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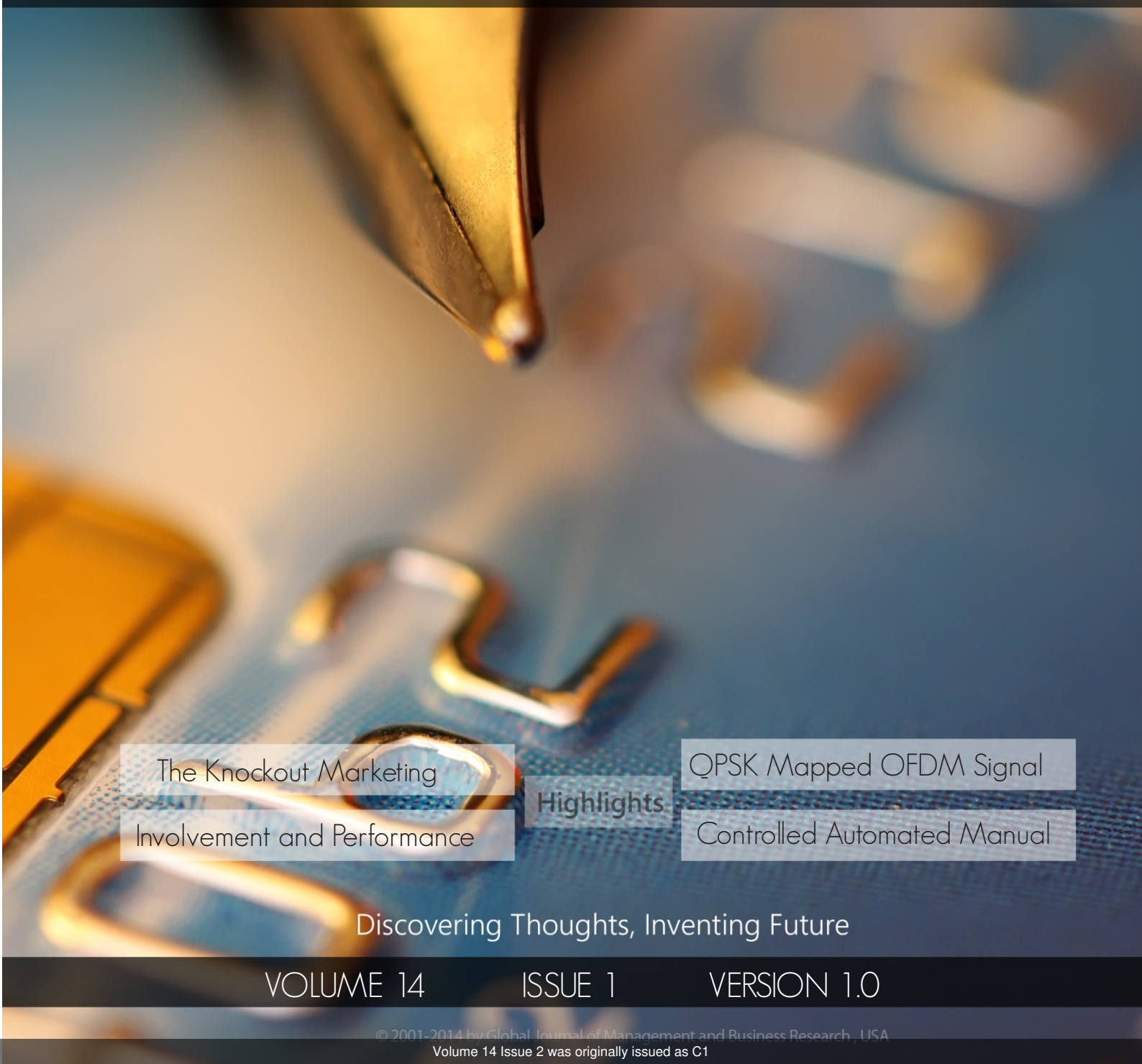

Highlights

The Knockout Marketing Involvement and Performance

QPSK Mapped OFDM Signal Controlled Automated Manual

Discovering Thoughts, Inventing Future

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(MS) Computer Science Department
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The Impacts of Financing Public Utility with in a Developing Economy (A Co-Integration Approach) Bonds

By Harley Tega Williams, Joseph M. Okonkwo & Olaleye Ronke Abolore
Lagos Metropolitan Business School, Nigeria

Abstract- This study investigate Bond has a debt instruments' use to finance capital project by different levels of governments. Public utility such as roads, sea and air ports etc in any economy can be attributed or measured to an extent of the amount of money invested on bonds or the amount of Bond issued to finance public utility. However, Empirical evidences attest to the fact that bond is designed to finance capital projects in advance country but in the case a developing economy the reverse is the case hence making it difficult for business organizations to tap unto this financing window. This research work try to capture the effect of bonds on public utility using infrastructural development as a dependent variable in Nigeria with data from 1980 to 2011.

Keywords: *bonds, finance, public utility, developing economy.*
GJMBR-A Classification : *JEL Code: E44, F30*

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The Impacts of Financing Public Utility with Bonds in a Developing Economy (A Co-Integration Approach)

Harley Tega Williams [α], Joseph M. Okonkwo [σ] & Olaleye Ronke Abolore [ρ]

Abstract- This study investigate Bond has a debt instruments' use to finance capital project by different levels of governments. Public utility such as roads, sea and air ports etc in any economy can be attributed or measured to an extent of the amount of money invested on bonds or the amount of Bond issued to finance public utility. However, Empirical evidences attest to the fact that bond is designed to finance capital projects in advance country but in the case a developing economy the reverse is the case hence making it difficult for business organizations to tap unto this financing window. This research work try to capture the effect of bonds on public utility using infrastructural development as a dependent variable in Nigeria with data from 1980 to 2011. The study applies the co-integration analysis and review that there is a positive linear relationship between bonds and infrastructural development. We also discover that bonds are statistical significant variables but inversely related to infrastructural development because the issue of bonds by governments in a developed economy has not been tied to a particular public utility.

Keywords: bonds, finance, public utility, developing economy.

I. Introduction

The Nigeria bond market is underdeveloped because the use of bond as means of raising long term capital has advanced. Bonds been a long term fixed income debt instrument for which the issuer agrees to repay the bondholder a stated sum of money at the maturity date. The bond market is special design to provide a mechanism for long term funding of public and private expenditures. Most government bonds in Nigeria are traded over-the-counter and so are bought majorly by financial institutions which hold them till maturity. Hence they do not have secondary market.

Public utilities been the basic systems and structures that a country or organization needs in order to work properly, for example roads, railways, airports, bridges, electricity, water supply, drainages etc. Because these facilities are of common use, they are taken up by government as her responsibility. Without public utilities in terms of infrastructure, business organizations will find it difficult to thrive because it is the driving force of the economy. Infrastructural facilities are capital intensive and so their provision makes a lot of financial demand on governments. Most often government revenue is inadequate to satisfy recurrent expenditure and leave reasonable proportion for capital expenditure. Public utilities are such long term project and ideally should be financed by long term capital. Bonds come handy to help augment government's reserve in funding public utilities.

In the Nigerian economy today, the total amount of bonds issued in the private sector is highly insignificant considering the size of Nigeria's economy; this is indeed small and is a reflection on the inefficiency of the Nigeria capital market to issue bonds that will be tied to a particular project. However, the Nigeria capital market has not created a model to monitor bonds finance to independent public utilities.

Businesses in Nigeria have been groaning in the dearth of infrastructural facilities which makes cost of operation very high and leans down profit margin. It invariably hinders development of small scale enterprises. Similarly, the Nigerian bond market is still at developmental stage given the predominance of over the counter trading and low participation of the private sector in issuance of bonds. Only in the recent years did governments and a few business organizations increase the amount and frequency of bond floating. Therefore, a strong debate as emerged between regulator of the bonds market and the general public as to the impact of bonds finance to public utilities in Nigeria. Therefore, the concern of this study is to specify a model that shows the relationship between public utilities and bonds. Against this backdrop, the purpose of this study is to empirically examine the issuance of bond as a source of finance to public utilities in Nigeria.

II. Literature Review

Opinion differs among experts in finance as to what finance instrument is adequate for the financing of public utility in Nigeria but they all agree that it is an age long issue for which there do not seem to be any consensus in sight. Thus as noted by Ideji 2010, the use

Author α : Lagos Metropolitan Business School. e-mail: harleytega@yahoo.com
Author σ: Postgraduate Student, Department of Finance, University of Leicester. e-mail: kai_olaleye@yahoo.com
Author ρ: Ekulo Group of Companies. e-mail: jmokonkwo@yahoo.com

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of bond to finance public utility has a long history. It is in fact, almost as old as the origin of bond.

Bonds are use for financing of long term projects. This reduces the likelihood of insufficient fund for financing capital project by government or corporate entities. Public utilities such as roads, electricity, bridges, sea and airports, if adequately financed with the appropriate finance instruments will bring about economic growth and development. The perception is that the more bonds issue the more funds are available for investment in public utilities and real economic sector, and by extension, the higher the economic growth and development. The importance of bond as a finance instrument to finance infrastructure development in Nigeria brings about the following questions: what is bond? What is its origin and uses? What amount of bond is adequate to finance public utilities in Nigeria? What methodology is appropriate in measuring the impact of bonds on public utilities in Nigeria?

(Sharpe, Alexander and Bailey, 2004; Fisher and Jordan, 2008), Bond in its simplest meaning is a corporate or government certificate acknowledging that a person has lent money to the firm or government. The certificate specifies the holder's extent of exposure in terms of money investment in the corporation or government.

According to Wikipedia, "a bond is a debt security, in which the authorized issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay interest (coupon rate) to use and to repay the principal at a future date, termed maturity''. Pandian (2003) stated that a bond is a formal contract to repay borrowed money with interest at fixed interval. This is to say, the bond issuer is under legal obligation to make interest payment at regular interval to investors and repay the entire bond principal at a later prescribed time, called the maturity date.

Akujuobi, 2006, explained that government bond is a firm contract of indebtedness entered by the government of a State with investors, that is, bond holders that have subscribed to or lent money to the state". In the contract, the State Government promises payment of an agreed rate of interest (coupon) at regular interval to bondholders, and the principal amount at a specified future date, the maturity. The agreed rate of interest may be fixed or adjustable with caps and limits. A bondholder is therefore an investor who expects income at regular interval from the State for the use of his/her moneys until the principal amount is repaid. Thus, in this context, interest is the reward the issuer of the bond–Government - pays to bondholders for the use of the borrowed funds.

Cuthbertson and Nitzsche, 2005; Bhalla, 2005, A bond is not less than a loan, thus, may or may not come with covenants; covenants that may inhibit appropriation of future income to cater for future developmental needs of a State. Investors are interested in state government bonds because they are considered less risky compared to corporate bonds because of the singular fact that a State is perpetuity in terms of existence.

a) Relevance of Bonds as a Source of Finance in Nigeria

According to Ezirim, and Nzotta, 2005, the sources of funds available to government for carrying out its activities are not limited to statutory allocations, internally generated revenues, grants and aids from international institutions and donor agencies only. Governments could raise funds from both private and institutional investors as well as other governments by way of borrowings.

Nzotta, 2004; Ebulu, 2010, observed that some State Governments in Nigeria are falling back to the option of utilizing the capital market by way of issuing registered bonds to raise funds to enable them finance conceived developmental projects thereby appropriating future income for present engagements.

Musa and Kihongo (2011) stated that when a government wishes to borrow money from the public on a long term basis, it usually does so by issuing or selling debt securities such as bonds. Therefore the relevance of bond as a source of fund in Nigeria in order to generate revenue to finance capital project cannot be under-rated.

Some Nigerians have suggested some methods that can be used to close the infrastructure gap and economic development in Nigeria to include private equity, project-based finance, asset-backed finance, privatization, bond issues and of course private capital inflows. Recently, the Central Bank of Nigeria advocated for the participation of pension funds in financing the power sector and other critical infrastructural projects.

b) Relevance of Public Utilities to Economic Development

Orimobi, 2011, state that all governments come with visions and dreams to strategically position the country for growth and economic development. This may arise as a result of development of public utilities in form of infrastructure and provision of basic amenities in the states which is dependent upon the availability of financial resources.

Kenya's issuance of government infrastructure bonds, i.e. longer-term bonds funding infrastructure projects, during the global financial crisis (to finance roads, water, and energy projects) is an example for governments in other countries with sufficiently developed domestic bond markets to follow. Besides supporting aggregate demand during the crisis, the issuance aimed at removing supply-side bottlenecks to growth. Since February 2009, Kenya has successfully issued 3 infrastructure bonds with a total value of USD 1 billion. This issuance has also paved way for corporate

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bonds issues by private or state-owned companies, for harnessing domestic resources and development of infrastructure. Still, given the underdeveloped local capital markets in most African low income countries and also some middle income countries (e.g., Swaziland), access to international capital markets is key for securing stable and longer term financing.

