cointegration test and Toda-Yamamoto (1995) causality test. The remainder of the study is structured as follows. The next section overviews the existing literature on the relationship between energy prices and foreign trade balance. Section 3 introduces the data and the method,

Section 4 presents and discusses empirical findings of the study and Section 5 presents conclusion and policy implications.

2. Literature Review

Oil shocks in 1970s led the economist to study on the effects of changes in oil prices on macroeconomic variables such as economic growth, stock markets and current account deficits (See Hamilton (1983), Behmiri and Manso (2014), Aucott and Hall(2014), Pradhan et al.(2015)). However there have been relatively few studies on the relationship between energy prices (especially oil) and foreign trade balance in the literature. These few empirical studies generally have found that increases in oil prices had positive impact on foreign trade deficits (See Gocer(2013), Bayat et al. (2013), Atay-Polat and Sancar (2015)).

In one of these studies, Kilian (2009) investigated the impact of crude oil demand and supply shocks on external accounts including change in net foreign assets, current account, trade balance, oil trade balance, non-oil merchandise trade balance, capital gains on gross foreign assets and liabilities both in major oil exporters and importers during the period 1970–2005. They found that the net impact of oil demand and supply shocks on the balance of oil importers and exporters depends considerably on the reaction of non-oil trade balance.

In another study Allegret et al.(2014) examined the impact of oil price shocks on global imbalances in 30 oil exporters and importers during the period 1980-2011 by using global VAR approach and they found that oil shocks led increases in current account deficits in oil importer. On the other hand Schubert (2014) investigated the impact of an oil shock on key macroeconomic variables for a small open economy and found that an increase in oil price affects current account in the first stage, but later the trade balance improves sufficiently in order to cause the current account to give a surplus.

The empirical studies generally have focused on the relationship between oil prices and current account deficits in Turkey. In one of these studies Demirci and Er (2007) examined the impact of crude oil price on the current account deficits in Turkey during the period 1991-2006 by using ARMAX, VAR and cointegration analysis and found that there was long run relationship between crude oil price and current account deficit.

In another study Demirbas et al. (2009) examined the impact of oil prices on the current account deficits in Turkey during the period 1984-2008 by using Engle-Granger cointegration and vectore error correction model and found that oil prices had positive impact on the current account deficits. In another study Erdoğan and Bozkurt (2009) examined the major determinants of current account deficits in Turkey during the period 1990-2008 by using MGARCH models and found that oil prices had positive impact on current account deficits.

Irhan et al. (2011) examined the determinants of Turkish trade balance during the period 1990-2007 by using ARDL bound test and found that crude oil prices had no significant impact on trade balance. On the other hand Bayat et al. (2013) investigated the relationship between foreign trade deficit and real oil price in Turkey during the period January 1992-April 2012 by using nonlinear cointegration and causality. They found there was a uni-directional causality from real oil price to foreign trade balance in the mid run, the effect of oil price volatility on foreign trade balance disappeared in the long run. In another study Bayar et al. (2014) examined the determinants of current account deficits in Turkey during the period 2000:Q4–2013:Q3 by using impulse-response analysis, variance decomposition analysis and Granger causality test and found that crude oil price was one of the important determinants of current account deficits in Turkey.

In another study Gocer (2013) examined the major causes of current account deficits in Turkey during the period 1996-2012 by using VAR model, Johansen and VEC methods and found that 37% of the current account deficit was arisen from energy import. On the other hand Atay-Polat and Sancar (2015) examined the relationship between foreign trade deficits and real oil prices in Turkey during the period 1984-2014 by using VAR model and Granger causality test and found that there was unidirectional causality from oil prices to foreign trade deficits.

3. Data, Method and Econometric Application

We examined the impact of energy prices including oil and natural gas on foreign trade balance of Turkey in this study. Firstly, we conducted the stationarity test of the time series with Lumsdaine-Papell (1997) unit root test. We then tested the long run relationship among the variables by Hatemi-J (2008) cointegration test. Finally the causality among the variables was tested by Toda-Yamamoto (1995) causality test.

3.1. Data

We used monthly data of foreign trade balance (TB), crude oil price as USD per barrel (OIL) and natural gas price (USD per million metric British Thermal Unit) (GAS) during the period 1997:01- 2015:03 to investigate the relationship among foreign trade balance, crude oil, natural gas, real effective exchange rate. The variables used in the econometric analysis, their symbols and sources were presented in Table 1. We used Eviews 8, Gauss 10 and WinRATS 8 software packages in the analysis of the dataset.

Table no.1 Variables used in the econometric analysis

Variables	Symbols of the variables	Data Source
Foreign trade balance	TB	Turkish Statistical Institute
Crude oil price (USD per barrel)	OIL	IMF
Natural gas price (US$ per million metric British thermal unit)	GAS	IMF

3.2. Lumsdaine and Papell (1997) Unit Root Test

The events such as financial crises, political turmoil and natural disasters may cause structural breaks in time series. Therefore it is important to use tests which consider structural breaks in analysis of time series. In this study we used Lumsdaine and Papell (1997) unit root test.

The traditional unit root tests such as Augmented Dickey–Fuller (ADF) (1981) and Phillips Perron (1988) do not consider the structural breaks in the series, while testing the stationarity of the series. But the traditional unit root tests gave wrong results in case there is structural breaks in the series. Then Zivot and Andrews (1992) and Perron (1997) developed unit root tests consider one structural break in the series. Lumsdaine-Papell (1997) extended the Zivot and Andrews (1992) unit root test and introduced a new unit root test which considers two structural breaks in the series. Lumsdaine-Papell (1997) unit root

test is the improved version of ADF which includes two endogenous structural breaks and can be expressed as follows:

$$\Delta y_t = \mu + \beta_t + \theta DU1_t + \gamma DT1_t + \omega DU2_t + \varphi DT2_t + \alpha y_{t-1}$$

$$+ \sum_{i=1}^{k} c_i \Delta y_{t-i} + \varepsilon_t \qquad [1]$$

In [1] numbered equation the indicator dummies $DU1_t$ and $DU2_t$ represent the structural changes in the intercept at TB_1 and TB_2, while $DT1_t$ and $DT2_t$ represent the structural breaks in the trend at TB_1 and TB_2.

$DU1_t = 1 \; if \; t > TB1$ and   otherwise   zero; $DU2_t = 1 \; if \; t > TB2$ and otherwise zero and $DT2_t = t - TB2 \; if \; t > TB2$ and otherwise zero.

We selected the model which enables the structural breaks in both constant and trend and applied the test. The results of the Lumsdaine-Papell (1997) unit root test were presented in Table 2. The results denoted that all the variables were not stationary in the level because the test statistics were lower than critical values. Therefore the null hypothesis (series has unit root test) was accepted.

Table no.2 Results of Lumsdaine and Papell (1997) unit root test

Variables	TB1	TB2	Test statistics	Lag length
TB	November 2003	September 2010	-4.7886	9
OIL	December 2004	June 2012	-4.1503	13
GAS	July 2004	January 2009	-5.8783	10

Note: Critical values were - 7.1900 at 1% significance level, - 6.7500 at 5% significance level and   - 6.4800 at 10% significance level.
    TB1 and TB2 were the first and second structural breaks respectively.

3.3. Hatemi-J (2008) Cointegration Test

Hatemi-J (2008) cointegration test is the extended version of Gregory and Hansen (1996) cointegration test which allows one structural breaks among the

series. Hatemi-J (2008) cointegration test allows two structural breaks both in constant and trend and the model is as follows:

$$y_t = \alpha_0 + \sum_{i=1}^{2}(\alpha_i D_{it} + \beta_i' D_{it} x_t) + \beta_0' x_t + u_t \qquad [2]$$

In the [2] numbered equation, α_0 is the constant term before the structural breaks, α_1 and α_2 respectively is the change in the constant term due to the first and second structural breaks. On the other hand β_0 is the trend term before the structural breaks, β_1 and β_2 respectively is the change in the trend term due to the first and second structural breaks.   The dummy variables D_{1t} and D_{2t} reflects the effects of structural breaks in the model. D_{1t} is 1 if $t > n\tau_1$, otherwise zero. On the other hand D_{2t} is 1 if $t > n\tau_2$, otherwise zero. τ_1 and τ_2 represent the unknown parameters which show timing of regime change point (Yılancı and Öztürk, 2011)

The test of null hypothesis (there is no cointegration among the variables) is conducted by using ADF^*, Z_α and Z_t test statistics. ADF^* is calculated by applying ADF unit root test statistics to the residuals obtained from the [2] numbered equation. On the other hand Z_α is calculated by using $Z_\alpha = m(\hat{\rho}^* - 1)$. $\hat{\rho}^*$ is the estimator of first-order autocorrelation coefficient which its bias is adjusted. On the other hand Z_t is calculated by using $Z_t = \dfrac{(\hat{\rho}^* - 1)}{\left[\hat{\gamma}(0) + 2\sum_{j=1}^{B} w(j/B)\hat{\gamma}(j)\right]/\sum_{1}^{n-1} \hat{u}_t^2}$ (Hatemi-J, 2008).

We used Hatemi-J (2008) cointegration test considering two structural breaks to determine the long run relationship among the variables. We selected the model which allows structural breaks both in constant and trend. The results of Hatemi-J (2008) cointegration test were presented in Table 3. The results demonstrated that the series were cointegrated according to the statistics Z_t and Z_α provided by Phillips test.

Table no.3 Results of Results of Hatemi-J (2008) cointegration test

Test		TB1	TB2	t statistic	Critical values*	
					5%	10%
ADF test		November 2000	November 2007	-5.828	-6.458	-6.224
Phillips	Z_t	December 2003	October 2007	-8.140	-6.458	-6.224
	Z_α	December 2003	October 2007	-97.509	-83.644	-76.806

* Critical values were obtained from Hatemi-J (2008:501)

Note: TB1 and TB2 denote the first and second structural breaks respectively.

3.4. Toda and Yamamoto (1995) Causality Test

Toda and Yamamoto (1995) causality test is a modified version of Granger (1969) causality test and test the causality among the variables without pretesting cointegration. Firstly the optimal lag length p is determined in the VAR model, then the highest integration degree (d_{max}) among the variables is added to the p and ordinary least squares model is estimated with the variables at the level for the $p + d_{max}$ lag. At final stage the constraints are imposed on the variables respectively and the significance of these constraints are tested by using standard Wald test for p lag (Büyükakın et al., 2009).

We applied Toda-Yamamoto (1995) causality test to determine the causality among the foreign trade balance, oil price and natural gas price and the results of causality test were presented in Table 4. We checked autocorrelation and heteroscedasticity problems in this model and foun that there was no autocorrelation and heteroscedasticity problems. The findings of the causality test denoted there was unidirectional causality from both oil price and natural gas price to the foreign trade balance. On the other hand there was unidirectional causality from natural gas to oil price.