Ghana's issue of an external sovereign bond of $750 million in late 2007 was another innovative infrastructure financing among African LICs. It also set the benchmark for sovereign and private sector borrowing on the international capital market by other frontier market countries. Due to the tight credit conditions stemming from the global financial crisis, most sovereign debt issuances by Southern African governments were deferred in 2009 and 2010. Given Africa's resilience during the crisis, demand for Africa's bonds is expected to rise in 2011. Ghana's experience highlights the importance of structural reforms, macroeconomic stability, credit rating and preparation before accessing international markets. Another lesson for African governments accessing the international capital markets is that macroeconomic frameworks need to be robust to swing in capital flows.

Ethiopia was a pioneer in Africa on issuing Diaspora bonds to finance infrastructure. The Millennium Corporate Bond targeted both Ethiopians at home and abroad, aimed at raising capital for the state-owned Ethiopian Electric Power Corporation. Across the continent, Diaspora bonds thus constitute an untapped way to mobilize resources in frontier markets with a large diaspora population (e.g., Ethiopia). The World Bank estimates that Southern African countries could raise $5-10 billion per year through such bonds. They are thus a potential source of longer term financial resources for infrastructure, complementing remittance flows that are typically used for consumption or social expenditures.

c) Financing of Public Utilities with Bond in Nigeria

Nigeria is currently facing roads, electricity, water supply and other public utility projects malnutrition. It is said that about half a trillion dollars worth of investment is required to bridge the public utilities gap of Nigeria with that of South Africa. In the view of Nigeria's Urban Development Bank, the country needs yearly investment of at least $20 billion. This requirement is far in excess of available public financing source. As at May, 2010, the Debt Management Office had issued N80 Billion worth of 20 years, 5 years and 3 years bonds, while it has arranged to issue $500 Million sovereign bond. In addition, about N200 billion corporate bonds were issued within the first quarter of 2010. The Debt Management Office in 2011 said she planned to float Diaspora bond of not less than five years tenure in 2012 to raise fund to finance public utilities in terms of infrastructure in Nigeria.

III. Data for the Study

The empirical investigation of the use of bonds to finance public utility is based on a thirty two years adjusted bond data from 1980 to 2011. The data were sourced from the Nigeria Stock exchange (NSE), Security and Exchange Commission (SEC), Central Bank of Nigeria (CBN) Statistical Bulletin, World Bank Economic Review and the International Financial Statistics (IFS) Bulletin. Since the analysis here is based on public utility thus we used Infrastructural development data to represent public utility. The total bond comprises of federal and state government bonds in order to capture the relationship between bonds and public utility. The political instability dummy comprises of both the civilian and military regime in Nigeria from 1980 to 2011. We assign one for civilian regime and zero for military regime.

IV. Methodology

Any previous studies on the impact of Bond Finance on Public Utility if there exist any may not have considered the type of variables applied in this study and also the problem of unit roots in its analysis. The analysis to be used in this study is primarily based on test provided by Engle and Granger (1987), and Engle and Yoo (1987).

a) Model Specification

In order to account for the impacts of bonds finance on public utility in Nigeria, the model of the study is hereby specified as follows:

INFDEV= f (BND, INF, INT, POL)

The above model is hereby written in log —linear form as:

$$LOGINFDEV = b_0 + b_1 LOGBND + b_2 LOGINF + b_3 LOGINT + b_4 LOGPOL + \mu$$

apriori, $b_1>0$, $b_2<0$, $b_3>0$ $b_4>0$

Where: INFDEV = Infrastructural development

TB = Total Bonds

INF = Inflation Rate

INT = Coupon Rate

POL = Political instability Dummy

b_0 = Intercept Parameter

μ = Captures other variable not included in the model and it take care of other factors that cannot be observed or computed due to lack of data. μ is referred to as error term, residual or stochastic term.

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Table 1 : Stationarity Test

Variables	ADF Test	Order of Integration
LogINFDEV	2.1834 (2.1296)	1(0)
ALogINFDEV	2.0370(1.9835)	1(1)
LogTB	1.2945 (1.2532)	1(0)
AlogTB	1.5612(1.2734)	1(1)
LogINF	2.1784 (2.6531)	1(0)
ALogINF	3.9634 (2.8963)	1(1)
LogINT	1.9457 (1.7936)	1(0)
ALogINT	0.7519 (1.0001)	1(1)
LogPOL	0.7812 (1.8481)	1(0)
ALogPOL	2.9616(2.6924)	1(1)

Source: Computed using eview5.

Table 2 : Johansen Co-integration Test Results

Sample: 1980 – 2011 Series: Log INFDEV, Log TB, Log INF, Log INT, Log POL				
Eigen value	Likelihood Ratio	5% Critical Value	1% Critical Value	Hypothesized No. of CE(s)
0.81	102.7523	89.44	100.12	None**

Note: (**) (denotes rejection of the hypothesis at 1% and 5% significance level respectively.*
Lags interval: 1 to l
Source: computed.

Table 3 : Long-run Infrastructural development and Bond Model Estimates

Modeling Log (INFDEV) by OLSSample: 1980 – 2011		
Variable	Co-efficient	t-value
C	2.1422	0.2192**
Log TB	1.2391	3.4397**
Log INF	1.9093	3.9551**
Log INT	0.2821	0.8451**
Log POL	0.2734	2.4215**

Notes: R^2= 0.75 F = 23.021 N=32 Adj. R^2 = 0.68 Prob (F--Statistic) = 0.00011 DW= 1.63
Schwarz information criterion 1.008
*** Significant at 5% Level*
Source: Computed using eview 5.

*Table 4 :*Short-run over — parameterized Infrastructural Development and Bond Model

Model Estimates Log (INFDEV) by OLS
Sample: 1980— 2011

Δ Model Sample:	Log (INFDEV) by OLS 1980— 2011	
Variables	Co-efficient	t-value
Constant	0.9435	0.2475**
Δ LogINFDEV(-1)	2.9142	2.8421**
Δ LogINFDEV	2.2934	0.2671**
Δ LogTB(-1)	0.7832	0.5612**
Δ LogTB	0.0378	0.1117**
Δ LogINT	0.9431	1.2934**
Δ LogINT(-l)	0.5821	0.2378**
Δ Log INF	0.9277	0.5234**
Δ Log INF (-1)	0.9312	0.6892**
Δ Log POL	0.0005	0.1345**
Δ Log POL(-1)	0.0001	1.2934**
ECM(-1)	0.3491	1.2948**

Notes: R^2 = 0.87 F=11.23 Adj R^2 = 0.81 Prob (F — Statistic)=0.007975 DW= 1.46 Schwarz information criterion= 0.713
Source: Computed using eview 5.

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Table 5 : Short-run Parsimonious Model Estimates

	Modeling Log (INFDEV) by OLS Sample: 1980 – 2011	
Variables	Co-efficient	t-value
Constant	3.1789	0.2473**
Log INFDEV	4.2913	2.3451**
Log INFDEV (-1)	3.8426	1.2357**
Log TB	0.9347	2.0001**
Log TB (-1)	0.6893	1.8312**
Log INF	0.2174	0.1283**
log INF (-1)	0.7832	0.2391**
Log INT	1.3467	0.2314**
Log INT (-1)	0.9215	0.1452**
ECM ($\bar{}$ 1)	1.2672	1.2943**

Notes: R^2 = 0.87 F = 10.02 Adj R^2 = 0.83 Prob (F-statistic)= 0.000163DW=0.98Schwarz information criterion =1.10
*** Significant at 5%.*

V. Result and Discussion

The thrust of the study was to investigate empirically the role of bond on public utility in a developing economy using Nigeria as a case study. Infrastructural development was used to replace public utility as a dependent variable and bond as independent variable in order to test for the validity of some conjecture made in this study. Bonds in developing economy were issued mainly to finance budget deficits which could have resulted from recurrent expenditure.

From the Long-run infrastructural development and bond model presented, the coefficient of bond seems moderate (1.2391). This implies bonds have no stronger impact on public utilities. This is backed by the fact that volume of government bonds does not measure up with the public utilities.

The inflation rate variable which is a most sort time series/macroeconomics variable does not have an aproari expectation in all the test carried out in this empirical work hence; it is not correctly signed and not statistically significant.

However the short-run parsimonious model yielded a coefficient of 1.3467 for interest rate, which is quite significant. The logic here is that high interest rate results in high bond coupon rate. The coupon rate when high, will attract investors hence more money is realized through bond issuance, which will invariably impact positively on public utilities.

The apriori expectation is that political risk is high under military regime and low under civilian administration. The risk is expected to negatively impact on the economy as well as infrastructural development. However, the political risk coefficient under the long-run model in table 3 (0.2734) and its coefficient under short run over-parameterized model in table 4 (0.0005) are all positive values though considered insignificant. It therefore implies that political risk as represented by type of government has no significant effect on infrastructural development and a Durbin–Watson statistic (DW) of 1.63 which symbolizes positive serial correlation.

VI. Conclusion

The aim of this empirical study is to investigate the impact of bond finance on public utility in a developing economy. The study applied a Co-integration technique. It was found empirical support for some conjectures made in the literature. Hence it is concluded that there is a linear relationship between bond and public utility. Given the important of the use of bond for financing, it becomes expedient to examine how public utility can clearly be finance with bond in a developing economy.

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Does Advertising Expenditure Impact Firm Value: A Case of Indian FMCG Industry

By Mandeep Mahendru & Kalyan K De
Thapar University, Patiala, Punjab, India

Abstract- This paper builds on the existing literature by studying the linkages between advertising expenditure, sales and profits in India. The paper takes a sample of 100 FMCG companies in India and studies their advertising and sales for the period ranging from 2001-02 to 2010-11.The study uses various tools including Mean, Standard Deviation, Coefficient of Variation, Kurtosis, Skewness, Correlation, Regression for getting insights into the data. Econometric analysis including Auto-correlation, Partial Auto-correlation, Augmented Dickey-Fuller test, Vector Auto Regression, Variance Decomposition Analysis, Johansen's Cointegration and Vector Error Correction Model have been employed to find out the bivariate relationship between the variables under reference. The paper points towards the dependency of sales revenue and profit after tax on advertising expenses besides showing an obvious impact of sales revenue on profits.

Keywords: *FMCG, advertising expenditure, augmented dickey-fuller, vector auto regression, variance decomposition analysis, johansen's cointegration, vector error correction, firm value.*

GJMBR-A Classification : *L25, L66, M37*

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Does Advertising Expenditure Impact Firm Value: A Case of Indian FMCG Industry

Mandeep Mahendru [α] & Kalyan K De [σ]

Abstract- This paper builds on the existing literature by studying the linkages between advertising expenditure, sales and profits in India. The paper takes a sample of 100 FMCG companies in India and studies their advertising and sales for the period ranging from 2001-02 to 2010-11.The study uses various tools including Mean, Standard Deviation, Coefficient of Variation, Kurtosis, Skewness, Correlation, Regression for getting insights into the data. Econometric analysis including Auto-correlation, Partial Auto-correlation, Augmented Dickey-Fuller test, Vector Auto Regression, Variance Decomposition Analysis, Johansen's Cointegration and Vector Error Correction Model have been employed to find out the bivariate relationship between the variables under reference. The paper points towards the dependency of sales revenue and profit after tax on advertising expenses besides showing an obvious impact of sales revenue on profits. The paper provides significant inputs for the further studies that may focus on adding more variables such as profits and firm value, and study the multivariate relationship among them.

Keywords: FMCG, advertising expenditure, augmented dickey-fuller, vector auto regression, variance decomposition analysis, johansen's cointegration, vector error correction, firm value.

I. Introduction

Historically, the advertising has focused largely on sales and profit response of marketing actions. The aim of marketing in past has been formulated from customer perspective which in turn focused on marketing-sales relationship.

Recently, practitioners have started showing keen interest in the financial impact of marketing actions. Marketers are now aiming to achieve better financial returns with the same amount of marketing actions. It is very difficult to justify the relationship between marketing expenditure and firm value with reducing budget, unless it is linked to the stock price. Advertising is directed at increasing the sales of business, which shall further lead to an increase in profits. Increased profits may help increase the market price of the company's share, finally leading to increased firm value and shareholders' wealth.

The paper is organized as follows. Section 1 introduces the idea of the study while also presenting the need for it, section 2 outlines the research objectives, section 3 reviews the empirical literature about the research problem, section 4 presents the research methods put to use in the paper, section 5 summarizes the findings of the study, and section 6 concludes.

II. Research Objectives

The paper aims at studying the relationship between advertising expenditure and firm value in respect of the Indian FMCG companies. As a first objective, the study targets getting insights into the advertising expenses incurred by the Indian FMCG companies and the firm value of the companies. Secondly, the paper attempts to establish the impact of advertising expenditure incurred during a period on the firm value in that period. Further, the paper also aims to analyze the impact of firm value in one period on the advertising expenses in the next period. Finally, the paper intends to establish if there is a dependency relationship between advertising expenses and market value of firm of Indian FMCG companies.

III. Review of Literature

A number of studies have been conducted in order to find out the relationship between advertising expenditure and firm value through sales and profitability. Very few papers study the direct relationship between advertising expenditure and firm value (Joshi and Hanssens, 2010). Andras and Srinivasn (2003) report positive relationship between Advertising intensity and R&D intensity to the firm's performance. Hirschey and Chauvin (1993) find out that advertising and R&D expenditure have large positive and consistent influence on the market value of the firm, which is why it is considered as investment in intangible assets with predictably positive effects on future cash flows. Margy & Melvin (2005) observe positive relationship between advertising expenditure and promotional spending on market value of firm. Qureshi (2007) studies the relationship between advertising expenditures and the market value of firms by using OLS. The study finds out that advertising expenditures are significantly associated with increases in market value, suggesting that capitalizing advertising expenditures is appropriate. Using OLS reports, Siong (2010) observes a statistically significantly positive relationship between advertising and firm value. Kundu, Murthy and Kulkarni (2010) use the data of 172 firms from 2000-2007 and find positive and significant relationship between advertising

Author α: Research Scholar, LM Thapar School of Management Thapar University. e-mail: Patiala mandip129@gmail.com
Author σ: Professor, LM Thapar School of Management, Thapar University. e-mail: Patiala kde@thapar.edu

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expenditure and Tobin's Q accounting for firm size and leverage. Bhattacharya(1994) provides the evidence of positive relationship between advertising expenditure and consumers and firm performance, therefore it indicates the advertising effectiveness have their impact on consumers and firm performance and offer perspectives for the firms in planning for more effective advertising strategies to promote their products or services. Frankenberger(2004) studies 2662 firms to determine the economy-wide and industry effects than averag e advertising spending has on earnings and market value recessionary periods and compared those effects of increased and decreased advertising during recessionary period and indicated that advertising creates a firm asset by contributing and claimed that increasing spending on advertising during a recession leads to benefits that exceed the benefits of increasing advertising during non-recessionary periods. concluded that firms should support advertising budget wherever possible, as advertising in general translates to an asset that is valued by stock market participants. Shah and Stark (2004) investigate the value relevance of the advertising expenditure The results of the study showed a positive influence of advertising expenditure on the market value of firms. Shark and Stark (2004) by splitting the sample into sub-sample of manufacturing and non-manufacturing of Large and small size, find advertising expenditure to be relevant for large and non-manufacturing firms. Shah and Shark (2005) investigate whether advertising expenditure help in forecasting future earning and are associated with market value by using valuation model found that major media advertising expenditure valuation relevant and useful in predicting future value of earnings. Using the OLS method, C'onchar, C'rask and Linkhan (2005)examine the relationship between advertising expenditure on firm market value, future cash flows and boost the shareholder wealth. Merino, Srinivasan and Srivastava (2006) study the relationship between advertising and R&D expenditure on variability of cash flow and intangible cross-sectional to the panel data case to relate a firm's advertising and R&D expenditure to the variability of cash flow and intangible firm value and concluded that advertising impacts on the variability of cash flow and intangible value are different, which advertising expenditure they found that advertising stabilizes both cash flow and intangible value in turbulent and competitive environments. Qureshi (2007) investigates the relationship between advertising expenditure and the market value of firms. Advertising expenses are significantly related with the increase in market value suggested that investment in advertising should be capitalized and then amortized rather than treated as expense item. Gupta (2008) studies the effect of advertisement on the firm performance 10 year (1997-98 to 2006-2007) of Automobile, Textile and Food by applying Least square. This paper notes that results of advertisement certainly affect the firms depending on their nature. It further claims that it is evident that advertisement has positive and significant effect on sales of firms while it has significant adverse effect on profitability. Automobile industry shows positive impact of advertisement on sales as well as profitability along with firm value. Hsu and Jang (2008) study the relationship between advertising expenditure, intangible value, and risk in stock returns of restaurant firms. They suggest that advertising expenditure creates intangible benefit to restaurant firms. They also note that advertising may affect product introduction, positioning, and differentiation which lead to a restaurant firm's success. Wang, Zhang and Ouyang (2008) study the nature and degree of advertising effect on firm intangible values by applying Time series approach. They report that advertising effects on firm's intangible assets are sustainable and accumulative and support the asset or investment like characteristic of advertising expenditure. Using Cointegration model, Leong et al (1996) reveals that a strong positive relationship exists between advertising expenditure and sales. Leach and Reekie (1996) apply Granger causality test and find that advertising expenses cause sales but sales do not simultaneously cause advertising. Metwally (1997) explains the variations in the growth rates of advertising expenditure of consumer goods and services that the growth in advertising expenditure is strongly correlated with the growth in sales and that movement in market shares exerts a significant effect on the growth in advertising expenditure.

IV. Research Methodology

The paper studies the impact of advertising expenses on firm value in the FMCG industry of India. The study focuses on a manufacturing industry (in the form of FMCG industry) since the manufacturing companies' advertising spending are higher than the service companies. Besides, the sales in currency as well as sales in units are both visible in case of manufacturing companies, as against the service companies where only the sales in currency are visible and sales in units are not. Therefore, choosing a manufacturing industry for the purpose of such study makes sense. FMCG industry, being one of the most diverse manufacturing industries forms the scope of the paper. One hundred BSE-listed companies from the FMCG industry selected randomly are used as the sample for the study.

The sample period for the study is ten years ranging from 2001-02 to 2010-11. The study takes a period of ten years. In a study related to advertisement, a longer period is not suitable as the advertisement

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patterns of the industry undergo major transformation in a longer period. Further, in the light of the competitive environment in the manufacturing sector of India, every decade witnesses change in the competitive positions of the market players. Therefore, the study uses a sample period of ten years.

The data for sample companies have been collected from the annual reports of the respective companies. Wherever necessary, CMIE Prowess database has also been used for data collection purposes.

The study uses econometric tools for analyzing the data. There are hundred companies for which data of ten years has been taken for advertising expenses as well as of firm value.Ratio 'Q' developed by James Tobin of Yale University, Nobel laureate in economics, has been extensively used as a proxy for firm value. Tobin (1969) hypothesizes that the combined market value of all the companies on the stock market should be about equal to their replacement costs. The Q ratio is calculated as the market value of a company divided by the replacement value of the firm's assets:

$$\text{Q Ratio} = \frac{\text{Total Market Value of Firm}}{\text{Total Asset Value}}$$

A number of improvised models of 'Q' have been developed by the researchers after Tobin giving the 'Q' ratio. These include L-R algorithm and many other improvised methods. The present paper uses the simplified version of approximated 'Q' as suggested by Chung and Pruitt (1994), which seems simpler and more objective as compared to the original 'Q' as given by Tobin –

$$\text{Approximated Tobin's q} = \frac{Market\ Value\ of\ Equity + Book\ Value\ of\ Debt}{Book\ Value\ of\ Total\ Assets}$$

In order to conduct econometric analysis, all the hundred companies have been grouped together and the data for all the ten years has been grouped together as well. In this way, the number of data points rises to 1000 (10 x 100). However, there is a threat while grouping different companies into one group because of the difference in magnitude of advertisement expenditure and Firm value of the companies. The study uses indexing as a means to remove this defect. We adjust the data for all the companies with an index of 100 in order to ensure uniformity across the companies. Afterwards, the log of the series has been computed in order to find out the change in advertisement expenditure and firm value across various data points. Several methodological works in econometric analysis suggest such direction for grouping together the data points for different cases *[Theil (2008), Anselin (1988), Fair & Shiller (1990), Franses & Van Dijk (1996), Brooks,* Clare and Persand (2000), Arellano (2003), Brooks (2008), Sharma and Bodla (2011).

The analysis of econometrics can only be performed on a series of stationary nature. In order to check whether or not the series are stationary, we prepare the line graph for each of the series. In order to further confirm the (stationary) nature of the series, correlogram is prepared for each of the series. Further, we perform the Augmented Dickey-Fuller test under the unit root test to finally confirm whether or not the series are stationary. For the basic understanding of Unit root testing, we may look at the following equation

$$y_t = \rho y_{t-1} + x_t'\delta + \varepsilon_t \qquad (1.1)$$

where, x_t are optional exogenous regressors which may consist of constant, or a constant and trend, $\rho$and $\delta$are parameters to be estimated, and the ε_t are assumed to be white noise. If $|\rho| \geq 1$, y is a nonstationary series and the variance of y increases with time and approaches infinity. If $|\rho|<1$, y is a (trend-)stationary series. Thus, we evaluate the hypothesis of (trend-)stationarity by testing whether the absolute value of $|\rho|$ is strictly less than one.

The Standard Dickey-Fuller test is carried out by estimating equation (1.1) after subtracting y_{t-1} from both sides of the equation.

$$\Delta y_t = \alpha\, y_{t-1} + x_t'\delta + \varepsilon_t \qquad (1.2)$$

where$\alpha = \rho - 1$. The null and alternative hypotheses may be written as,

$$H_0 : \alpha = 0$$

$$H1 : \alpha < 0$$

In order to make the series stationary, we take the log of the two series and arrive at the firm value and advertisement of the two series. All the remaining analysis is performed at the firm value & advertisement data companies. We name these variables as rfv, and radv respectively.

At the stationary log series we perform the Vector Auto regression (VAR) Model. The vector auto regression (VAR) is commonly used for forecasting systems of interrelated time series and for analyzing the dynamic impact of random disturbances on the system of variables. The VAR approach sidesteps the need for structural modeling by treating every endogenous variable in the system as a function of the lagged values of all of the endogenous variables in the system. The mathematical representation of a VAR is:

$$y_t = A_1 y_{t-1} + \ldots\ldots + A_p y_{t-p} + Bx_t + \varepsilon_t \qquad (1.3)$$

where $y_t$is a k vector of endogenous variables, $x_t$is a d vector of exogenous variables, A_1, …… , $A_p$and B are matrices of coefficients to be estimated, and $\varepsilon_t$is a

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vector of innovations that may be contemporaneously correlated but are uncorrelated with their own lagged values and uncorrelated with all of the right-hand side variables.

The Variance Decomposition Analysis in order to finally quantify the extent upto which the three indices are influenced by each other. While impulse response functions trace the effects of a shock to one endogenous variable on to the other variables in the VAR, variance decomposition separates the variation in an endogenous variable into the component shocks to the VAR. Thus, the variance decomposition provides information about the relative importance of each random innovation in affecting the variables in the VAR.

The series are also being tested on the Johansen's Cointegration tests. We have applied VAR-based cointegration tests using the methodology developed in Johansen (1991, 1995) performed using a Group object or an estimated Var object.

Consider a VAR of order *p*:

$$y_t = A_1 y_{t-1} + \ldots\ldots + A_p y_{t-p} + Bx_t + \epsilon_t \quad (1.4)$$

where y_t is a k-vector of non-stationary I(1) variables, x_t is a d-vector of deterministic variables, and ϵ_t is a vector of innovations. We may rewrite this VAR as,

$$\Delta y_t = \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + B x_t + \epsilon_t \quad (1.5)$$

where:

$$\Pi = \sum_{i=1}^{p} A_i - I, \qquad \Gamma_i = -\sum_{j=i+1}^{p} A_j \quad (1.6)$$

Granger's representation theorem asserts that if the coefficient matrix $\prod$ has reduced rank $r < k$, then there exist $k \times r$ matrices α and β each with rank *r* such that $\prod = \alpha\beta'$ and $\beta' y_t$ is I(0). *r* is the number of cointegrating relations (the *cointegrating rank*) and each column of β is the cointegrating vector. As explained below, the elements of α are known as the adjustment parameters in the VEC model. Johansen's method is to estimate the matrix from an unrestricted VAR and to test whether we can reject the restrictions implied by the reduced rank of $\prod$.