Table no.4 Results of Toda-Yamamoto (1995) causality test

Null Hypotheses	MWALD	Prob.
OIL does not Granger cause of TB	21.95446	0.0000
GAZ does not Granger cause of TB	18.22039	0.0001
TB does not Granger cause of OIL	2.309276	0.3152
GAZ does not Granger cause of OIL	6.942319	0.0311
TB does not Granger cause of GAS	2.976314	0.2258
OIL does not Granger cause of GAS	1.009860	0.6035

4. Conclusion

We examined the impact of crude oil prices and natural gas prices on these chronic deficits in Turkey which is a net oil and natural gas importer . Firstly we tested the stationarity of the variables by Lumsdaine and Papell (1997) unit root test which consider structural breaks. We found that all the variables in the study had unit roots. Then we analyzed the long run relationship among foreign trade balance, crude oil price and natural gas price with Hatemi-J (2009) cointegration test allowing two structural breaks and the results demonstrated that there was long run relationship among the variables. Finally the causality among the variables was tested with Toda and Yamamoto (1995) causality test and the findings denoted that there was unidirectional causality from crude oil price and natural gas to the foreign trade balance.

Consequently our study showed that crude oil and natural gas are the determinants of the foreign trade deficits in Turkey. Therefore energy importer countries such as Turkey should take measures in order to avoid the devastating effects of changes in both crude oil price and natural gas price in the mid and

long run maybe they should increase the share of alternative energy sources such as renewable energy, nuclear energy, windpower plants.

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THE TERMINOLOGY OF COSMETICS IN ROMANIAN DICTIONARIES

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Abstract

The terminology of cosmetics (TC) puts the Romanian specialized cosmetic vocabulary in direct relationship with the common lexis and emphasizes the ability of the Romanian language to get richer through assimilated lexical loans (Frenchisms, Anglicisms, Italianisms) or by stimulating its lexical creativity (calques/loan translations, compounds, derived words etc).

The present paper is based on the finding that the terminology of cosmetics has not yet been studied systematically in Romanian linguistics. Our approach is mainly descriptive and, on the one hand, it tackles the dynamic semantics of the "old" TC terms (mainly Frenchisms) with respect to the meaning of their first "appearance" in Romanian dictionaries. On the other hand, it analyzes the category of "absolute" novelties (concealer, gloss, lipstick, peeling, smokey eyes etc.) which includes Anglicisms still unrecorded in Romanian dictionaries, but whose (frequent) use is certified by the current general discourse of cosmetics and body care techniques. The corpus of the TC terms under investigation is taken from Romanian popular beauty catalogues and glossy magazines (Avon, Bravo Girl, Cool Girl, Cosmopolitan, Glamour) as well as from specialized training courses on cosmetics (Curs de cosmetică profesională, Manual de cosmetică).

Therefore, our study follows the evolution of the terms from their emergence as neologisms in the dictionaries used, the relationship with the already existing synonyms in the language, the extension or reduction of their meaning etc. We consider that the investigation of the terminology of cosmetics in the Romanian language proves rewarding both for lexicology and semantics as well as for terminography and lexicography through highlighting new terms or new meanings,

already validated by current usage. It is our hope for this research to be the starting point in the making of a mini-dictionary of cosmetic terms in current Romanian.

Keywords: Anglicisms, calque, loan, neologisms, vocabulary.

JEL Classification: Y90

1. Introduction

Terminology is considered, irrespective of its many interpretations, a relatively recent science. Numerous studies (Bidu-Vrănceanu 2000, 2001, 2005, 2007, 2010) show various specialists' special interest for this field, which leads to a wider interpretation that its name covers. We should focus on two of these: firstly, the *name* given to an interdisciplinary science, being in its broadest sense a „science of terms"; secondly, the *inventory* (*corpus*) *of terms* from a particular field considered to be an object of scientific research, referred to either by means of an adjective (specifying the field): „the **terminology of cosmetics/linguistics/ economics**" etc.) or by using the plural noun **terminologies** (general inventory) (Bidu-Vrănceanu 2010).

Therefore, strictly speaking, the main interpretation of terminology is the *internal terminology* or the *terminology of specialists for specialists* (Bidu-Vrănceanu 2007: 20). The modern society, based on knowledge, witnesses a trend of expansion of the specialized terms onto the common language. This is called metaphorically the „democratization" or „laicization" of sciences (Bidu-Vrănceanu 2007: 9, 16-18, 155-156) which leads to a more complex type of terminology, of high interest for non-specialists, called *external terminology*. (*Id*: 23-25). It has a *descriptive*, non-normative, character, focussing on the concrete, practical, *description* of terms as they are used in texts of various degrees of specialization, going to texts of broad circulation.

Current terminological studies (*Mots, termes et contextes*, 2006) propose objective criteria of text differentiation according to the contextual density of specialized terms, on the one hand, or to the „dissolution" of texts by common words usage, on the other hand. A preliminary distinction of the analysis of terms in texts and contexts considers the ratio between the *lexicographical* definition, which is supposed to be a *natural* definition (thus, accessible) and the

terminographical one which reproduces the *scientific* definition and it is *conventional*. Whenever the specialized term is used outside a strictly technical field, by non-specialists, it is the *pre-scientific* or even the *usual* definition that is deemed convenient. The partial decoding of the specialized sense of a term by non-specialists is generally considered as *determinologization* (Bidu-Vrănceanu 2007: 50). The degree of *determinologization* depends on numerous factors and on the various *competencies* of speakers, on their level of education, on the correctness of their „reading" of definitions (Bidu-Vrănceanu 1993: 58-63; 2007: 71-103). Consequently, the opening of scientific codes can be assured mainly by general dictionaries where the definition should differ from the one in specialized, technical dictionaries, especially to facilitate the access to the specialized meaning. (Bidu-Vrănceanu 2007: 48-52).

We will study the chosen corpus in order to conclude on the type of cosmetic terms' definitions in Romanian dictionaries. The mass-media favours the circulation of these terms beyond the field of specialists, the *internal terminology*, and it records their frequent usage in the common lexis, in the *external terminology*.

The need to understand the cosmetic terms of wider circulation and their extension onto various types of communication requires a correct decoding, as a consequence of adequate defining. The setting of definitions for cosmetic terms must follow certain coordinates, irrespective of the level of usage. Therefore, the present study aims at presenting the Romanian terminology of cosmetics on the basis of lexicographical definitions (CADE[2], DLRM[3], DEX1[4], DEX2[5], MDN[6], DCR3[7]), starting from a corpus of cosmetic terms that appear

[2] Candrea, I.A. and Adamescu, Ghe. 1929-1931, *The Illustrated Enciclopedic Dictionary of the Romanian Language Today and Yesterday* (*Dicţionarul limbii române din trecut şi de astăzi*), Bucharest, Cartea Românească Publishing Press;
[3] Macrea, D. (coord.) 1958, *The Dictionary of Modern Romanian Language* (*Dicţionarul limbii române moderne*), Bucharest, Academiei Române Publishing Press;
[4] Coteanu, I. (coord.), Seche, M., Seche, L. 1975, *The Explanatory Dictionary of the Romanian Language* (*Dicţionar explicativ al limbii române*), Bucharest, Academiei RSR Publishing Press;
[5] Institutul de Lingvistică „Iorgu Iordan - Alexandru Rosetti" al Academiei Române 1996, *The Explanatory Dictionary of the Romanian Language* (*Dic ionarul explicativ al limbii române*), Bucharest, Univers Enciclopedic Publishing Press.
[6] Marcu, F. 2008, *The Big Dictionary of Neologisms* (*Marele dicţionar de neologisme*), Bucharest, SaeculumVizual Publishing Press;
[7] Dimitrescu, F. (coord.), Ciolan, Al., Lupu, C. 2013, *The Dictionary of Recent Words* (*Dicţionar de cuvinte recente*), 3rd edition, Bucharest, Logos Publishing Press

with high *frequency* in everyday communication, in magazines and advertisements, thus having a special importance for the common lexis.

For reasons of absence of specialized level texts for TC, we will firstly address texts of popularization (pharmaceutical prospectuses of cosmetic products, magazines of cosmetic companies: *Avon* România, *Oriflame* România, *Yves Rocher* catalogue) and publicistic texts (magazines: *Bravo Girl*, *Cool Girl*, *Cosmopolitan*, *Glamour*, *The One*), in a determined time period: 2012-2015. The inventory thus obtained (Annex) will be compared to the records and definitions of the respective terms in the general dictionaries of the Romanian language cited above.

2. ETYMOLOGICAL ASPECTS

The first terminologies in Romanian started to appear in the 17th century for philosophy, medicine and geography (Gheție, 1982: 13-16). One cannot speak of the terminology of cosmetics until the beginning of the 20th century when it is only some terms that make their first appearance in the language: *boială* (*make-up*), *cosmetic* (*cosmetic product*), *(a se) farda* (*to put make-up on*), *parfum* (*perfume*)/*parfumor* (*perfumer*), *pomadă* (*ointment*), *pudră* (*powder*), *săpun* (*soap*), *suliman* (*make-up*). TC began its existence as a sub-branch of Biology, Chemistry, Pharmacology etc., the first cosmetic terms of the Romanian language having originated in the above-mentioned related fields: *loțiune* (*lotion*), *masaj* (*massage*), *pomadă* (*ointment*), *săpun* (*soap*), *tratament* (*treatment*). As already mentioned, unlike other terminologies, the terminology of cosmetics cannot be found in contexts of academic level and specialized texts. Such texts are extremely few and they belong to the original related fields.

In current Romanian, TC features both older terms, from Turkish, Greek etc., neologisms from Romance languages (French, Italian) as well as terms from Germanic languages (mainly English). Before 1989 (the fall of the communist regime), most of cosmetic terms in Romanian were of French and Italian origin. After 1990, French loans lose their prestige and start being gradually replaced by Anglicisms, in the context of anglophilia present in the mass-media and especially in the languae of the youth. Therefore, cosmetic terms in Romanian come from the following sources:

2.1 Neological loans:

2.1.1. *Lexical* (simple words/compounds):

- before 1989: Şampon (<fr., engl. *shampooing*) appears in Romanian at the beginning of the 20th century via French, having the meaning of „săpun praf sau lichid" („powder or liquid soap") (DLRM:311). The cosmetic terms *loţiune* and *parfum* belong to the same category.

- after 1990: *stick* (<Engl. *stick*), with the meaning of „ambalaj de formă cilindrică pentru produse care se aplică prin ungere" („cylindrical packaging for products to be applied by lubrication") (DCR3:495). This term has got a particular evolution in Romanian, gradually expanding its meaning by semantic calque after English from „produs de panificaţie" („bakery product") to „card de memorie" („memory card") (DCR3:495).