The trend assumption in the case of our series applied for cointegration is that the level data and the cointegrating equations have linear trends:

$$H^*(r): \prod y_{t-1} + Bx_t = \alpha(\beta' y_{t-1} + \rho_0 + \rho_1 t) + \alpha \perp \lambda_0 \quad (1.7)$$

Johansen (1995) identifies the part that belongs inside the error correction term by orthogonally projecting the exogenous terms onto the α space so that $\alpha_\perp$ is the null space of $\alpha'\alpha_\perp = 0$. We identify the part inside the error correction term by regressing the cointegrating relations $\beta' y_t$ on a constant (and linear trend).

To determine the number of cointegrating relations *r* conditional on the assumptions made about the trend, we can proceed sequentially from $r = 0$ to $r = k-1$ until we fail to reject.

The trace statistic for the null hypothesis of *r* cointegrating relations is computed as:

$$LR_{tr}(r/k) = -T \sum_{i=r+1}^{k} \log(1-\lambda_i)\ k \quad (1.8)$$

where λ_t is the i-th largest eigenvalue of the $\prod$ matrix in (1.8).

The maximum eigenvalue statistic is computed as –

$$LR_{\max}(r/r+1) = -T\log(1-\lambda_{r+1}) = LR_{tr}(r/k) - LR_{tr}(r+1/k) \quad (1.9)$$

for $r = 0,1,\ldots.. k$ -1

A vector error correction (VEC) model is a restricted VAR designed for use with non-stationary series that are known to be cointegrated. The VEC has cointegration relations built into the specification so that it restricts the longrunbehavior of the endogenous variables to converge to their cointegrating relationships while allowing for short-run adjustment dynamics. The cointegration term is known as the *error correction* term

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since the deviation from long-run equilibrium is corrected gradually through a series of partial short-run adjustments.

V. Findings

The paper studies the impact of advertisement expenditure on firm value for 100 FMCG companies under refrence.In a manner to study the impact of advertising expenditure on firm value, econometric analysis has been applied.Before applying the econometric anlysis, it is important to check the series for stationarity.The Econometric analysis has been performed on log of the series rather than the raw data.The line graph for log of advertising, firm value and joint graph for log of advertising and firm value are presented in Figure 1 to 3 respectively.

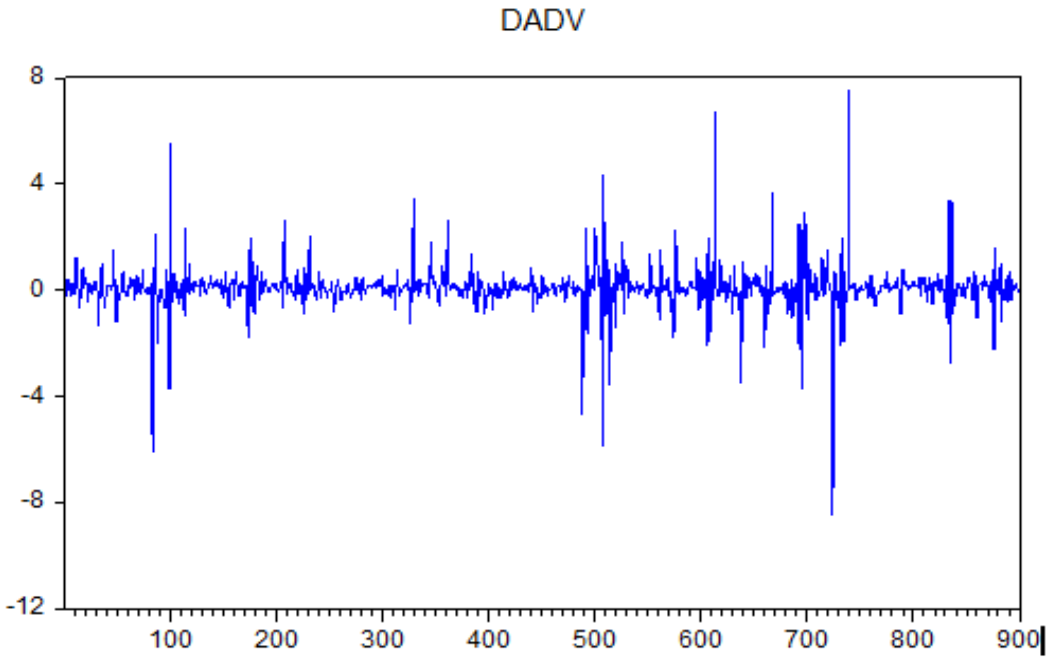

Figure 1

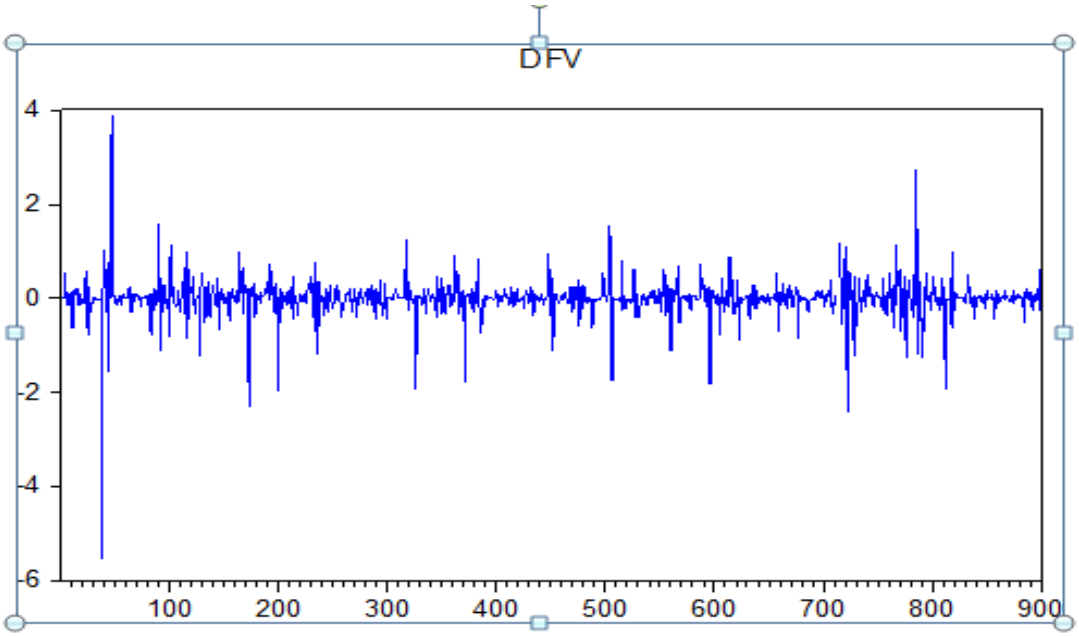

Figure 2

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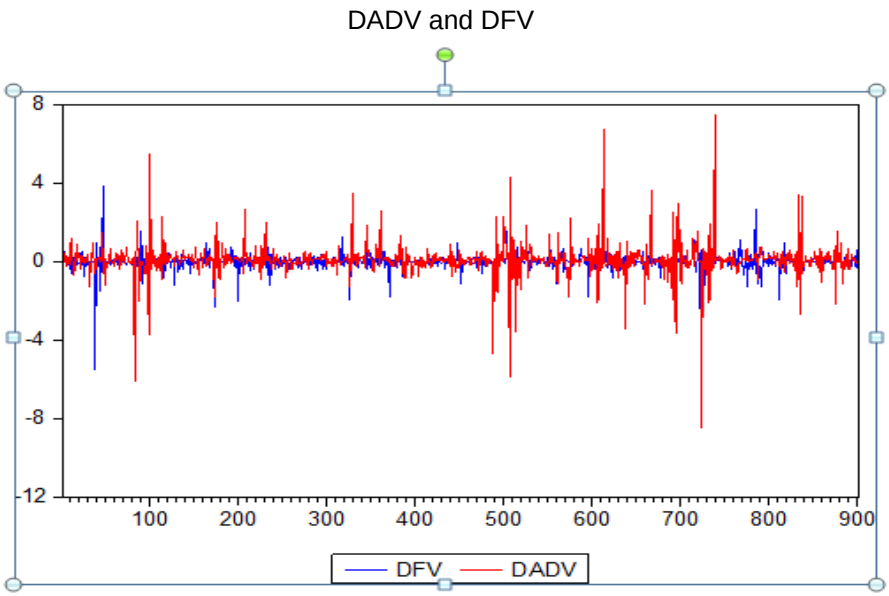

Figure 3

Line graphs presented through figure 1 to 3 show the stationary nature of the log of the two series.

Further, the study tests the unit root of the series by applying the Augmented Dickey-Fuller test on the log of advertising expenses, and log of firm value. The null hypothesis in case of ADF test is that the series under reference has a unit root, which implies that the series are not stationary in nature. A probability value of below 0.05 rejects the null hypothesis at 5% level of significance and implies that the series under reference are stationary at 5% level of significance.

Table 1

Null Hypothesis: DADV has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=20)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-34.61871	0.0000
Test critical values:	1% level	-3.437401	
	5% level	-2.864542	
	10% level	-2.568422	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(DADV)
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DADV(-1)	-1.143790	0.033040	-34.61871	0.0000
C	0.102350	0.029340	3.488384	0.0005

R-squared	0.571931	Mean dependent var	0.000305
Adjusted R-squared	0.571454	S.D. dependent var	1.337030
S.E. of regression	0.875266	Akaike info criterion	2.573645
Sum squared resid	687.1835	Schwarz criterion	2.584326
Log likelihood	-1154.853	Hannan-Quinn criter.	2.577725
F-statistic	1198.455	Durbin-Watson stat	2.016979
Prob(F-statistic)	0.000000		

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Table 2

Null Hypothesis: DFV has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=20)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-23.80219	0.0000
Test critical values:	1% level	-3.437475	
	5% level	-2.864574	
	10% level	-2.568439	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(DFV)
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DFV(-1)	-1.210468	0.050855	-23.80219	0.0000
D(DFV(-1))	0.124910	0.036802	3.394107	0.0007
C	-0.002896	0.014263	-0.203030	0.8392

R-squared	0.545223	Mean dependent var	-5.03E-05
Adjusted R-squared	0.544198	S.D. dependent var	0.630203
S.E. of regression	0.425470	Akaike info criterion	1.132121
Sum squared resid	160.5691	Schwarz criterion	1.148271
Log likelihood	-500.7940	Hannan-Quinn criter.	1.138294
F-statistic	531.7031	Durbin-Watson stat	1.989570
Prob(F-statistic)	0.000000		

The probability value of less than 0.05 for log of advertising expenses and log of firm value as presented in Table 1 and 2 implies that the Null hypothesis is rejected and the variable does not have a unit-root, which confirms that the series is stationary.

The group unit root test involves the Levin, Lin & Chu test; Im, Pesaran and Shin W-stat; ADF-Fisher Chi-square and PP-Fisher Chi Square tests. The findings of the group unit root tests are presented in Table 3.

Table 3

Group unit root test: Summary
Series: DFV, DADV
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 1
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-50.6452	0.0000	2	1789
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-45.5047	0.0000	2	1789
ADF - Fisher Chi-square	293.138	0.0000	2	1789
PP - Fisher Chi-square	180.909	0.0000	2	1792

*** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.*

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The null hypothesis under all of the tests included in Table 3 is that the series has a unit root. It is visible from Table 3 that the p-values for Levin, Lin & Chu; Im, Pesaran and Shin; ADF-Fisher Chi-square and PP-Fisher Chi-square are all significant and hence we can reject the null hypothesis. This further confirms the results put forth by the ADF unit root test (Table 1 and 2) that both the series in question are stationary in nature. Since the series are observed to be stationary in nature, further econometric analysis can be performed on the same.

Table 4

Vector Autoregression Estimates
Standard errors in ( ) & t-statistics in [ ]

	DADV	DFV
DADV(-1)	-0.157438	0.042053
	(0.03354)	(0.01623)
	[-4.69444]	**[2.59056]**
DADV(-2)	-0.066257	-0.006790
	(0.03364)	(0.01628)
	[-1.96988]	[-0.41705]
DFV(-1)	0.106758	-0.086841
	(0.06899)	(0.03339)
	[1.54748]	**[-2.60058]**
DFV(-2)	0.096039	-0.128317
	(0.07589)	(0.03673)
	[1.26548]	**[-3.49310]**
C	0.106614	-0.005964
	(0.02972)	(0.01439)
	[3.58709]	[-0.41454]
R-squared	0.028741	0.027227
Adj. R-squared	0.024351	0.022831
Sum sq. resids	679.6686	159.2424
S.E. equation	0.876349	0.424187
F-statistic	6.547130	6.192630
Log likelihood	-1142.876	-497.1021
Akaike AIC	2.579497	1.128319
Schwarz SC	2.606414	1.155236
Mean dependent	0.086998	-0.003182
S.D. dependent	0.887218	0.429114
Determinant resid covariance (dof adj.)		0.137890
Determinant resid covariance		0.136345
Log likelihood		-1639.017
Akaike information criterion		3.705656
Schwarz criterion		3.759490

By the application of VAR Model, it is observed that the linkage of one series with the other can be established at 5% level of significance if the t-statistic is more than 1.96. The integration of the series is tested at the lag of 1 and 2. The result at lag 0 is taken in the columns while the results in all the companies at lag 1 and lag 2 are taken in the rows. The analysis produced by the Vector Auto-Regression can be interpreted column-wise. It is clear from table 4 that the advertising expenses are influenced by the advertising expenses at the lag of 1 & 2. Conversely, firm value is influenced by advertising expenses at the lag of 1 and firm value at the lag of 1 and 2.

Variance Decomposition Analysis follows the application of Vector Autoregression model. The results from Variance Decomposition Analysis are presented in table 5. The table shows results of variance decomposition analysis which depicts the proportion of movements in the dependent variable that are due to their own shocks versus shocks to other variables.

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Table 5 : Variance Decomposition

Variance Decomposition of DADV:			
Period	S.E.	DADV	DFV
1	0.876349	100.0000	0.000000
2	0.887971	99.74048	0.259524
3	0.889008	99.62989	0.370110
4	0.889294	99.59588	0.404125
5	0.889302	99.59471	0.405288
6	0.889308	99.59357	0.406431
7	0.889308	99.59357	0.406430
8	0.889308	99.59355	0.406450
9	0.889308	99.59355	0.406450
10	0.889308	99.59355	0.406450
Variance Decomposition of DFV:			
Period	S.E.	DADV	DFV
1	0.424187	0.215752	99.78425
2	0.427228	0.889307	99.11069
3	0.430406	1.036740	98.96326
4	0.430534	1.042338	98.95766
5	0.430571	1.048271	98.95173
6	0.430575	1.048257	98.95174
7	0.430575	1.048358	98.95164
8	0.430575	1.048361	98.95164
9	0.430575	1.048361	98.95164
10	0.430575	1.048362	98.95164

Cholesky Ordering: DADV DFV

The variance decomposition analysis shows the proportion of movements in the dependent variable due to their own shocks as well as shocks to other variables. The variance decomposition analysis seems to suggest that advertising and firm value hardly leaves an impact on one another. In case of advertising expenses after 2nd period 99% of influence in advertising are by advertising expenses shock while about 1% is due to firm value shock whereas in case of firm valueafter 2nd period 98% of shock in firm value is due to firm value shock and 2% due to advertising expenses shock.

The study further applies Johansen's cointegration analysis on the series under reference .The results from unrestricted cointegration Rank Test (Trace) unrestricted cointegration Rank test (Maximum Eigenvalue) are presented in table 6. The table compares the Trace static with 0.05 critical value. The second column in the table presents the ordered eigenvalues, the third column the test statistic, the fourth column the critical value and the final column the p-value.In the first row that has the Null hypothesis of no cointegrating equation, the Trace statistic (359.884) is more than the critical value (15.49) coupled with probability value of less than 0.05. This enables us to reject the Null Hypothesis. Similarly, while testing the Null hypothesis of at most 1 cointegrating equation, the Trace static (167.37) is more than critical value (3.84).

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Table 6 : Johansen's Cointegration Test

Trend assumption: Linear deterministic trend
Series: DADV DFV
Lags interval (in first differences): 1 to 4
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.196290	359.8844	15.49471	0.0001
At most 1 *	0.173023	167.3708	3.841466	0.0000

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.196290	192.5136	14.26460	0.0001
At most 1 *	0.173023	167.3708	3.841466	0.0000

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

DADV	DFV
-3.028193	2.101196
-0.473424	-6.438029

Unrestricted Adjustment Coefficients (alpha):

D(DADV)	0.410713	0.116584
D(DFV)	-0.053286	0.184534

1 Cointegrating Equation(s):	Log likelihood	-1690.516

Normalized cointegrating coefficients (standard error in parentheses)

DADV	DFV
1.000000	-0.693878
	(0.15137)

Adjustment coefficients (standard error in parentheses)

D(DADV)	-1.243717
	(0.08999)
D(DFV)	0.161361
	(0.04684)

The table leads us to reject the Null Hypothesis that there are none or at most 1 cointegrating equation at 0.05 level.The maximum eigen values statistics as presented in the table complement the findings of the trace statistic. While testing the null hypothesis of none cointegrating equation, it is found the Max-Eigen statistic (192.5)happens to be more than the critical value (14.2).It means that the null hypothesis of no cointegrating equation can be rejected. The max-Eigen statistic while testing the null of having at most 1 cointegrating equation happens to be 167.3 which is more than critical value (3.84).Hence, we arrive at the observation that there are two cointegrating equations in the series under reference.

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Table 6 also provides estimates of cointegrating relations β and the adjustment parameters α.As is well known, the cointegrating vector is not identified unless we impose some arbitrary normalize-ation. However, it is sometimes useful to normalise the coefficient values to set the coefficient value on one of them to unity, as would be the case in the cointegrating regression under the Engle-Granger approach. The unrestricted coefficient values are the estimated values of coefficients in the cointegrating vector, and these are also presented in Table 6.

Table 7 presents the results of Vector Error Correction Model as applied for the series under reference.

Table 7: Vector Error Correction Estimates

Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1	
DADV(-1)	1.000000	
DFV(-1)	-1.050190 (0.11077) [-9.48078]	
C	-0.091906	
Error Correction:	**D(DADV)**	**D(DFV)**
CointEq1	-1.111852 (0.06400) [-17.3727]	0.239993 (0.03455) [6.94654]
D(DADV(-1))	0.017163 (0.05119) [0.33527]	-0.131407 (0.02763) [-4.75519]
D(DADV(-2))	0.007230 (0.03412) [0.21191]	-0.069732 (0.01842) [-3.78635]
D(DFV(-1))	-0.748314 (0.07510) [-9.96444]	-0.513233 (0.04054) [-12.6600]
D(DFV(-2))	-0.285505 (0.06509) [-4.38632]	-0.287667 (0.03514) [-8.18706]
C	-0.006939 (0.03063) [-0.22656]	-0.001519 (0.01653) [-0.09189]
R-squared	0.542249	0.384259
Adj. R-squared	0.539651	0.380764
Sum sq. resids	732.8838	213.5679
S.E. equation	0.912073	0.492357
F-statistic	208.7253	109.9591
Log likelihood	-1173.953	-627.1033
Akaike AIC	2.660548	1.427516
Schwarz SC	2.692935	1.459903
Mean dependent	-0.001086	0.002822
S.D. dependent	1.344268	0.625680
Determinant resid covariance (dof adj.)		0.194855
Determinant resid covariance		0.192227
Log likelihood		-1785.832
Akaike information criterion		4.058245
Schwarz criterion		4.133814

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Vector Error Correction Model (VECM) estimates the speed at which the dependent variable Y returns to equilibrium after a change in independent variable X. VECM is particularly useful while dealing with integrated data. VECM adds Error Correction features to the VAR.

In table 7, we are allowing for only one cointegrating relationship. Table 7 shows that the advertising expenses in the current period are impacted by advertising expenses at the lags of 1 and 2. On the other hand, Firm value in the current period are impacted by advertising at the lag of 1 and 2.

VI. Conclusion

The study uses various econometric models in order to find out the cause and effect relationship between advertisement expenditure and firm value. Taking ten-year data of 100 FMCG companies of India, the study aims at testing whether advertisement expenditure impacts the firm value. The study uses log of the advertisement expenses and firm value for finding out the impact of the former on the latter. The Augmented Dickey-Fuller test finds out that both the log series under reference are stationary. The Vector Auto-Regression suggests that advertising expenses are influenced by the advertising expenses at the lag of 1 & 2. Conversely, firm value is influenced by advertising expenses at the lag of 1 and firm value at the lag of 1 and 2. The variance decomposition analysis finds that advertising and firm value hardly leaves an impact on one another. In case of advertising expenses after 2nd period 99% of influence in advertising are by advertising expenses shock while about 1% is due to firm value shock whereas in case of firm value after 2nd period 98% of shock in firm value is due to firm value shock and 2% due to advertising expenses shock. Johansen's cointegration arrives at the observation that there are two cointegrating equations in the series under reference. Lastly, Vector Error Correction estimates leads us to conclude that the advertising expenses in the current period are impacted by advertising expenses at the lags of 1 and 2. On the other hand, Firm value in the current period are impacted by advertising at the lag of 1 and 2.

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Essai Sur L'efficience Informationnelle Du Marché Boursier Marocain

By Younes El Khattab & Chourouk Moudine
Université Hassan II - Mohammédia

Abstract- The informational efficiency is a topic that animated the debate between financial theorists. The richness and diversity of works that have attempted to study the efficiency reflect the great interest granted by the academic and professional community to this theme. The starting point for efficient market hypothesis is information. In fact, it is according to the nature of information (past, public or non-public) considered that the form of efficiency is determined. Eugene FAMA distinguishes between three forms of efficiency (weak form, semi-strong form, and strong form).

Keywords: informational efficiency, box-jenkins method, random walk, pockets of inefficiency.

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Essai Sur L'efficience Informationnelle Du Marché Boursier Marocain

Younes El Khattab [α] & Chourouk Moudine [σ]

Résumé- L'efficience informationnelle est un sujet qui a animé le débat entre les théoriciens de la finance. La richesse et la diversité des travaux qui ont essayé d'étudier l'efficience, reflètent le grand intérêt accordé par la communauté académique et professionnelle à ce thème. Le point de départ de la théorie de l'efficience est l'information. En fait, c'est en fonction de la nature des informations (passées, publiques, ou non publiques) prises en considération que la forme de l'efficience se détermine. On arrive donc à la classification de FAMA qui scinde l'efficience en trois formes (faible, semi-forte et forte). Les deux premières formes ont été généralement validées par des tests économétriques. La troisième forme reste controversée et difficilement vérifiable. Au Maroc, la problématique de l'efficience informationnelle du marché boursier constitue un sujet d'actualité qui mérite d'être étudié. Ainsi, à travers cet article, on se fixe trois principaux objectifs: tester l'efficience informationnelle de la place casablancaise, déterminer les éléments qui influencent cette efficience et proposer les mesures susceptibles de l'améliorer.

Motsclés: efficience informationnelle, méthode de box et jenkins, marche au hasard, poches d'inefficience.

Abstract- The informational efficiency is a topic that animated the debate between financial theorists. The richness and diversity of works that have attempted to study the efficiency reflect the great interest granted by the academic and professional community to this theme. The starting point for efficient market hypothesis is information. In fact, it is according to the nature of information (past, public or non-public) considered that the form of efficiency is determined. Eugene FAMA distinguishes between three forms of efficiency (weak form, semi-strong form, and strong form). The first two forms were generally validated by econometric tests. The third form remains controversial and difficult to verify. In Morocco, the issue of stock market efficiency is a current topic which deserves to be studied. Through this article, we set three main objectives: to test the informational efficiency of Casablanca Stock Exchange, to determine the elements affecting this efficiency and to propose measures to improve it.

Keywords: informational efficiency, box-jenkins method, random walk, pockets of inefficiency.

I. Introduction

La problématique de la transparence des marchés financiers est devenue, plus que jamais, un sujet d'actualité qui occupe le devant de la scène internationale. Le monde académique s'est intéressé au sujet dans le cadre de la théorie de l'efficience informationnelle. Cette théorie revêt une importance extrême, dans la mesure où elle permet d'étudier le niveau de transparence des marchés financiers, ainsi que leur capacité à intégrer fidèlement l'ensemble des informations diffusées.

Constituant le noyau dur de la théorie financière moderne, l'hypothèse d'efficience informationnelle stipule que le prix observé sur le marché reflète au mieux la valeur fondamentale du titre. Dans ce contexte, le marché peut jouer efficacement son rôle d'allocation des ressources vers les emplois les plus productifs. On peut dire donc que la condition de base pour une bonne allocation de fonds sur le marché est l'existence de l'efficience informationnelle que nous lui consacrons ici l'intégralité de notre article. Il est à signaler que cet article se focalisera essentiellement sur les marchés boursiers et plus particulièrement les marchés d'actions, vu que ces derniers ont constitué pendant longtemps un champ fertile pour les études visant à tester la validité de la théorie de l'efficience.

Au Maroc, la problématique de l'efficience informationnelle de la bourse de Casablanca a constitué depuis quelques temps un sujet d'actualité suscitant l'intérêt d'un grand nombre d'académiciens et de professionnels du monde de la finance. La place boursière casablancaise a fait preuve d'un grand dynamisme entre début janvier 2004 et mi-mars 2008. La progression du MASI, qui est le principal baromètre de la place, a même atteint en 2006 le seuil exceptionnel de 71,6%. Ce rythme de croissance ininterrompue n'a pas manqué d'inquiéter les différents acteurs du marché, aboutissant ainsi au déclenchement d'un cycle baissier qui dure depuis cinq ans.