2.1.2. *Phraseological* (phrases): *roll on* (<Engl. *roll on*) with the meaning of „produs cosmetic; recipient de uz cosmetic/medical, cu bilă" („cosmetic product; cosmetic/medical container"). It is not recorded in dictionaries, but its entrance in the common lexis is certified by numerous usage instances in the audio-visual media. (...„dacă foloseşti deodorantul *roll-on* de la Garnier Mineral, varianta fresh sau intense..." – „...if you use the *roll-on* deodorant from Garnier Mineral, the fresh or intense variant... „G, 7/ 2012, p.8)

2.2. *Calques*:

2.2.1. *Lexical calque* (*of structure*) - considered the most important of all types of calques as it represents a means of enriching the vocabulary with both new lexical units as well as with new meanings, in addition to those already existing for a particular word. Examples: *antiallergenic* (cf. fr. *anti-allergénique*), *antibacterian* (cf. fr. *antibacterial*), *anti-inflamator* (cf. fr. *anti-inflamateur*), *anti-îmbătrânire* (cf. fr. *anti-âge*), *antimătreaţă* (*anti-dandruff*) (cf. fr. *anti-pellicule*), *antioxidant* (cf. fr. *antioxidant*), *antiseptic* (cf. fr. *antiseptique*).

2.2.2. *Semantic calque* (*meaning loans*). Unlike the phraseological loan (which consists in taking over from a language of an expression associated with a semantic content), the semantic calque attributes a new meaning to an already existing word in a language under the influence of the semantic foreign correspondent which also features the meaning of the local word. We mention

a few examples from the terminology of cosmetics: *luciu*[8] (*de buze*) (cf. engl. *lipgloss*), *mască* (*de față*) (cf. fr. *masque de beauté*), *volum* (*de păr*) (cf. fr. *volume cheveux*) etc.

2.2.3. *Phraseological calque* - consists of the full translation (*full phraseological calque*) or the partial one (*partial phraseological calque*) of phrases from other languages. The terminology of cosmetics features an important number of phraseological calques: *cremă de față* (*face cream*) (cf. fr. *crème* [*du*] *visage*) / *cremă de corp* (*body cream*) (cf. fr. *crème* [*du*] *corps*) / *cremă de noapte* (*night cream*) (cf. fr. *crème de nuit*) / *cremă grasă* (*rich cream*) (cf. fr. *crème grasse*) / *cremă hidratantă* (cf. fr. *crème hydratante*), *fard de pleoape* (*eyelid blush/make up*) (cf. fr. *fard à paupières*), *fard de obraz* (*blush*) (cf. fr. *fard à joues*), *fard de buze* (*lipblush*) (cf. fr. *fard à lèvres*), *mască de față* (*face masque*) (cf. fr. *masque de beauté*) / *mască de păr* (*hair masque*) (cf. fr. *masque* [*de*] *cheveux*) / *mască hidratantă* (cf. fr. *masque hidratant*) / *mască nutritivă* (cf. fr. *masque nutritif*), *pudră de față* (*face powder*) (cf. fr. *poudre* [*pour le*] *visage* / *pudră de corp* (*body powder*) (cf. fr. *poudre* [*pour le*] *corps*) / *pudră de pleoape* (*eyelids powder*) (cf. fr. *poudre* [*pour les*] *paupières*) etc.

As far as TC is concerned – as it looks like in the 19th century and at the beginning of the 20th – older dictionaries (CADE, DLRM) record especially French loans: *cosmetic/cosmetică* (*cosmetic product/cosmetics*) (<fr. *cosmétique*), *cremă* (*cream*) (<fr. *crème*), *fard* (*blush*) (<fr. *fard*), *loțiune* (<fr. *lotion*), *machiaj* (*make up*) (<fr. *maquillage*), *pomadă* (*ointment*) (<fr. *pommade*), *pudră* (<fr. *poudre*), *ruj* (*lipstick*) (<fr. *rouge*), pe lângă împrumuturile vechi, din greacă sau latină: *săpun* (*soap*) (<ngr. σαπούνι, <lat. *sapōnem*). O altă categorie este cea a împrumuturilor din limba turcă: *boia/boieli* (*make up*) (<tc.

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[8] *Luciu* (*de buze*) (engl. *lipgloss*) is a recent occurence in the common lexis, having the meaning of „produs cosmetic care conferă luciu și strălucire buzelor" („cosmetic product that offers shine to lips"), still unrecorded by dictionaries, being a semantic calque after the English *lipgloss*. We mention that „luciu" was already part of the basic Romanian vocabulary with the meaning of „suprafață strălucitoare a unui obiect; lustru" („shiny surface of an object, luster") (CADE, DLRM, DEX1); together with the Anglicism *gloss* (DCR3:267), *luciu* (*de buze*) represents a highly favoured term with speakers of current Romanian, easily replacing one another. („În 1930, *lipgloss*-ul a fost folosit pentru prima dată în machiajul de televiziune... primul *luciu de buze* cu aromă a apărut în anii 70..." („In 1930, *lipgloss* was used for the first time in television make up.... the first flavoured *luciu de buze* appeared in the 70's") (www.unica.ro/detalii-articole/articole/totul-despre-gloss-18417.html, accessed June 13, 2014)

boya), *cimbistră* (*tweezers*) (<tc. *çimbistra*), *ojă* (*nail polish*) (<tc. *oje*) , *suliman/sulimeneală* (*make up*) (<tc. *sülümen*) , which will be subsequently either abandoned for French loans, or will become regionalisms or archaisms – with some exceptions, like the Turkish-origin term *ojă* (*nail polish*) which survived and it is still used, in spite of the competion it gets from the Anglicism *nail polish*. DEX1, DEX2, DCR3 record neological loans from Romance languages, for example, French: *şampon* (*shampoo*) (<fr. *shampooing*), *demachiant* (*cleanser*) (<fr. *démaquillant*) and Italian, with a much more reduced number of words: *mascara* (<it. *mascara*). Thus, *loans* become the main source for the terminology of cosmetics, while *calques* are more sporadic, for that period. Loans from German are even rarer: *lac* (*varnish/polish/lacquer*) (<germ. *Lack*), *tuş* (*eyeliner*) (<germ. *Tusche*) este mult mai rar.

In what follows we will analyze the lexicographical definitions for a part of the corpus of our thesis[9], from the paradigmatic point of view, focussing on the frequency of the denotative cosmetic meaning usage and the appearance of conotative meanings, as well as the extent to which the disambiguation necessary for proper communication is accomplished. In the case of certain terms, we will combine the paradigmatic analysis to the sintagmatic one, comparing the meanings they develop in the new contexts of the common lexis. The study is done from the perspective of the external, descriptive terminology, its purpose being to highlight the semantic dynamics that the cosmetic terms migrating towards the common lexis manifest.

BOIA/BOIALĂ (*make up*) (<tc. *boya*) appears in CADE as „văpsea, faptul de a boi" („paint/dye, the act of painting/dying"), without the meaning „vopsire a feţei" („face painting"). DLRM adds the meaning of „fardare" („putting make up on"), bearing the diastratic marker: *pejorative*. The term is abandoned very quickly in everyday language usage, DEX1 and DEX2 recording it as an archaism. Surprisingly enough, DCR3 records the noun *boiangerie* „curăţătorie-vopsitorie" („"dye house), while the cosmetic meaning of „fardare" („putting make up on ") is only preserved at the archaical-regional level, having a negative conotation as well.

It becomes apparent, as in the case of other terminologies and specialized languages (IT terminology - Zafiu 2001:89), that the terminology of cosmetics

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[9] Terms in the Annex marked by capital letters.

also evolved in time, bearing the influences of various languages, especially French and, for the past decades, English.

COSMETIC (*cosmetic product*) (< fr. *cosmétique*) is recorded as a lexical neological loan in CADE, belonging to the pharmaceutical field, presented as a neuter noun with the meaning of „ointment". In DLRM it appears first as an adjective – „care serveşte la îngrijirea feţei sau a părului" („which serves for the care of face or hair") and only secondly as a neuter noun having the meaning of „cremă sau loţiune care serveşte la îngrijirea feţei sau a părului" („cream or lotion for face or hair care"). DEX1, DEX2 and MDN preserve the meaning of „produs cosmetic" („cosmetic product") for the neuter noun COSMETIC. In everyday communication, it is no longer used with this meaning in the singular as it eneterd the language. It is therefore only used in the plural, this being the secondary meaning in MDN: „cosmetice", „(produse, creme) pentru îngrijirea tenului..." („cosmetics", „creams, lotions for face care") which records a meaning extension: „[produse, creme] ... pentru lustruirea autoturismelor" („[products, creams]... for the polishing of automobiles") as well as the appearance of the figurative meaning of the adjective COSMETIC „de suprafaţă, care nu vizează fondul" („superficial, that does not go deep").

MDN equally records the verb *a cosmetiza* (*to cosmetize/cosmeticize*) „a îngriji pielea, părul cu cosmetice" („to take care of one's skin, hair by using cosmetics") , with the secondary meaning „a înfrumuseţa artificial, a masca" („to artificially beautify, to cover/mask") (< Engl. *cosmetize*), bearing the diastratic marker *fig.*, a meaning that DCR3 records first of all. Wider interst communication is thus characterized by a lexical-semantic dynamics, having consequences on the meaning of specialized terms. The lexicographical metalanguae is stable which makes the definitions of these terms (belonging to the same lexical family) be quite similar.

In the case of the noun **CREMĂ** (*cream*) the dictionaries we are using share a terminological consistency in choosing the hyperonym. Therefore, CADE, DLRM, DEX1, DEX2 and MDN opt out for *produs* (*product*). The word appears in CADE as a neological loan (< Fr. *crème*), in DLRM – „produs cosmetic pentru piele" („cosmetic product for the skin"), in DEX1 – „produs obţinut prin emulsionarea unor grăsimi, ceruri, gume etc., cu apă, uleiuri eterice şi ingrediente în vederea utilizării în tehnică, cosmetică sau medicină" („product

obtained by the emulsification of fats, waxes, gums, etc. water, essential oils and ingredients for subsequent use in the technical field, cosmetics and medicine"); the same definition can be found in DEX2 as well.

The lexicographical definition for CREMĂ is not a *natural* accessible type of definition, being quasi-identical to the *terminographical* one. Therefore, the access to the specialized meaning (Bidu-Vrănceanu 2007: 48-52) is not ensured as the definition lacks elements of vulgarisation and the metalanguage is a specialized one.

MDN specifies the specialized cosmetic meaning only fourthly: „produs cosmetic folosit la îngrijirea pielii; pomadă" („cosmetic product used for skin care; ointment") while supplying at the same time a phrase that does not belong to the TC „ ~ de ghete = preparat pentru ungerea şi lustruirea încălţămintei de piele" („boot cream/polish = product for leather footwear").

DCR3 only records the general definition – „cremă de consistenţa unei paste" („cream having the consistency of a paste"), offering examples from the terminology of gastronomy as illustration: „bomboane cu interior din cremă-pastă de caise" („apricot cream filling candies") and mentioning the phrases from the same field *brânză-cremă*, *supă-cremă* (*cream cheese*, *cream soup*). The phrases belonging to TC, phraseological calques from French *cremă de faţă* (*face cream*) (cf. Fr. *crème* [*du*] *visage*) / *cremă de corp* (*body cream*) (cf. Fr. *crème* [*du*] *corps*) / *cremă de noapte* (*night cream*) (cf. Fr. *crème de nuit*) / *cremă grasă* (*rich cream*) (cf. Fr. *crème grasse*) / *cremă hidratantă* (cf. Fr. *crème hydratante*) etc. are not recorded by dictionaries, but they are validated by the extremely frequent usage of both specialized and non-specialized speakers.