Ainsi, l'objectif de notre article sera de mettre l'accent sur la théorie de l'efficience informationnelle, tout en éclaircissant les liens qui peuvent exister entre l'efficience d'un marché boursier et son organisation. Nous nous focaliserons bien évidemment sur le cas marocain pour lequel nos deux préoccupations majeures seront de tester l'efficience de la place boursière casablancaise, et de répondre à la problématique suivante : quel est l'impact de la structure organisationnelle de la bourse de Casablanca sur son efficience informationnelle ? Quelle explication peut-on donner à la tendance baissière actuelle de la

Author α : Doctorant à l'Université Hassan II Mohammedia – Casablanca. e-mail: Younes.master@hotmail.com
Author σ : Doctorante à l'Université Hassan II Mohammedia – Casablanca. e-mail: chourouk_7@yahoo.fr

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place ? Et quelles sont les mesures susceptibles d'améliorer l'efficience du marché boursier marocain ?

Le présent article sera scindé en deux principales parties. La première partie se focalisera sur la définition du concept d'efficience informationnelle, en présentant ses trois principales formes ainsi que les tests correspondant à chaque forme. L'accent sera mis aussi sur l'organisation des marchés boursiers et l'influence qu'elle peut exercer sur l'efficience informationnelle. La deuxième partie étudiera empiriquement l'efficience informationnelle de la bourse casablancaise, tout en déterminant l'impact de ses caractéristiques organisationnelles sur son efficience. Enfin, on va conclure par la présentation d'une panoplie de mesures susceptibles d'améliorer la qualité informationnelle de la place.

a) Présentation de la théorie de l'efficience informationnelle et détermination de ses fondements théoriques

En général, un marché boursier efficient est un marché qui intègre correctement et intégralement l'ensemble des informations disponibles concernant chaque actif financier coté. Eugène FAMA a décortiqué le concept d'efficience informationnelle en distinguant entre trois formes d'efficience (faible, semi-forte et forte), chaque forme a ses propres repères et références. L'étude de la théorie de l'efficience informationnelle et de ses fondements théoriques ne peut pas être effectuée sans mettre l'accent sur le lien étroit qui existe entre efficience et organisation. En effet, la deuxième conditionne la première. Ce lien étroit se concrétise à travers un ensemble d'éléments qui relèvent de la microstructure des marchés boursiers. Ainsi, cette partie va traiter et analyser la théorie de l'efficience informationnelle en la mettant en relation avec l'organisation des marchés boursiers.

i. Définition de l'efficience informationnelle et conditions théoriques nécessaires à sa vérification

La définition de l'efficience informationnelle a évolué avec les apports des différents théoriciens. La plus simple des définitions étant celle reprise par FAMA en 1965: « Un marché financier est dit efficient si, et seulement si, l'ensemble des informations disponibles concernant chaque actif financier coté sur ce marché est immédiatement intégré dans le prix de cet actif ». En termes de fonctionnement du marché, une définition souvent utilisée est proposée par JENSEN (1978): « Par rapport à un ensemble donné d'informations, un marché est efficient s'il est impossible de réaliser des profits en échangeant sur la base de cet ensemble d'informations », le terme (profits) désignant dans ce cadre des rendements positifs nets de tout coût. Autrement dit, pour JENSEN, les marchés efficients ne permettent pas aux investisseurs de réaliser des gains supérieurs à la moyenne sans accepter de prendre des risques supérieurs à la moyenne[1].

Toutefois, le caractère très peu opérationnel de l'efficience suggérée par FAMA a rapidement été souligné au niveau de la construction de tests empiriques. En effet, la possibilité de réaliser ces tests est subordonnée à la définition préalable de l'ensemble des informations considérées comme disponibles. Par conséquent, l'analyse de l'efficience du marché boursier va essentiellement consister à mesurer les degrés de rapidité et de cohérence avec lesquels le marché intègre chaque ensemble particulier d'informations dans le prix des actions[2].

Ainsi, suite aux travaux de FAMA en 1970, la mise en place de graduations dans l'ensemble d'informations a abouti à définir l'efficience informationnelle suivant trois formes progressives : la forme faible affirme qu'il est impossible d'exploiter l'historique des cours pour prévoir la valeur future d'un actif financier, la forme semi-forte stipule qu'il n'est pas possible de tirer profit des informations publiques au moment de leur révélation, tandis que la forme forte indique que la détention d'informations confidentielles ne permettra pas la réalisation d'un profit spécifique sur les marchés boursiers. Cette classification initiale a été ensuite légèrement modifiée par FAMA (1991) en raison de l'abondance des travaux portant sur l'étude empirique du concept d'efficience. En effet, à chaque catégorie d'efficience FAMA a associé une nouvelle dénomination. Pour l'efficience faible, il parle de tests de prévisibilité des rendements. Pour l'efficience semi-forte, il parle de tests événementiels. Et enfin pour la forme forte de l'efficience, il parle de tests sur l'information confidentielle.

La théorie de l'efficience informationnelle reste vérifiable sous cinq conditions, qui constituent son principal fondement théorique. Il s'agit de : i) la rationalité des investisseurs, ii) la libre circulation de l'information et la réaction instantanée des investisseurs, iii) la gratuité de l'information, iv) l'absence de coûts de transaction et d'impôts de bourse, et v) l'atomicité des investisseurs et la liquidité[3]. Cependant, la plupart des conditions nécessaires à une totale et parfaite efficience sont difficilement réalisables sur un plan réel. Donc les plus transparents des marchés boursiers internationaux ne peuvent que tendre vers ces conditions sans pour autant les remplir complètement. Par conséquent, les hypothèses relatives à la théorie de l'efficience informationnelle restent des points de repère libres de toute rigidité, plus le marché est proche de ces points plus son efficience augmente.

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[3] Voir également GILLET Philipp, L'efficience des marchés financiers, Economica, Paris, 1999, pp 17-19.

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Il est clair maintenant que le raisonnement rigide qui se base sur la vérification de la conformité d'un marché boursier aux hypothèses de la théorie de l'efficience, dans leur sens strict, ne peut pas être pratique ni utile. C'est pour cela que FAMA a scindé l'efficience en trois catégories, en proposant pour chaque catégorie des tests permettant de l'infirmer ou de la confirmer.

ii. Les trois formes de l'efficience informationnelle

FAMA a donné à l'efficience informationnelle un caractère progressif en la scindant en trois formes faible, semi-forte et forte. La validation de chacune de ces trois formes nécessite le recours à une panoplie de tests qu'on peut classer dans trois grandes catégories les tests de prévisibilité des rendements, les tests événementiels, et les tests sur l'information confidentielle.

- *La forme faible de l'efficience informationnelle*

La forme faible de la théorie de l'efficience consiste à énoncer que le prix actuel d'un actif financier est totalement indépendant de l'ensemble des informations concernant ce titre, publiées dans le passé. On ne peut donc, d'après l'hypothèse faible de la théorie de l'efficience, utiliser l'ensemble des informations passées[4] pour tenter de prévoir l'évolution du prix d'un actif au futur. Autrement dit, aucun investisseur ne sera capable de se baser sur des informations historiques pour effectuer une opération lui permettant de profiter d'une plus-value sans subir le risque correspondant.

Dans le cadre de la validation de l'efficience informationnelle dans sa forme faible, deux principaux outils peuvent être utilisés pour tester la prévisibilité des rendements: le processus *ARIMA*, ainsi que la méthode de Box et Jenkins. Ces deux outils économétriques permettent de trouver un modèle restituant le mieux possible le comportement d'une série chronologique, aboutissant ainsi à la confirmation ou l'infirmation de l'existence d'une marche au hasard des séries de rentabilités.

Les modèles *ARIMA* permettent de combiner trois types de processus temporels : les processus autorégressifs, les processus intégrés et les moyennes mobiles[5]. Dans le cas le plus général, un modèle *ARIMA* combine les trois types de processus aléatoires. La contribution de chacun d'eux étant précisée par la notation *ARIMA(p,d,q)*, où *p* est l'ordre du processus autorégressif *AR(p)*, *d* le degré d'intégration d'un processus *I(d)* et *q* l'ordre de la moyenne mobile *MA(q)*. Dans ce qui suit, on va procéder à une présentation de ces trois processus.

Dans un processus autorégressif d'ordre *p*, *AR(p)*, l'observation présente Yt est générée par une moyenne pondérée des observations passées jusqu'à la p-i[ème] période sous la forme suivante :

$$y_t = \phi_1 y_{t-1} + \phi_2 y_{t-2} + \ldots + \phi_p y_{t-p} + \varepsilon_t$$

Avec $\phi_1, \phi_2, \ldots\ldots, \phi_p$ sont des coefficients à estimer positifs ou négatifs et ε_t est un bruit blanc[6].

Dans un processus de moyenne mobile d'ordre *q*, *MA(q)*, chaque observation Yt est générée par une moyenne pondérée d'aléas jusqu'à la q-i[ème] période :

$$y_t = \varepsilon_t - \alpha_1 \varepsilon_{t-1} - \alpha_2 \varepsilon_{t-2} - \ldots - \alpha_q \varepsilon_{t-q}$$

Dans ce processus, tout comme dans le modèle autorégressif *AR*, les aléas sont supposés être engendrés par un processus de type bruit blanc.

Avant de présenter le processus intégré, il importe de définir d'abord la notion de la stationnarité d'une série chronologique. En effet, une série chronologique est dite stationnaire (au sens faible, ou stationnaire tout court), si son espérance et sa variance sont constantes ($E[Y_t] = m$ et $V[Y_t] = \sigma^2$), et si les covariances ne dépendent pas du temps, mais simplement de l'écart k entre les périodes considérées, ($\mathrm{cov}[Y_t, Y_{t+k}] = \gamma_k$). Ceci implique que la série ne comporte pas de tendance, et plus généralement aucun facteur n'évoluant avec le temps.

On arrive maintenant à la définition du processus intégré. Par définition, un processus est intégré d'ordre 1, noté *I(1)*, si la série des différences premières[7] est stationnaire. Et d'une manière générale un processus est intégré d'ordre *d*, noté *I(d)*, si la série des différences d'ordre *d* est stationnaire.

Dans la méthodologie d'analyse des séries chronologiques synthétisée par Box et Jenkins en 1976, on utilise ces trois types de processus pour construire un modèle restituant, le mieux possible, le comportement d'une série temporelle selon une procédure en trois étapes : identification, estimation et diagnostic.

[4] Séquences des cours passés, résultats, dividendes distribués, évolution du chiffre d'affaires, évolution du carnet des commandes, etc.

[5] Voir dans ce cadre BOURBONNAIS Régis, Econométrie, DUNOD, Paris, 2002, pp 240-243.

[6] Un processus de bruit blanc est une suite de variables aléatoires de même distribution et mutuellement indépendantes. Ce terme est emprunté à la physique faisant référence au spectre de la lumière blanche.

[7] La série des différences premières est déduite en appliquant la relation suivante : $y_t - y_{t-1}$.

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- *L'identification* : cette étape concerne la décomposition de la série chronologique selon les trois types de processus en spécifiant les trois paramètres *p*, *d* et *q* du modèle *ARIMA(p,d,q)*. Le paramètre *d* correspond au nombre de différenciations effectuées pour rendre la série stationnaire. Les corrélogrammes, graphiques de la fonction d'autocorrélation [8] et de la fonction d'autocorrélation partielle[9], permettent selon leurs aspects d'identifier correctement les paramètres *q* et *p*.
- *L'estimation* : le logiciel «Eviews 5» permet d'estimer les coefficients du modèle dont on a identifié les paramètres au préalable dans l'étape précédente.
- *Le diagnostic* : on doit vérifier dans ce cadre que les résidus du modèle présentent le caractère d'un bruit blanc.

On rappelle, enfin, que le modèle *ARIMA* associé à la démarche de Box et Jenkins seront utilisés ultérieurement dans la deuxième partie afin de tester la forme faible de l'efficience informationnelle de la bourse de Casablanca.

- *La forme semi-forte de l'efficience informationnelle*

La forme semi-forte de la théorie de l'efficience postule que l'ensemble des informations disponibles, concernant un actif financier, est intégré dans le prix de ce titre à l'instant même où ces informations sont rendues publiques. Il n'existe donc aucun décalage temporel entre le moment où l'information est dévoilée et le moment où celle-ci est intégrée dans les cours. Dans ces conditions, aucun intervenant ne sera capable de tirer parti des informations publiques pour réaliser un profit spécifique sur les marchés boursiers.