FARD (*make up/blush*) (<Fr. *fard*) appears as a lexical neological loan in CADE, havin the meaning of „suliman" („make-up"), while in DLRM the entrance as „suliman" appears older, being defined as „produs cosmetic pentru colorat faţa şi buzele" („cosmetic product for colouring face and lips"). In time, FARD gets an expanded meaning, DEX2 recording it as „produs cosmetic alb, roşu, verde, albastru etc. pentru colorat faţa, ochii şi buzele; dres, suliman, boia, boială" („cosmetic product of white, red, green, blue etc. colour for colouring face, eyes and lips; make-up"). In current cosmetic terminology, the tem is losing ground to the Anglicism *make-up* (<Engl. *make-up*).

The phrases *fard de pleoape* (*eyelids make-up*) (cf. Fr. *fard à paupières*), *fard de obraz* (*cheeks make-up/blush*) (cf. Fr. *fard à joues*), *fard de buze* (*lip make-up*) (cf. Fr. *fard à lèvres*), phraseological calques after French, are not recorded by dictionaries, but they are used frequently[10]. In some contexts in Romanian mass-media, *fard de obraz* alternates with the Anglicism *blush*[11] (<Engl. *blush*). The same situation can be found in mass-media abroad, for example in France[12]; similarly, *fard de buze* is used in the same context as the Anglicism *lipstick* (<Engl. *lipstick*), both in Romanian[13] and in foreign[14] media. One can conclude that in the popularization media, the French loans that circulate side by side with synonymous Anglicisms (though not perfect synonyms: *fard* vs. *blush/lipstick*) are gradually losing prestige, being replaced by the latter more and more frequently, due to the Anglophilia present in the mass-media.

GOMAJ (<Engl., Fr. **gommage**) does not appear in CADE or in DLRM either, while the other dictionaries, starting with DEX1 record a unique meaning, for the technical field: „blocare a segmenților în canalele din piston, ca urmare a depunerii reziduurilor de ardere" („jam-lock of the the piston rings into the grooves due to deposition of combustion residues").

The lexicographical definition does not differ from the one in specialized dictionaries. We consider that a *pre-scientific* or even *usual* definition would be preferable to the lexicographical definition existing for GOMAJ as the latter

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[10] „Vei adora acest *fard de pleoape* cremos, catifelat și rezistent, în nuanțe mate, neutre. Este perfect pentru machiaje subtile de zi sau pe post de bază pentru fardul ..." („You will adore this creamy, velvety and resistent *fard de pleoape* , with its mat, neuter nuances . It is perfect for subtle day make-up or as a foundation for the make-up...") (A, 3/2014, p. 85); „*Fardul de obraz* Yves Rocher iluminează într-o clipă machiajul tenului, sculptând cu ușurință pomeții și conturul ..." („The Yves Rocher *fard de pleoape* illuminates instantly your complexion, easily sculpting the cheek bones and the contour...") (YR, 1/2013, p.9); „*Fard de buze* sidefat Glamorous Look 01..." („Pearly *fard de pleoape* Glamorous Look 01") (O, 7/2013, p. 23).
[11] „Kim Kardashian, într-o rochie bizară în Paris, seamănă cu o pasăre de foc (...) *fardul de obraz* extrem de aprins a fost însă cel care a atras toate privirile, frumoasa optând în majoritatea ocaziilor pentru *blush*-uri excentrice..." („Kim Kardashian, in a bizarre dress in Paris, looks like a fire bird... the extremely bright *fard de pleoape* caught all the attention though, the belle choosing most of the times for excentric *blushes*...") (C, 1/2013, p. 26)
[12] „PLEIN *FARD* SUR LE *BLUSH* : SAVOIR LE CHOISIR ET L'APPLIQUER : Rose, abricot ou orangé, le *blush* délivre une petite pastille de fraîcheur sur les joues pour un effet bonne mine immédiat" (http://www.puretrend.com/rubrique/beaute_r22/plein-fard-sur-le-blush-savoir-le-choisir-et-l-appliquer_a58341, accesat 12 iunie 2014)
[13] „*Fardul de buze* Beautyluscious: un *lipstick* de ultimă generație…" („the Beautyluscious *fard de buze* : a latest generation *lipstick*") (U, 11/2012, p. 7);
[14] „*FARD* À LÈVRES ROUGE Pure *Lipstick*" (http://www.beautylish.com/p/yves-saint-laurent-4611)

contains formulations addressed to specialists and fails to achieve the necessary disambiguation.

It is only DCR3 that records the appearance of a new meaning for this word, diastratically marked for the cosmetic field: „procedeu cosmetic prin intermediul căruia sunt îndepărtate celulele moarte de la suprafaţa pielii" („cosmetic procedure of removal of the dead skin cells from the surface of the skin"), a meaning already validated in everyday Romanian, both specialized and non-specialized, together with EXFOLIERE (*exfoliation*) and the Anglicisms *peeling* and *scrub*. DCR3 mentions a double etymology for this term, first English and second French (< Engl., Fr. *gommage*).

Conclusions

We consider that the **terminology of cosmetics** is underrepresented in the dictionaries of the Romanian language. As far as TC is concerned, the terminographical definitions are missing, the lexicographical definitions being the ones that track the evolution of these terms, from their emergence as neologisms in dictionaries. The latter also show the relationship with the synonyms in the language, the extension or narrowing of meaning etc. The cosmetic field is missing from the diastratical markers that general dictionaries operate with, with the notable exception of DCR3. This reflects the cosmetic specialization more rigorously, by diastratical marking and the limited use of common definitions. It also records more recent specialized phrases. It is found that, often, general dictionaries (DEX, for example) supply definitions similar to terminographical definitions. Thus, on the one hand they supply both scientific and pre-scientific definitions or, on the other hand, they offer combinations of the two types in one and the same definition (mixed-type definitions). Therefore, the definitions for cosmetic terms belong to the following types: 1. Definitions that are identical or similar to the terminographical ones; 2. Mixed-type definitions that combine scientific information with pre-scientific or common data; 3. Lexicographical definitions (usual).

As a result of our analysis, we can conclude the following:

1. There are times when a particular lexical unit attested in texts from the cosmetic field is registered by dictionaries only with their general meaning, older in the language, and / or with specialized meanings, but for other fields than the cosmetic one. The frequency of the cosmetic denotative meaning and the development of connotative meanings, also common, starting from this core sense of the common lexis, require the return to the lexicographical definitions and their correlation with the reality of texts.

e.g. CREION (*crayon*), EXFOLIERE (*exfoliation*), LAPTE (*milk*), LUCIU (*gloss*), PARFUM (*perfume*), PUDRĂ (*powder*), SĂPUN (*soap*), TRATAMENT (*treatment*), TUŞ (*eyeliner*).

2. the cosmetic meaning can appear a) sporadically, by only one phrase, b) with semantic deviations of metaphoricl or metonymic nature, in the permissive context of the common lexis, where terms have got much more combinatorial freedom c) the term having the meaning from the lexicographical definition is no longer in use.

ex.: a). FOND (*foundation*) (*fond de ten* (*skin foundation*) - DEX2, while *fond de pleoape* (*eyelids foundation*) is not recorded), LAC (*varnish/lacquer*) (*lac-fixativ* (*hair spray*) - DCR3, while *lac de unghii* (*nail polish*) is not recorded);

b). A ŞAMPONA (*to shampoo*) (expanded meaning „to wash using shampoo", but used in other contexts than the cosmetic one) (DCR3);

c). COSMETIC (*cosmetic product*) (neuter noun) (DEX1, DEX2 and MDN give the meaning „(alifie/loţiune) pentru îngrijirea pielii sau a părului") („ointment/lotion for skin or hair care").

3. in other situations, the hyperonym is recorded, but the cosmetic term/phrase fails to appear in the lexicographical definitions, though it is frequent in texts, with the specialized cosmetic denotative meaning, and/or with figurative meanings developped started from the former.

ex.: CREMĂ (*cream*) (*cremă de faţă* (*face cream*)/ *cremă de corp* (*body cream*)/ *cremă de noapte*/*cremă hidratantă*), MASCĂ (*mask*) (*mască de faţă* (*face mask*)/*mască de păr* (*hair cream*)/*mască hidratantă*/*mască nutritivă* (*rich cream*)).

4. Generally speaking, the terms we identified as belonging to the terminology of cosmetics are defined or recorded in the general dictionaries of the language (therefore they are considered as accessible to a wider audience and

as having a significant frequency of usage), but there is missing information regarding their semantic extension, their style register[15] as well as etymological information (absolutely necessary), all of it being extremely important in the context of the current lexis accentuated dynamics.

As a result of analysis, we can conclude that dictionaries do not keep pace with this dynamics (in terms of inventory, definitions and contextual usage) of the field of cosmetic terminology. Generally, lexicographical definitions clarify cosmetic terms for common readers, but, sometimes, they fail to record the evolution of a term's meaning towards the cosmetic field, though both usage and popularization texts confirm it. The TC membership of such terms is marked only syntagmatically in usage as the respective phrases are not lexicographically recorded.

Some general dictionaries even present inconsistencies of their role of mediator between the language and specialized cosmetic language and the non specialized readers, especially in the case of the Anglicisms form the terminology of cosmetics: some of these are not included in the dictionary, despite their usage frequency (*lipstick*, *nail polish*). Consequently , the role of the dictionaries is crucial to ensure the transparency of cosmetic terms (including Anglicisms) that non-specialist/partially specialized speakers need.

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[15] Frequently, there is a remarkable absence in DEX2, but especially in MDN, of information regarding the stylistic level and register (of the type: „fig. ", „fam"., „rar", „spec. ", „Frenchism", „Anglicism", „pejor". etc), crucial for the actual reader, confronted by an extraordinary linguistic variety and the media „explosion"of terms, more and more sophisticated, specialized and diverse as origin.

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ANNEX

Cosmetic Terms

BOIA/BOIALĂ

COSMETIC

CREMĂ faţă/zi/noapte/hidratantă/nutritivă/corp/mâini/anti-rid/anti-*age*

FARD (de buze/ obraz/pleoape)

GOMAJ

(**Sources:** *Avon* România Magazine, *Bravo Girl*, *Cool Girl*, *Cosmopolitan*, *Glamour*, *The One*, *Oriflame* România Magazine, *Yves Rocher* Catalogue, 2012-2015)

THE ROLE OF TRANSPORT SERVICES IN THE ECONOMIC DEVELOPMENT OF ROMANIA

Laura Cristina Maniu[1],
Andreea Marin Pantelescu**

Abstract

Transports are indispensable for the economic development of EU member states and not only. Among the first common communitarian policies, there was the European transport policy as well, given the importance of transport in the free movement of goods and people. Also, the European economic agents need to preserve their competitive positions at the global level through the intermediary of the sector of transports and logistics. The development of transport services needs to be tightly linked with the environment, in the sense of minimizing their impact on the environment. The strategy in the field of transports for 2014-2030 identifies and hierarchies the future transport network, analyzing the economic sustainability of both the infrastructure and the central network together with the global trans-European transport network.

This paper is an attempt to make a thorough analysis of the transport services in Romania and to highlight the role they play in economic development.

Key words: trade, commercial services, transport, passengers, goods

JEL Classification: O24, R40, M21

1. Introduction

National economy, as well as the economies of other nations function nowadays in a much more complex and competitive environment than the one

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characteristic of the early 1990s. Organizations need to adapt to this competitive environment, becoming more efficient by cutting costs and increasing the standard of customer services. In order to fulfil these objectives, an essential role is played by the supply-outlet chain, in which transport represents the basic link. There is also a sum of external factors that impose change and the adaptation of organizations to the present-day environment, such as: globalization, new technologies, policies and regulations (Coyle J. et all. 2011).

Ever since ancient times, transports were indispensable due to their role in the commercial activity. In modern age, these have perfected and have imposed themselves as a separate domain. Looked upon as a sector of national economy, transports are considered to be an extension of the processes of production, any misbalance in transports bearing repercussions on the whole market economy of a country (Zaharia M., 2005).

The role and importance of transports can be shown through the analysis of their relationship with various economic, social and political aspects of the activity of society members.

The economic importance of freight transport is well-known, both at the micro as well as the macroeconomic levels. At the microeconomic level, a series of factors justify the economic importance of freight transport, such as: place utility, goods lose value as long as they do not reach the place where they have been solicited in time; time utility; form utility; the impact on competitiveness; the contribution to costs and prices; the influence on other activities of the organization. From a macroeconomic point of view, a series of aspects converge along the same line – the major role and place that transports have in the national economy: the possibility of geographic specialization; large scale production; the intensification of competition; economic development (Bălan C., 2006-p.128).

From a social perspective, the transport activity has a special significance as it facilitates the free movement of citizens, this sector creating workplaces as well. The growth and wide scope of the tourism activity are due to the development and improvement of transports.

Without transport connections and networks, free movement would not be possible. The EU policy in the field has always been oriented towards

overcoming the obstacles between member states and the creation of a unique European space of transport, with equitable conditions for competitiveness for and between various types of transport: road transport, railway transport, air transport and inland waterways transport (the European Commission, 2014).

In 2011, the European Commission published a new *White Paper* regarding transports, with the measures that need to be adopted in view of finalizing the internal market of transports. These measures refer to: building integrated transport networks that combine various means or types of transport, the improvement of infrastructure in the countries that have joined the EU (starting with 2004 a greater emphasis will be placed on research, innovation and investments, so that Europe should not depend on petrol in the future) and the preparation of industry for the fulfillment of the difficult objectives of decarburization without the reduction of mobility.

A priority on the EU agenda is represented by the reduction of gas emissions generated by transport activities, this politics being encouraged by a multitude of projects that aim at the reduction of urban agglomeration, the encouragement of the use of more ecological means of transport such as the train and inland navigable routes, and the development of alternative fuels for ships and automobiles.

Road transport, the main means of transport, is also the main source of pollution: according to the most recent data, traffic generates approximately 71% of the total carbon dioxide emissions associated with transport activities.

This paper makes a thorough analysis of transport services in Romania and emphasizes their role in economic development.

2. The analysis of Romanian trade in commercial transport services

In 2014, the balance of services registered a surplus of 5856 million euro, comparative to the 4700 million euro in 2013, as a result of an increase in returns resulting from the processing of goods found in the property of third parties, from transport, telecommunication, informatics and information services, to other services for businesses. We can assert that the balance of services registered a positive and increasing value from one year to another, for

instance it almost doubled in 2013 in comparison with 2012. All the components of the balance of services, with the exception of tourism, have evolved positively in comparison with 2012, registering increases in surpluses (processing of goods, transport, architecture services, engineering and scientific services as well as other technical services).

Table no. 1 *Structure of Romanian commercial services (%)*

Exports of commercial services	2012	2013*	2014**
Total, out of which:	100.0	100.0	100.0
processing of goods	15	16.9	16.7
transports	25.4	28.9	29.1
travel	11.6	8.9	9.1
Other services	48.0	45.3	45.1
Imports of commercial services	**2012**	**2013***	**2014****
Total, out of which:	100.0	100.0	100.0
processing of goods	1.7	1.6	1.8
transports	18.0	15.7	17.1
travel	19.3	17.7	19.7
Other services	61.0	64.8	61.4

Source: ours own calculations after the Romanian Statistical Yearbook, 2014, and BNR (the National Bank of Romania)
*) Semi-definitive data
**) Provisional data

From the point of view of the structure of Romania's exports and imports of services, on the categories presented in table 1, there were no significant changes throughout the 3 years under analysis. In 2013, transports held 28.9% of the total returns in the export of services, and in 2014 these totalized 4391 million euro. Exports of services in Romania are made primarily with

Germany, Italy, Great Britain, Austria, the United States of America, the Netherlands, Switzerland, Belgium and Spain.

In 2013, payments in services totaled 8727 million euro (greater by 17.9 percent than the previous year), transports holding approximately 15.7%. 2014 brings a new increase in payments for services, of approximately 6%, payments in transports amounting to 1577 million euro. Over 60 percent from payments for services were made to 10 countries: Germany, Austria, Italy, France, Great Britain, the Netherlands, the United States of America, Switzerland, Hungary and Spain.

Figure no. 1 *Evolution of the balance of services and its main components in 2014 ** (EUR million)*
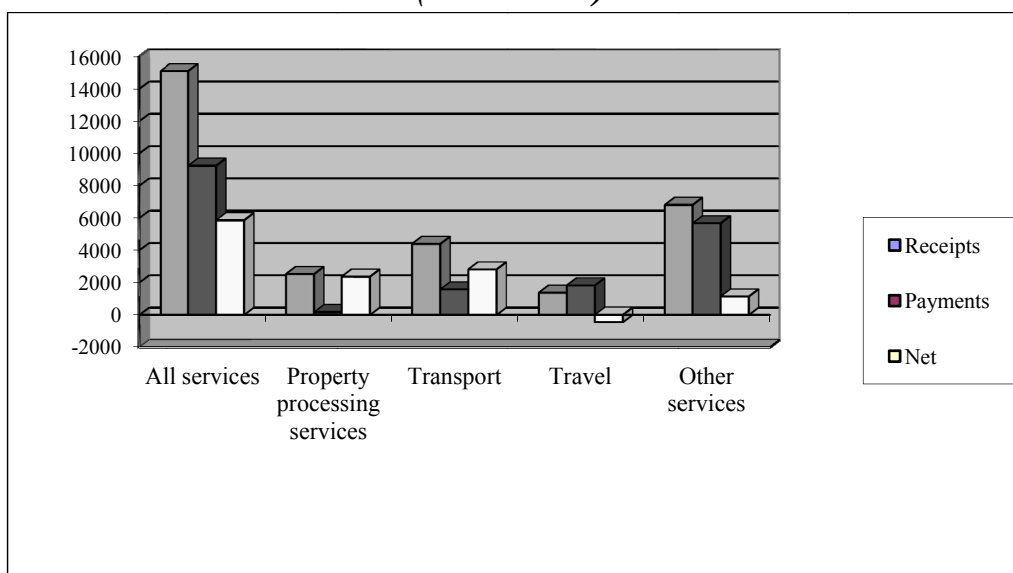
Source: BNR
**) Provisional data

In 2014, transports registered a surplus of 2814 million euro, an increase in comparison with the previous year by 320 million euro. Road transports contributed significantly to this surplus, by 2436 million euro, followed by air transports, with 205 million euro and pipeline transports with 73 million euro.

Figure no. 2 *Evolution of the balance of transport services and its main components in 2014 ** (EUR million)*
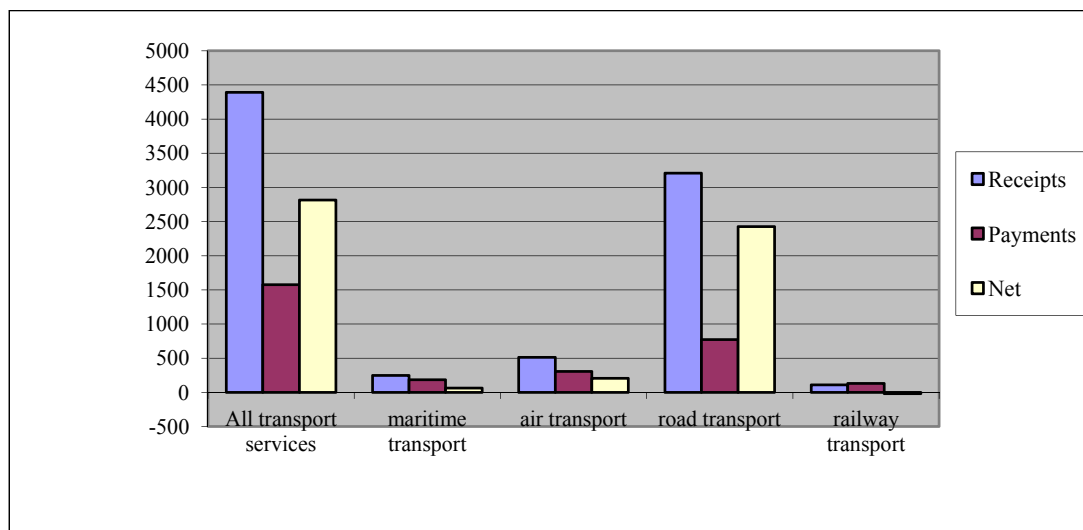
Source: BNR
**) Provisional data

Road transport, the main type of transport, is also the main source of pollution: according to the most recent data, road traffic generates approximately 71% of the total carbon dioxide emissions associated with transport activities. Maritime transport and air transport generate 14% and, respectively, 13% of the total emissions, whereas inland navigation accounts for 2%. Railway transport pollutes the least, less than 1%. Nevertheless, in the case of natural persons, the preferred means of transport is the automobile, followed by the airplane, the train, the tramway and the subway. The last position among preferences is occupied by maritime transport.

As far as long and medium distance freight transport is concerned, the market is dominated by road transporters. For almost half of the quantity of goods, road transport is used, followed by maritime transport, railway transport, inland waterways transport and transport via petroleum pipelines. Air freight transport occupies the last position, due mainly to higher costs.

Table no.2 Transported goods, by means of transport *(million tons)*

	2011	2012	2013	2014
Railway transport	61	56	50	51
Road transport	184	188	191	191
Maritime transport	39	39	44	44
Air transport	27	29	32	32
Inland waterways transport	29	28	27	28
Transport via petroleum pipelines	6	6	6	6

Source: Statistical breviary (2015), Romania in figures

The indicator transported goods for railway transport registered a decrease in 2012 and 2013 in comparison with 2011. During 2014, in comparison with 2013, there was an increase of the indicator of transported goods for railway transport and inland waterways transport, and a constant value for road, maritime, air and petroleum pipelines transports. Road freight transport registered, for the transported goods indicator, an increase by 4 million tons in 2012 in comparison with 2011, and a constant level in the years 2013 and 2014, of 191 million tons. Air freight transport registered increases in 2012, 2013, and 2014.