Sur le plan empirique, la validation de l'hypothèse de l'efficience informationnelle semi-forte passe par la mesure de la vitesse d'ajustement des cours à l'annonce d'une nouvelle information. Plus la vitesse de réaction du marché à une information non anticipée est importante, plus son degré d'efficience est élevé. A partir de la moitié des années 60, les études dites «d'événement» (event studies) [10] se sont multipliées, celles-ci visent à analyser la prise en compte, dans le cours des actions, d'un large éventail d'informations publiquement disponibles via, notamment, la presse, les rapports annuels et les prospectus d'émission. La majorité des résultats issus de ces travaux converge sur un degré élevé d'efficience des marchés boursiers étudiés (essentiellement des marchés développés), même si des anomalies d'ampleur très variable, retards dans la prise en compte des informations dans les cours, sont parfois détectées.

L'efficience faible et semi-forte étant présentées, il importe maintenant de s'interroger sur la validité de la forme forte de l'efficience.

- *La forme forte de l'efficience informationnelle*

Des trois formes de l'efficience des marchés financiers, la forme forte est probablement la plus difficile à admettre intellectuellement et à démontrer empiriquement. Cette forme prétend qu'il n'est pas possible de tirer parti des informations non publiques, concernant un actif financier, pour prévoir l'évolution future du prix de cet actif. En d'autres termes, la forme forte de la théorie de l'efficience consiste à prétendre que la connaissance d'informations confidentielles [11], susceptibles d'affecter la valeur d'un actif financier lorsqu'elles seront dévoilées, ne permet pas à son détenteur de réaliser un gain réel sur les marchés[12].

Les études visant à tester la forme forte de l'efficience informationnelle sont rares et difficilement réalisables. Il est possible de les classer en trois catégories :

- *La première catégorie* : regroupe l'ensemble des études consacrées aux délits d'initié. Dans ce cadre, l'étude de MEULBROECK visant le marché américain (NYSE) (1992), et celle de GUIVARC'H ciblant le marché français (1996) ont conclu que les initiés informent le marché. En effet, selon les deux tests, le contenu informationnel des opérations d'achat et de vente réalisées par les initiés, peut être détecté par les autres investisseurs. L'effet d'imitation conduit ces derniers à agir dans le même sens que les initiés. De ce fait, les opérations d'initiés sont repérées par tous les acteurs du marché et ne servent qu'à réduire l'asymétrie d'information existant entre les initiés et les non initiés, ce qui semble confirmer la forme forte de l'efficience.
- *La deuxième catégorie* : regroupe les mesures de performances des OPCVM [13], c'est-à-dire des

[8] La fonction d'autocorrélation (FAC) est la fonction notée ρ_K qui mesure la corrélation de la série avec elle- même décalée de k périodes.

[9] La fonction d'autocorrélation partielle (FAP) de retard k, mesure la corrélation entre Y_t et Y_{t-k} , l'influence des autres variables décalées de k périodes ($Y_{t-1}, Y_{t-2}, \ldots, Y_{t-k+1}$) ayant été retirée.

[10] FAMA FISHER, JENSEN et ROLL «FFJR» (1969) ont analysé les effets des scissions ou divisions d'actions sur leurs cours à la bourse de New York (NYSE). Ce test constitue une référence en matière d'études évènementielles. FFJR ont conclu qu'en moyenne, le marché new-yorkais apparaît avoir intégré rapidement et correctement les informations liées aux opérations de scissions. Ce résultat est cohérent avec l'hypothèse d'efficience au sens semi-fort.

[11] En réalité, l'utilisation des informations confidentielles comme une source de réalisation de profit sur le marché boursier est appelée délit d'initié, ce dernier est interdit par toutes les règlementations boursières.

[12] GILLET Philippe, L'efficience des marchés financiers, Economica, Paris, 1999, p 97.

[13] Organismes de placement collectif en valeurs mobilières.

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portefeuilles gérés par les professionnels. Si un marché est fortement efficient, la performance moyenne des gérants de portefeuille (ayant un accès privilégié à l'information) ne peut être durablement supérieure à la performance de l'ensemble des investisseurs, par conséquent, les professionnels de la gestion de portefeuille ne peuvent pas battre le marché d'une manière régulière. D'autre part, la performance ainsi que le classement des OPCVM ne sont jamais stables. Ces deux dernières conditions ont été vérifiées à travers plusieurs tests empiriques fondés sur l'analyse de la performance des OPCVM, ce qui laisse apparaître une certaine validation de la forme forte de l'efficience.

- *La troisième catégorie*: regroupe toutes les autres études ciblant l'efficience forte, et qu'il est difficile de lier par un point commun. Il s'agit plus souvent d'études de cas que de tests statistiques.

Quelque soit sa forme, l'efficience informationnelle reste étroitement liée au mode d'organisation du marché boursier. Dès lors, nous consacrons le prochain point à l'éclaircissement de cette relation.

iii. Efficience informationnelle et organisation des marchés boursiers

La bourse est un lieu de confrontation entre l'offre et la demande des investisseurs, or cette confrontation ne peut pas se faire convenablement sans l'existence d'un marché structurellement organisé, capable d'orienter les fonds vers les emplois les plus productifs. Sur le plan informationnel, l'organisation du marché boursier conditionne la capacité des cours à s'ajuster d'une manière appropriée pour incorporer tous les flux d'informations parvenant sans arrêt à la connaissance des intervenants, ce qui ne peut que confirmer le rapport étroit qui existe entre l'efficience informationnelle et la microstructure des marchés.

Ainsi, l'efficience informationnelle d'un marché boursier reste conditionnée par l'existence d'une structure organisationnelle cohérente qui se base sur les piliers suivants :

- Un organisme de contrôle performant, capable de contrôler la fiabilité et la qualité des informations circulant au sein de la bourse. Cet organisme doit disposer de tous les outils réglementaires nécessaires pour mener à bien ses fonctions.
- Un mode d'organisation de transactions efficace, permettant une rencontre aisée et peu coûteuse entre l'offre et la demande, avec des transactions effectuées au juste prix.
- Un niveau optimal et raisonnable de coûts de transaction, favorisant l'apparition de prix qui se rapprochent le plus possible de la valeur réelle des actifs cotés.

A travers cette première partie, on a présenté les soubassements théoriques de l'efficience. On a aussi mis l'accent sur l'organisation des marchés boursiers et l'influence qu'elle peut exercer sur l'efficience informationnelle. La partie qui suit, se focalisera sur le cas marocain, en mettant l'accent sur la problématique de l'efficience informationnelle de la bourse de Casablanca.

b) Etude empirique de l'efficience informationnelle du marché boursier marocain

La présente partie a pour objectif d'étudier empiriquement l'efficience de la bourse de Casablanca, en mettant l'accent sur l'ensemble des éléments susceptibles d'affecter la qualité informationnelle de cette place boursière.

i. Test de l'efficience informationnelle dans sa forme faible (modélisation de la série chronologique du MASI)

Notre étude empirique porte sur l'indice MASI qui regroupe toutes les valeurs cotées dans les trois compartiments[14] du marché des actions, et fournit, par conséquent, une mesure globale et synthétique de l'évolution de l'ensemble des valeurs de la cote.

La période d'étude s'étale sur 9 ans (entre 2004 et 2012). Le choix d'une période assez longue permet d'améliorer la robustesse du test d'efficience informationnelle, dans la mesure où elle intègre 2.255 observations couvrant à la fois la phase d'euphorie et celle de correction du marché boursier marocain.

Au préalable, la série chronologique du MASI, notée $MASI_t$, a fait l'objet d'une transformation logarithmique qui a permis de déduire la série $LMASI_t$ tel que : $LMASI_t = \log(MASI_t)$.

Le test d'efficience consiste à utiliser la méthode de Box et Jenkins, qui s'appuie sur le processus *ARIMA*, pour trouver un modèle restituant le mieux possible le comportement de la série chronologique du MASI. Deux résultats sont possibles:

1. *Si* le modèle correspond à une marche au hasard, c'est-à-dire: $LMASI_t = LMASI_{t-1} + \varepsilon_t$, où la perturbation ε_t est un bruit blanc, *alors* l'efficience informationnelle dans sa forme faible sera confirmée pour la bourse de Casablanca.
2. *Si* le modèle trouvé ne correspond pas à une marche au hasard, *alors* l'efficience informationnelle dans sa forme faible sera non vérifiable pour la place casablancaise.

Un éventuel rejet de l'hypothèse de l'efficience faible pour le marché casablancais, impliquera un rejet systématique des deux autres formes (semi-forte et

[14] Marché Principal, marché Développement, et marché Croissance.

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forte) qui ne seront plus intéressantes à tester dans ce cas.

Notre Modèle fait donc appel à la démarche prévue par Box et Jenkins, qui comporte trois étapes: l'identification, l'estimation et le diagnostic.

✓ *Etape 1 : l'identification*

On procède d'abord à l'étude de la stationnarité de la série $LMASI_t$ en appliquant la stratégie des tests Dickey-Fuller augmentés (ADF), telle qu'elle a été présentée par Régis BOURBONNAIS et Michel TERRAZA[15]. Le nombre optimal de décalages est de 2. Ce dernier minimise les critères d'information d'Akaike et de Schwartz. Le tableau ci-dessous, élaboré à l'aide de «Eviews 5», résume l'ensemble des tests effectués:

Table 1 : Etude de la stationnarité de la série *LMASIt* par application de la stratégie des tests Dickey-Fuller augmentés (ADF)

Hypothèse nulle	Statistique calculée*	Valeur critique**	Conclusion
Modèle 6 : Existence d'une racine unitaire	t' = -0,56267	-3,4118	Acceptée
Modèle 5 : Existence d'une racine unitaire	t' = -2,2778	-2,86262	Acceptée
Modèle 4 : Existence d'une racine unitaire	t' = 1,51325	-1,94096	Acceptée
Nullité du coefficient de la tendance, Non nullité de la constante, Conditionnellement à la présence d'une racine unitaire	F6 = 3,43143	6,25	Acceptée
Nullité du coefficient de la tendance, Nullité de la constante, Conditionnellement à la présence d'une racine unitaire	F5 = 3,15792	4,68	Acceptée
Nullité de la constante, Conditionnellement à la présence d'une racine unitaire	F4 = 3,89925	4,59	Acceptée

** t' est analogue à la statistique de Student. F4, F5 et F6 sont des statistiques de Fisher.*
*** Significativité à 5%.*

Le tableau ci-dessus permet de conclure que la série $LMASI_t$ est un processus non stationnaire «DS[16] sans dérive». Or, l'identification d'un modèle $ARIMA(p,d,q)$ susceptible d'expliquer le comportement de notre série temporelle, suppose au préalable la stationnarisation de cette dernière. Pour rendre la série $LMASI_t$ stationnaire, il suffit de la différencier. On effectue ainsi la transformation suivante:

$$\Delta LMASI_t = LMASI_t - LMASI_{t-1}$$

Le test ADF confirme la stationnarité de la série $\Delta LMASI_t$.

En effet, en retenant un nombre de décalages égal à 2, et en se basant sur le «modèle 4»[17], on constate que la statistique calculée du test ADF (-25,93572) est inférieure à la valeur critique (-1,940964). L'hypothèse d'existence d'une racine unitaire est donc rejetée et, par conséquent, $\Delta LMASI_t$ est un processus stationnaire.

Après avoir stationnarisé notre série, on passe maintenant à l'analyse du graphique de la fonction d'autocorrélation et celui de la fonction d'autocorrélation partielle afin de déterminer les paramètres du modèle ARIMA.

[15] BOURBONNAIS Régis., et TERRAZA Michel., Analyse des séries temporelles (Applications à l'économie et à la gestion), DUNOD, Paris, 2008, pp 157-163.

[16] Differency Stationary.

[17] Puisque le processus d'origine $LMASI_t$ est un processus DS sans dérive (donc ne comporte ni tendance ni constante), l'étude de sa stationnarité en différences premières a été effectuée sur la base du «modèle 4».