Table no.3 Passenger transport, by means of transport (million passengers)

	2011	2012	2013	2014
Railway transport	61	58	57	65
Road transport	243	262	274	282

Maritime transport	*	*	*	*
Air transport	11	11	11	12
Inland waterways transport	*	*	*	*

Source: Romania in figures 2015 – Statistical breviary

*) under 0.5 million passengers

National and international passenger transport registered increases for road transport so that in 2014 the number of passengers was of 282 million. In 2014, national and international passenger transport for railway transport registered an increase in comparison with the previous year, by 8 million passengers. For air transport the increase was of 1 million passengers in 2014 in comparison with 2013.

Although it is much more ecological and safe from a statistical point of view than road transport, railway transport makes efforts in order to be competitive on the passenger and freight transport markets.

The most important sector, which brings a significant contribution to workforce employment and to the EU economy, namely air transport, generates, directly and indirectly, 5.1 million employment positions, and contributes with 365 billion euro to the European GDP.

According to existing data in the Romanian Statistical Yearbook 2014, investments for the environmental protection in the sector of transports (unspecialized producers) amounted to 113.240 thousand lei in 2013. The structure of investments in environmental protection in 2013 is the following: 49.5% in air, 27.3% in water, 0.8% in waste, 12% in soil and subterranean waters, 0.13% in the protection of natural resources and the conservation of biodiversity, as well as in other domains – approximately 10%. As far as internal expenditures for environmental protection in 2013 is concerned, in the sector of transport (unspecialized producers), they were of 12.351 thousand lei, representing only 0.35% of the total expenditures on environmental protection from unspecialized producers.

The population employed in transport and storage services represents approximately 5% of the total number of people employed at a national level, namely, in 2013, 429 thousand people.

Figure no. 3 Share of net investments in the transport and storage sector from the total investments in Romania (million lei)
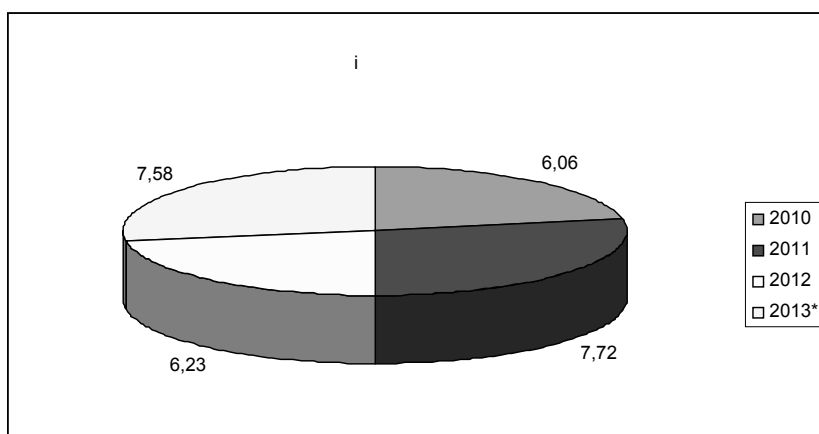

Source: ours own calculations, based on data from the Romanian Statistical Yearbook 2014

*) Provisional data

As we can see in figure no. 3, investments in the transport sector did not have a spectacular evolution. The greatest value was registered in 2011 (6775.5 million lei), followed in 2013 by 6125 million lei. As a share of investments in this sector of activity, we may notice that this is quite small in comparison with the total investments classified into fields of activity.

Figure no. 4 Active organizations in the field of transport and storage, by size classes (number)
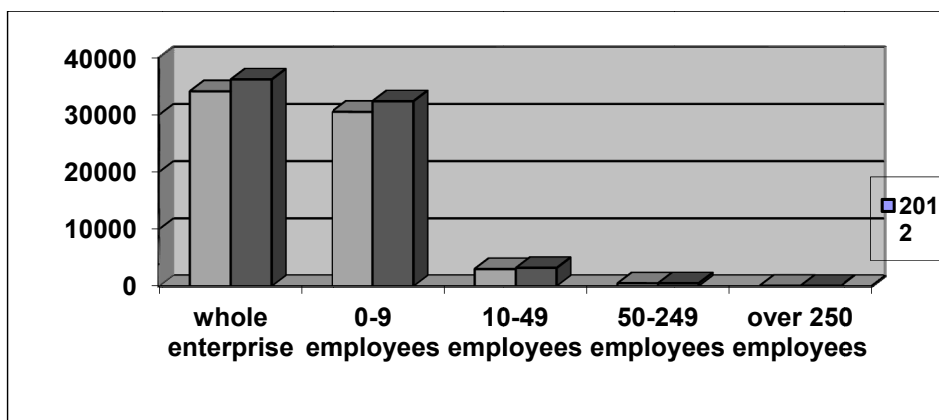
Source: the Romanian Statistical Yearbook 2014

The number of active organizations in the field of transport and storage increased in 2013 in comparison with 2012 by approximately 6%, due mainly to the increase in the number of small enterprises. As far as the form of property of these companies is concerned, the greatest number is represented by mainly private joint stock companies. The number of private entrepreneurs in the transport sector increased in 2013 in comparison with 2012 by approximately 27%, according to the data in the Romanian Statistical Yearbook 2014.

The turnover of companies whose main activity is market services increased in 2012 in comparison with 2011 by approximately 7%. Active organizations in the field of transports contributed significantly to this increase, mainly road transports and those of storage and auxiliary activities for transport. Although 2012 was a prosperous year from the point of view of sales, especially for active organizations in the sector of road freight transport, this fact was not reflected in financial performance as well, a situation caused especially by the environment of aggressive competition in the field.

3. Conclusions

Transports represent one of the basic pillars of the European integration process, which contribute to economic growth and the occupation of the workforce of a country to a great extent. In our century, transports are facing great challenges, because of global competition and insufficient investments in the field. The main concern of our country should be the development of the transport infrastructure in agreement with current requirements. Although it has an advantageous geographical position, Romania is nevertheless an example of a country in which economic development in negatively influenced by the critical transport infrastructure.

All the above-mentioned figures demonstrate the importance of transport services for economic development, these being a means and a premise for the evolution of the country towards prosperity and wellbeing.

The preoccupation for economic development needs to be correlated with that for the impact on the environment and the reduction of pollution generated by transport activities. Also, the development of the transport infrastructure needs to be accomplished through the minimization of negative consequences for the environment and for people's quality of life.

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IMF'S REFORMS AND BRICS' NEW INTERNATIONAL FINANCIAL INSTITUTIONS: PROGRESS AND POLICIES

Zhang Jiaming[1]

Abstract

The progress on the IMF's reform has stalled. Comparing with substitutive alternatives, an interim solution, that is either delinking or ad hoc increases in quotas, could be the best choice among the bad options at present. Because of the maintenance of de facto veto and voting dominance pursued by the US, the prospect of further reforms in the IMF is dim. BRICS members are developing new international financial institutions not only in order to meet their own economic demands, but also to push the IMF reform forward. An idea on all-win pattern of competition is provided in this article to refer to the policies BRICS can adopt.

Key words: International Monetary Fund, reform, BRICS, Contingency Reserve Arrangement, New Development Bank

JEL Classification: F33.

1. Introduction

Since global financial governance influences the economic sustainability and development of each country, BRICS members are actively trying to push the IMF for reforms. At the meeting of April 16-17, the BRICS Finance Ministers and Central Bank Governors expressed again their dissatisfaction and pointed to the present blocked progress on the reform. The Finance Ministers and Central Bank Governors of Group 20 (G20) issued, in Washington D.C. on April 17, 2015, a Communiqué referring to their *deep disappointment* regarding

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the postponement of the IMF's reform due to the United States' position. Simultaneously, at the annual meeting of the IMF and World Bank, Christine Lagarde, the Managing Director of the IMF, and her deputy, Zhu Min, underlined that the IMF would look for alternatives to push the reform to come into force.

During the past years, the BRICS urged the IMF member countries to accelerate the reform, and meanwhile considered and discussed the other possible options. The BRICS' New Development Bank (NDB) and the Contingency Reserve Arrangement (CRA), as well as the Chinese initiative to create an Asian Infrastructure Investment Bank are their most substantial reactions to the reform delay.

2. IMF's Reforms: Progress and Obstacle

The IMF's long-standing weaknesses criticized by emerging and developing countries can be mainly summarized as follows: (1) The actual allocation of quotas does not reflect the present pattern of the world economy due to the overestimated quotas of advanced economies. (2) The shares of voting power in the Board of Governors, mainly dependent upon quotas, are unfair, as the emerging economies are under-represented whereas the United States takes a proportionate share of above 15%, so that it can practically exert veto in some critical issues. (3) Advanced economies take more seats in the Executive Board than other members do, and therein five advanced economies that take the largest quotas are allowed to appoint Executive Directors instead of electing them in certain constituencies.

With the appeal for reform by emerging and developing economies, the IMF passed respectively in 2006 and 2008 the resolutions to increase the quotas of some members, leading to increases in their quota shares and thus in their shares of voting power. The under-representation is also somewhat reduced by relatively increasing the proportion of basic votes in voting power.[2]

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[2] The voting power in the IMF is categorized as basic votes and weighted votes. The weighted votes are converted from the subscription paid by a member at a ratio of 1 ballot to 100 thousand SDRs whereas the basic votes used to be 250 ballots equally for each member. The Resolutions No.63-2 and No.63-3 passed in 2008 rectified this fixed number to a rate of 5.502% of the

The Board of Governors in December 2010 passed again a resolution that: (1) Increases further the total quota to 476.8 billion Special Drawing Rights (SDRs). Therein the proportionate share of China moves its rank from the sixth up to the third, and Russia, India and Brazil also rank higher. (2) Amends the Agreement of the IMF by removing the appointing privilege of the top five members ranked by quotas, allowing at the same time all the Directors to be elected in the Executive Board. (3) Reduces the European representation by 2 seats with the maintenance of 24 seats in the Executive Board.

The proposals in this resolution,[3] after passed in the IMF, were delivered to the legislatures of the members for approval. While the IMF was ambitious to let the resolution become effective before October 2012, by now it has not yet come into force because the United States, holding the *de facto* veto of 16.718% of total voting power, does not approve these proposals.

The only one substantial advance is the concession in the Executive Board made by the European members. In the November 2012 election for the Directors which was the first election after resolution, Belgium and Luxemburg moved to another constituency from the one including Turkey, and thus increased the opportunity for the Turkish candidate, consequently Ibrahim Canakci[4] was elected as a Director in November 2014. Poland and Switzerland promised a rotation to ensure the chance for the candidates from the five mid-Asian members in their constituency.

3. Will Alternatives Function?

The United States is the only one developed country that has not yet approved the proposals for the 2010 reform. Christine Lagarde strongly stressed, in December 2014, her own disappointment of America's slowness, and requested the Executive Board to seek alternatives.

The so-called alternatives in view of the IMF itself and concerned academia can be included into two categories: one consists of the replacement or drastic

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aggregate sum of the total voting power of all the members. The number of basic votes for each member after 2011 is 750 ballots from calculation.

[3] The Resolution No.66-2, passed in 2010, includes two proposals: Quota Increase, indicates the allocation of subscription, and Governance Reform, refers to the amendment of the Executive Board.

[4] Ibrahim Canakci is the Deputy Minister of Turkish Treasury.

rectification to the 2010 resolution. For instance, it could allow the members, engaging in some particular projects of borrowing, to exercise more voice in those projects. Edwin Truman, the former Deputy Minister of American Treasury, even recommended establishing independent decision-making institutions inside the borrowing arrangements, in which the United States rarely participates, and letting these arrangements be a *SupraFund* above the IMF that is requesting them for financing (Truman, 2015: pp. 8-10). Moreover, some scholars referred to the abandon of the present reform plan, and instead negotiating with America on a substitute with a less ambitious goal, but easier to achieve.

The other one refers to the **interim options** that maintain the goals of the proposals in the 2010 reform with a limited rectification which could at least move the reform process forward. One of the interims is *ad hoc* increases in the quotas of the most under-represented members that can find its precedent in 2006, when four members, including China, obtained an increase in their quotas. This option is able to ensure the representation of those members to be replenished before the resolution of reform becomes effective.

Another interim option refers to delinking Quota Increase from Governance Reform. The 2008 resolution had not become effective when the 2010 resolution was passed in the IMF, consequently, in order to accelerate the accomplishment of the 2010 reform, the precondition of Quota Increase[5] was lowered as: (1) the aggregate sum of quotas of members that approve Quota Increase must exceed 70% of total quotas; (2) the proposal of Governance Reform becomes effective; and (3) the 2008 reform comes into force. By now the first and third precondition have been met, but the second has not, because it refers to the article amendments of the IMF Agreement that requires 85% of total voting power of approved members. The delinking option seeks for removing the second precondition so that the Quota Increase can be implemented.

At the thirty-first meeting of International Monetary and Financial Committee (IMFC) on April 18, 2015, Finance Ministers and Central Bank

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[5] According to the IMF Agreement, any changes in quota requires approvals of members with an aggregate sum of 85% of total voting power.

Governors took their positions on the possible alternatives. According to the Communiqué, the members unanimously declared to pursue 'an interim solution' instead of any substitutes. Definitely, dropping the goal of the reform without trying to redeem it will doubtlessly weaken the legitimacy and creditability of the IMF's decision-making. Furthermore, it will take a long time to adopt either the *SupraFund* or a new plan on reform.

However, members did not reach the consensus on whether to adopt *ad hoc* increases or delinking. The European members considered an *ad hoc* increase in quotas is the most realistic that it will firstly provide the subscriptions urgently demanded by the IMF that is providing financial relief to some European countries affected by the sovereign debts crisis, and also underlined that delinking would lack representation and support. The Latin-American and South-Asian members emphasized that *ad hoc* increases would erode the motivations to continuously push forward the reform, and thus they supported delinking.

Both delinking and ad hoc increases are the *de facto* temporary measures for rebalancing representation in the IMF and with the only difference in the paces of quota rectification. Once the delinking is adopted, the quota rectification will come into effect for 164 members who have currently approved Quota Increase implement subscribing, so that the aggregate sum of quotas could rise to 431.2 billion SDRs. This would let the United States, refusing to subscribe, reduce its share of quota from 17.661% to 10% at maximum, and its share of voting power would be substantially lowered, immediately depriving it of the *de facto* privilege of veto. Although interim solution does not seem to require approvals by each member's legislature, one cannot conclude that the American government is able to withstand the domestic pressures to vote for the delinking in the Board, instead it would probably exercise its veto to forestall this solution.

Regarding the option of *ad hoc* increases in quotas, the IMF has not yet offered any detailed procedures, such as how many rounds of *ad hoc* increases it is supposed to conduct and how much it increases for each round. According to the experience of 2006, an *ad hoc* increase refers that some particular members increase their quotas, *ceteris paribus*. However there is a possibility to lead to an over-representation of these members who used to be under-represented.

Suppose that it is allowed for China, Brazil, Russia and India to jointly conduct a round of *ad hoc* increase in their quotas, and they are also allowed to subscribe, for one time, the amount of capital regulated by the 2010 resolution, the consequence would be that the sum of these four members' quotas would share 22% of the total until the possible next round of increases – their aggregated share would be 8 percentages higher than the proposed quotas by the resolution whereas the share of the US would reduce to 14%. Under these circumstances, it indicates not only that the members who have *ad hoc* increases would temporarily have higher proportions in total quota comparing with those proposed by the reform, but also the temporary extra gains of quota shares of those members in any earlier round would be higher than those in any later round. The United States would be painfully facing the continuous decline in its share of quota until the Congress approves to subscribe to make the ultimate shares of quotas of all the members consistent with the proposed ones, but it can exercise the veto likewise in the relevant voting to stop any increases in other members' quotas. Nevertheless, comparing with the delinking option that might encounter a direct and categorical denial in the Board, the more moderate *ad hoc* increases might bring a little hope that it could be the best choice among the bad options at present.

4. Prospect of IMF's Reforms

Even if the 2010 reform can be accomplished, its effect is still dissatisfactory. The first reason is that the proposal leads to an obvious increase in the quota shares of the major emerging economies in which China, India, Russia and Brazil would increase 3.45 percentages in their shares that take 93% of the total increase in the Asia, Latin America and East Europe. However, there would be 3.8 percentage points of the increase in those regions transferred from advanced economies whereas another 1 percentage would be shifted from the Africa and Middle East. It means there would be a gap of quotas extending between developing countries, especially between the major emerging economies and other developing ones. At the meeting of IMFC, the African and Middle Eastern members argued that any interim solutions are supposed to ensure the fairness of representation of each country. They claimed that 'shifts in quota

shares in favor of dynamic emerging and developing countries should not come at the expense of other emerging markets and developing countries (Tayer, 2015: Para.9).' The developing members in the IMF might generate an internal struggle on future reform plans.

Second, even if cancelling the appointments by five advanced economies, allowing Executive Directors to be elected, these five members, with the highest shares of quotas, might probably form five independent constituencies of which each has inside only one member country nominating candidate and without electoral competition. The *de facto* appointments might not be changed unless reducing the total number of seats in the Executive Board.

Third, while China is now the world's second largest economy, its rank of quota after the 2010 reform might rise to merely the third, still behind Japan's. The shift of quota share is still far behind the changes of the world economic pattern.

In our opinion, the strongest impediment that makes the present reform dissatisfactory and further reforms hopeless is the United States. After the Governors in the IMF passed the resolution of reform at the end of 2010, the Democrats, the governing party in the US, had not submitted any relevant bills to the Congress, invoking the so-called excuse of the coming presidential election. Starting from 2013, the Democrats submitted on and off 3 bills involving the requests for the approvals of Quota Increase and Governance Reform, but all these bills were not passed in the Senate in which the Democrats took a majority, causing the doubts on the actual intention of the Democrats to push the IMF's reform (Zhang, 2014: p. 103). In November 2014, the Republicans that persistently hold a conservative attitude to the reform simultaneously started to take majorities in both the Senate and the House in the mid-term election. Also regarding the acceleration of American economic recovery and the slowdown of emerging economies' growth rates, the prospect that the US approves this round and future term becomes more pessimistic.

We consider that the United States has the everlasting dream of preserving its privilege of *de facto* veto in the IMF. Within the second amendment of the Articles of the IMF Agreement in 1978, the US shifted its bottom line of voting power from 20% of the total shares to 15% only in the context that the special majority in voting shifted from 80% to 85% (Truman, 2006: p.75). If the 2010

reform becomes effective, the sum of shares of voting power of BRICS members would exceed 14%,[6] remaining the difference of 1 percentage point to the *de facto* veto. The US is unwilling to meet another group of countries besides the European Union that is able to likewise influence the IMF's decision-making, especially groups like BRICS that is with very different opinions on global governance.

5. BRICS' New International Financial Institutions: CRA

Besides the expression of disappointment to the stalled reform within the IMF mainly due to the advanced economies, BRICS members started to think about developing their own tools for financial governance. In June 2012, the Finance Ministers and Central Bank Governors of BRICS first conducted the discussion on setting up an emergency common reserve of foreign exchange. At the Durban Summit in March 2013, the leaders formally proposed this institution, namely the Contingency Reserve Arrangement (CRA), with an initial amount of $100 billion. As the American Federal Reserve (Fed) was gradually releasing the signals of withdrawal of quantitative easing (QE), international capital accelerated its speed in flowing out from the emerging economies, and BRICS members thus started to be under inflationary pressure, due to the currency depreciation: merely in June 2013, Brazilian Real and Indian Rupee declined by 26% and 28%, respectively. It became more urgent to establish the CRA, thus in September 2013, the BRICS leaders during the G20 Summit reached a consensus on the allocation of subscriptions: China subscribes $41 billion; Brazil, India and Russia, each $18 billion; and South Africa, $5 billion. On July 15, 2014, *the Treaty for the Establishment of a BRICS Contingent Reserve Arrangement,* signed by the Central Bank Governors of BRICS and in the presence of the leaders, marked the formal establishment of the CRA.

The most direct purpose of the CRA is to confront the liquidity issues that might appear in BRICS members at present, taking into consideration that the IMF is "busy" with the European sovereign debts and other debtors such as

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[6] According to the latest data, the shares of BRICS voting power after the 2010 reform would be: China, 6.068%; Russia, 2.586%; India, 2.627%; Brazil, 2.217%; and South Africa, 0.634%.

Ukraine and Greece. The liquidity issues refer to both the launch and withdrawal of QE conducted by Fed. In the case of China, the exchange rate of Yuan (or *Renminbi*) is pegged to American Dollar, which means American currency policies can have direct spillover effects on China (Sun, 2014: pp.45-46). The three-round QE have injected over 4 trillion dollars into the American market. Due to the demand limitation caused by the depression, American policy of QE undoubtedly led to a relative surplus in the supply of dollars by which reason this overflowed liquidity were converted into hot-money, in terms of short-term capital used in the speculations on bulk commodities and emerging capital markets. The sharp rise in the prices of imported supplies caused "imported" inflation in China. Two-thirds of the domestic price increase was generated by the fluctuation in international prices. Idle funds looking for interest arbitrage and value maintenance chose to go away from the American Dollar and led to the appreciation of the Chinese Yuan instead, and thus rapidly pushed the latter's exchange rate upward.

In October 2014, the Fed declared the withdrawal of QE, and the tendency of rise in interest rate could be seemed as the return of strong dollar. While the Fed has not yet risen interest rate to tighten the currency, an outflow of short-term capital appeared in China, so that a deficit of over $80 billion in the balance of payment was met by Chinese market in the first quarter of 2015 whereas that of the last quarter of 2014 was $30 billion. Moreover this deficit is the difference between the deficit of $159 billion in capital account and the surplus of $79 billion in current account, which means the capital outflow accelerates and worsens the domestic capital market. 'Although the outflows signal investor concern about China's economy, which grew at its slowest pace in six years in the first quarter, a rising US dollar and declining Chinese interest rates also helped draw funds out of the country (Wildau, 2015).' While this outflow took away less than 3% of the total volume of China's foreign exchange reserve, it is merely a hint to what might happen after the rise in interest rate by the Fed. Likewise, other BRICS members would also suffer bubble bursts when hot-money withdraw from their markets, and face depression.

In case of a significant capital outflow from BRICS members, the CRA can provide resources to remit the pressure of devaluation. As *the Treaty* refers, a

member who is suffering this liquidity issue can apply for salvation. After having the approval of other members, the applicant can receive financial assistance, in terms of American Dollar, according to a multiplier by its subscription: China has 0.5 which means it can receive a salvation of $20.5 billion at maximum; Brazil, Indian and Russia, respectively 1.0; and South Africa, 2.0. The assistance takes forms of currency borrowing that the recipient as a borrower gets dollars from the donors as lenders, and repays the principal and interest in terms of dollars at the promised deadline. The CRA is substantially a multilateral regime of currency swap like Chiang-Mai Initiative Multilateralization (CMIM).

However, focusing on their own liquidity issues is not the only one purpose of the CRA. It exerts not merely a supplementary function on the present institutions for global financial governance including the IMF, but also an exogenous influence as competition with the IMF. The competition by the CRA relies on a potential that BRICS cooperative regime can extend its members so that more emerging economies who are the IMF members can participate at the CRA. The overlapping engagement of the IMF members is not a manifestation of competition but a precondition, because a transfer of members can be seemed as a remittance of the IMF's scarce resources and thus a supplement. The critical criterion that makes competition is in what extent the CRA can substitute the IMF.

The delinked portion of borrowing in the CRA yields its competitiveness. Like CMIM, the assistance the CRA provides is divided into two scales: one is called 'the IMF-linked portion', which means a borrowing party can have above 30% of its maximum access to borrowing only under the conditions that it follows the CRA regulation and is approved by other members, and also meets the IMF's conditions for loan. The other is the delinked portion that means a permission to borrow below 30% of a borrower's maximum access can be granted via the CRA members' approvals regardless of the IMF. For instance, if Russia requests for a loan of $5.4 billion that is 30% of its maximum access to borrowing, whether the loan can be lent depends on merely other CRA members' intention despite checking the conformation to loan condition in the IMF. Delinked portion establishes a standard line under which the CRA can lend independently that loans would not follow the IMF's policies or

requirements. This flexibility raises the CRA's competitiveness that would attract potential entrants who are not able to reach the IMF's conditions.

6. BRICS' New International Financial Institutions: NDB

The competitive pressure exerted by the CRA might have affected the international recognition of the IMF's functions, offering the latter the exogenous motivation to improve itself. Besides the CRA, there is another international financial institution launched by BRICS, namely the New Development Bank (NDB), which by now has already established its headquarters in Shanghai and appointed its President and Vice President. According to *the Agreement on the New Development Bank*, signed by BRICS leaders on July 15, 2014 in Fortaleza, the purpose of the Bank is to 'mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries, complementing the existing efforts of multilateral and regional financial institutions for global growth and development.' In comparison with the CRA, the NDB would exert more pressure on the IMF's reform, although it does not solve any issues related to the short-term currency liquidity.

The NDB would in some extent fundamentally eliminate the demands for the IMF's assistance. While British Pound, European Euro and Japanese Yen are together with the American Dollar the major currencies in the IMF's basket, the most major and prevailing one in cross-border trades is the latter one. For historical experience, the IMF was established for confronting the imbalance of payment, early the shortage of American Dollar and lately that of gold. After *the Jamaica Agreement* was signed in 1976, gold formally quitted the circulation and Dollar based on merely American sovereign credit re-found its dominated position and then promoted further due to the end of the Cold War. By 2013, American Dollar took a share of 87%[7] of the world's foreign exchange turnover, and thus most of the applications received by the IMF are submitted by those members who are facing liquidity shortage of Dollar instead of other

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[7] Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. See: BIS, 2014: p.72.

major currencies. Maintaining the hegemonic role of Dollar has already become the primary job the IMF possesses.

With utilizing American Dollar as an internationalized but sovereign currency, China and other BRICS members are trapped in a dilemma of policy-making: when the Fed promoted QE, they were unable to launch monetary policy much tight to sop up liquidity brought by hot-money, because the Fed lowered the American interest rate to 0.25% or even an extreme low scale by which reason any rise in domestic interest rates would attract more hot-money for arbitrage (Song, 2013: pp.106-107). Brazil and India rose their interest rates to confront imported inflation pressure during the international financial crisis, and Brazil even increased its interest rate to 12%, but this led to a more serious pressure of imported inflation. Whatever policy they chose, to tighten economies or not, the domestic markets still met a surplus of liquidity. Moreover, when the Fed quitted QE and proposed to rise interest, the withdrawal of hot-money would burst bubbles and devaluate local currencies. In this extent BRICS members' monetary policies are bound tightly to that of the United States.

The general utilization of American Dollar is the source of those main issues on international finance. The issue of Dollar is based on merely American sovereign, furthermore, the American governmental credit. This fiat money is given its value in circulation all by laws instead of linking to precious metals, and makes American monetary policy more flexible than others. British Pound used to be relatively stable not merely on account of the Bank of England as the last lender, but also due to its links to gold that limited its amount. As a so-called international public goods, Pound had made the international finance sustainable for a century so that the global free trade was maintained. However, America benefits from the maintenance of an unstable and volatile international financial environment: the high risks of international finance increase other countries' demands for Dollar reserves, thus the stronger the demands are, the lower the expenses in issuing national debts for American government for financing (Pan, 2014: p.97). More importantly, for maintaining a considerable reserve of Dollar, China, for instance, has to produce and export what America needs in quantity, such as low value-added products, to sustain trade surplus in order to accumulate reserve. This solidifies the distribution of labors and

industries between China and America in which China has to utilize more resources in low value-added productions and lacks the capital to develop high-technological industries.

The evident shortcoming of the present international monetary system is the domination of American Dollar that is administered and controlled by merely American domestic politics and economy instead of being linked to any precious metals. In the period of financial crisis and the Fed's QE, Zhou Xiaochuan, the President of the People's Bank of China, argued to reform this system and set up a super-sovereign currency through intensifying the role of SDR (Zhou, 2009: pp.8-9). While the spokesman of the Chinese Ministry of Finance then gave a clarification that this argument was merely in Zhou's personal academic opinion, China and other emerging economies started to enhance the functions of their local currencies to reduce Dollar's negative impacts on them. At the 2011 Summit, BRICS leaders declared the international monetary system should have 'a broad-based international reserve currency system providing stability and certainty', and the composition of SDR's basket of currencies is supposed to be rethought and discussed.[8] In October 2011, the IMF reviewed the composition of SDR currency basket, and reiterated its criterion: an SDR currency must be a feely usable currency that should be both 'widely used' and 'widely traded' (IMF, 2011a). The conclusion made by the IMF's Directors was that the size of SDR basket should remain relatively small 'to avoid adding undue costs and complexity for SDR users (IMF: 2011b)'. It is a pertinent decision because even in 2013 the local currencies of BRICS members merely took an aggregated share of 6%[9] out of 200% in the world's foreign exchange turnover.

Besides providing clients with opportunity to obtain long-term investments for infrastructures, the NDB has its chance to expend the use of BRICS currencies. While *the Agreement* indicates that the Bank may provide financing in terms of the local currency of the country in which the operation takes place, any loan, investment or other financing undertaken by the Bank shall be used only for procurement in its member countries of goods and services produced in member countries, and any exception requires a permission by the

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[8] See: *Sanya Declaration*. April 14, 2011. Para.16.
[9] See: BIS, 2014: p.72.

Board of Directors of the Bank.[10] Where the operations are taken, there rise large demands for the NDB members' goods and services, and thus the demands for members' local currencies for payment instead of a third currency.

This helps BRICS currencies, especially Chinese Yuan, with the review of composition of SDR basket, because the NDB operations would undoubtedly widen the use and trade of local currencies. However, being included in SDR basket does not exert substantial influence on international monetary system except a symbolic meaning. The SDRs in the IMF are allocated to the members according to merely their subscriptions, therefore generally it only functions as a dispensable supplement to their reserves due to its small quantity in total. Any use of SDR would lead to an interest paid to the IMF, and this maintains the allocation structure but discourages a general utilization. The IMF has not yet conducted *de facto* improvement on it. For BRICS currencies, the first step to internationalization is to widen the use and trade in practice instead of spending time and energy on SDR issues.

Once the NDB operates it is possible to reduce Dollar's impacts, and thus in a certain extent shake the IMF's fundamental function that is sustaining Dollar's role. Like the pressure that the CRA would impose, the NDB would also give pressure, even a more significant one, to the IMF with a manifestation that the IMF might shrink its functioning range if the concerned reforms do not take place.

7. Conclusion: Future of BRICS' New Institutions

As indicated above, the purpose of the CRA and NDB is to meet not merely the economic demands of the BRICS members, but also their political needs, such as voice and stability, in global governance. These institutions do not merely function as a supplement but also a competitor to the present international financial institutions including the IMF.

How can we understand this sort of competition initiated by BRICS? We take it as an *all-win* pattern of competition among institutions which indicates a process that: BRICS group establishes new financial institutions led by itself, improves its governance through healthy competition with the IMF, then

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[10] See: *Agreement on the New Development Bank*. July 15, 2014. Article 21 (vi), 24.

forces the IMF to reform, and ultimately generates the situation in which all the institutions for global financial governance are jointly developing and perfecting and in which more countries can benefit from it.

For developing this *all-win* pattern of competition, BRICS' international financial institutions are supposed to meet three requirements. The first one is transparent standards for entrance. It indicates that the criteria to evaluate new members must be without political conditions and welcome any qualified entrants including both developing and advanced countries. An open institution will benefit more generally the members, and thus compete with the IMF in the aspects of representation and legitimacy.

The second prerequisite is that fairness must come prior to equality in the distributions of rights and benefits. Equality of opportunity means the voices and benefits obtained by the members completely depend on their subscriptions, whereas fairness refers to more preferential treatments with underdeveloped members as well as more tolerance to certain free-ridings.

The third requirement is a competitive and cooperative relationship with the IMF. Besides the general representation the IMF bears at present, it also has sufficient experience with governance. For dealing with complicated global financial issues, BRICS members cannot merely count on their own efforts, and their institutions should not only compete but also cooperate with the IMF. Competing refers to the substitutability to the IMF through presenting the advance in the benefit allocation and decision-making of the new institutions. Cooperating means the complementarity that is in what extent the new institutions are able to coordinate the rules and objectives of governance with the IMF. For instance, while the CRA has its delinked portion of 30% of maximum access to borrowing that presents its competitiveness, it also bears a 70% 'the IMF-linked portion' that requires a borrower to negotiate with the IMF when applying for more salvation from the CRA, and that shows cooperativeness.

In sum, under this *all-win* patterned competition, BRICS' new international institutions can not merely supplement the insufficient governance, undertaken by the IMF, to satisfy their own needs but also exert competitive pressure to the IMF in order to increase the latter's motivation to reform, and thus jointly perfect the international financial system.

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