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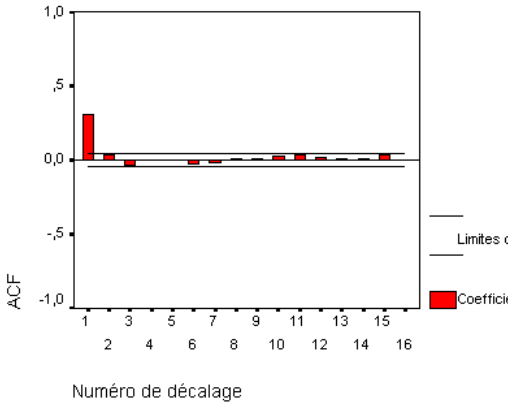
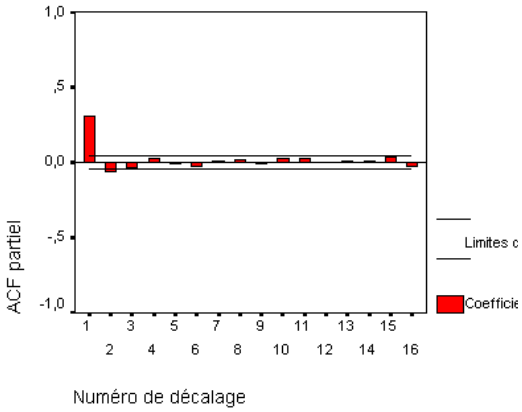
Corrélogramme représentatif de la fonction d'autocorrélation pour la série $\Delta LMASI_t$



Corrélogramme représentatif de la fonction d'autocorrélation partielle pour la série $\Delta LMASI_t$



- Le processus étudié présente exactement un seul pic significatif au niveau du premier décalage du corrélogramme de la fonction d'autocorrélation, les autres coefficients sont nuls pour les décalages supérieurs à 1. Ce qui fait référence à la présence d'un processus de moyenne mobile d'ordre $q=1$, noté : $MA(1)$.
- Le processus étudié présente aussi, exactement, un seul pic significatif au niveau du premier décalage du corrélogramme de la fonction d'autocorrélation partielle, les autres coefficients sont nuls pour des décalages supérieurs à 1. Ce qui fait référence à la présence d'un processus autorégressif d'ordre $p=1$, noté : $AR(1)$.
- Pour rendre la série $LMASI_t$ stationnaire, nous avons procédé à une seule différenciation. La stationnarité de la série des différences premières, révèle la présence d'un processus intégré d'ordre $d=1$, noté $I(1)$.

De ce qui précède, on peut dire que la série $\Delta LMASI_t$, combine trois processus à la fois : un processus $AR(1)$, un processus $I(1)$ et un processus $MA(1)$. Autrement dit, il s'agit d'un modèle $ARIMA(1,1,1)$. Le modèle se présente donc comme suit :

$$\Delta LMASI_t = a_1 \Delta LMASI_{t-1} + b_1 \varepsilon_{t-1} + c + \varepsilon_t$$

Avec : c est une constante ; a_1 et b_1 sont deux coefficients à estimer ; ε_t est un bruit blanc.

✓ *Etape 2 : l'estimation des coefficients du modèle*

L'estimation [18] des coefficients du modèle, à l'aide de «Eviews 5», a abouti aux résultats ci-dessous:

Table 2 : Estimation des coefficients du modèle *ARIMA(1,1,1)*

Coefficients estimés	Statistique de Student	Probabilité associée à la statistique de Student	Conclusion compte tenu d'un risque de 5%
a_1 (coefficient attaché à *AR(1)*) : 0,173905	2,646827	0,82% (inférieure à 5%)	Le coefficient est significativement différent de 0
b_1 (coefficient attaché à *MA(1)*) : 0,150141	2,276078	2,29% (inférieure à 5%)	Le coefficient est significativement différent de 0

A la lumière de ces résultats, le modèle recherché se présente comme suit:

$$\Delta LMASI_t = 0{,}173905 \Delta LMASI_{t-1} + 0{,}150141 \varepsilon_{t-1} + \varepsilon_t$$

A noter que $\Delta LMASI_t$ correspond à la rentabilité de l'indice MASI.

[18] On a constaté dans, un premier temps, que la constante est non significative, ce qui a impliqué son exclusion du modèle.

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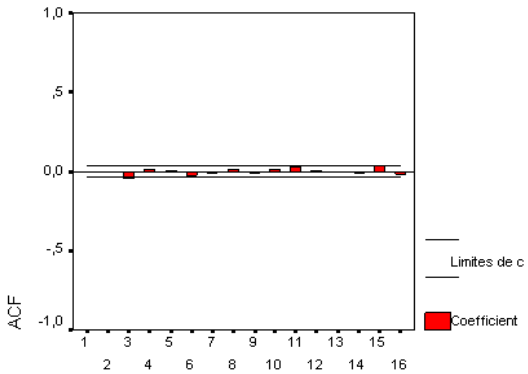
✓ *Etape 3 : le diagnostic*

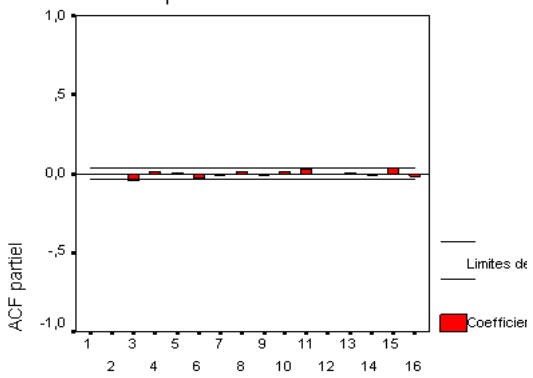
La validation de notre modèle est conditionnée par l'absence d'autocorrélation des erreurs, ces dernières doivent avoir le caractère d'un bruit blanc.

L'étude de l'existence ou non d'un bruit blanc, se fait à travers les corrélogrammes:

Corrélogramme de la fonction d'autocorrélation des résidus



Corrélogramme de la fonction d'autocorrélation partielle des résidus



Le graphique de la fonction d'autocorrélation comme celui de la fonction d'autocorrélation partielle ne contiennent pas de pics significatifs. De ce fait, au niveau des deux fonctions, il n'existe pas d'autocorrélations significativement différentes de 0. Par conséquent, les résidus ε_t forment un bruit blanc, ce qui prouve la validité de notre modèle. Ceci est confirmé également par le test de Ljung-Box comme le montre le tableau ci-dessous:

Table 3 : Test d'identification du bruit blanc (le nombre de retards inclus est égal à 16)

Statistique du test	Probabilité associée à la statistique du test	Conclusion compte tenu d'un risque de 5%
Statistique Q (de Ljung-Box) :16,716	27,2% (supérieure à 5%)	On rejette l'hypothèse d'autocorrélation des erreurs (l'autocorrélation empirique est nulle pour les retards inclus entre 1 et 16), il s'agit donc d'un bruit blanc.

Le modèle spécifié ci-dessus, ne correspond pas à une marche au hasard. Ceci implique le rejet de la forme faible de l'efficience informationnelle pour le marché boursier casablancais. Les deux autres formes (semi-forte et forte) sont donc systématiquement rejetées et, par conséquent, il n'est plus intéressant de les tester.

Les résultats du test sont en totale conformité avec la tendance générale de la bourse de Casablanca entre début janvier 2004 et mi-mars 2008. Cette période a enregistré une croissance soutenue du principal indice de la cote (MASI) de l'ordre de 278%. Le Price Earning Ratio (PER)[19] confirme aussi la cherté de la place. En effet, le PER du marché boursier marocain s'est établi à 32,1 à fin 2006 et à 28,5 en juin 2007 (selon les statistiques du Fonds Monétaire Arabe), soit le niveau le plus élevé par rapport à l'ensemble des bourses arabes et même occidentales. Le tableau suivant met l'accent sur les principaux secteurs qui ont tiré le PER de la place vers le haut :

Les PER sectoriels les plus élevés de la cote en 2006 et 2007

Secteur	PER 2006	PER 2007	Secteur	PER 2006	PER 2007
Immobilier	141	90	Assurances	29	25
Mines	108	38	Distribution	25	20
Banques	35	24	Agroalimentaire	25	19
Ciments	30	28	Sociétés de financement	19	22

Source : Upline Securities

[19] Le PER est égal au cours de l'action rapporté au bénéfice par action.

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Après plus de quatre années de croissance ininterrompue, la bourse de Casablanca est entrée, à partir du deuxième trimestre 2008, dans une longue phase de correction. La tendance globalement baissière qui a caractérisé les cinq dernières années, peut être expliquée par plusieurs facteurs à la fois conjoncturels et structurels.

Sur le plan conjoncturel, la baisse du marché boursier a coïncidé avec l'éclatement, en 2008, d'une série de scandales qui ont déstabilisé les investisseurs créant un climat de suspicion non favorable à l'investissement en bourse (soupçons de ventes à découvert [20], scandale de fuite d'informations du système de cotation et irrégularités [21] commises par quatre sociétés de bourse[22] lors de l'introduction de la CGI[23]). La tendance baissière de la place casablancaise traduit également la perte de confiance des investisseurs sous l'effet psychologique des perturbations qui ont marqué l'environnement économique et financier international au cours des cinq dernières années (crise financière, crise des dettes souveraines, plans d'austérité et spectre d'une récession généralisée dans les principales économies développées).Les craintes des investisseurs, notamment étrangers, sont alimentées aussi par l'instabilité politique qui règne dans la région MENA[24] depuis 2011. Par ailleurs, le contexte économique national difficile, marqué par l'aggravation des déficits jumeaux, démotive les grands investisseurs et les rend peu actifs sur le marché, ce qui tire la place boursière vers le bas.

Sur le plan structurel, la tendance baissière enregistrée par la bourse de Casablanca traduit la méfiance et l'inquiétude des investisseurs vis-à-vis d'un marché boursier structurellement surévalué. En effet, les investisseurs ont estimé que la croissance du marché avait atteint son pic en mars 2008, ce qui a préparé les conditions d'une baisse qui était censée, en principe, mettre fin à la déconnection entre les fondamentaux des sociétés cotées et leur niveau de valorisation boursière.

Ainsi, l'indice MASI a perdu 37% de sa valeur entre mi-mars 2008 et fin décembre 2012. Influencé par cette tendance, le PER de la place casablancaise a baissé progressivement durant les cinq dernières années pour s'établir à 15,1[25] en 2012 et ce, après avoir affiché des niveaux records en 2006 et 2007. Cet ajustement de valorisation a touché plusieurs secteurs de la cote comme le montre le tableau suivant :

Les PER affichés par certains secteurs de la cote en 2012

Secteur	PER 2012	Secteur	PER 2012
Immobilier	10,8	Assurances	14,9
Mines	20,9	Distribution	20,2
Banques	16,3	Agroalimentaire	20,9
Ciments	13,5	Sociétés de financement	14,5

Source : BMCE Capital Bourse

Toutefois, l'amélioration des PER sectoriels, qui restent des indicateurs synthétiques, ne remet pas en cause la cherté du marché boursier marocain. En effet, en affinant notre analyse, on constate qu'il existe une multitude de valeurs qui affichent encore des PER élevés. Autrement dit, la correction enregistrée par l'indice MASI au cours des cinq dernières années 37%), n'a pas permis d'amortir totalement les effets du cycle haussier (+278%) qui a marqué la bourse de Casablanca entre début janvier 2004 et mi-mars 2008.

Les PER des valeurs classées parmi les plus chères de la cote en 2012

Valeur	PER 2012	Valeur	PER 2012
Fertima	85,2	Managem	37,6
Taslif	49,7	Atlanta	35,2
Oulmes	47,2	BMCE Bank	33,8
Label Vie	43,2	CGI	29,6

Source : BMCE Capital Bourse

A la lumière de ce qui précède, on peut confirmer que l'évolution du marché boursier marocain, tout au long des neuf dernières années (entre 2004 et 2012), n'était pas associée à une efficience informationnelle, ce qui nous pousse à remettre en cause la capacité de la bourse de Casablanca à refléter fidèlement les informations liées aux valeurs qui y sont cotées.

[20] Affaire impliquant la société de bourse CFG.
[21] Le non-respect des procédures de collecte des fonds auprès des clients, notamment, les institutionnels étrangers.
[22] Safa Bourse, Attijari Intermédiation, BMCE Capital Bourse et Upline Securities.
[23] Compagnie Générale Immobilière.
[24] Moyen-Orient et Afrique du Nord.
[25] Selon les estimations de BMCE Capital Bourse.

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Pour compléter notre analyse, on va exposer maintenant l'ensemble des éléments qui influencent globalement l'efficience de la bourse casablancaise, en mettant l'accent sur les causes directes qui entravent l'efficacité informationnelle de la place.

ii. L'impact de la structure organisationnelle du marché boursier marocain sur son efficience informationnelle

Dans la première partie de ce travail, on a essayé de mettre l'accent sur le rapport pertinent qui existe entre l'efficience informationnelle et l'organisation des marchés boursiers. De ce fait, c'est en analysant la structure organisationnelle de la bourse de Casablanca, qu'on peut détecter les poches d'inefficience qui caractérisent ce marché. Une telle analyse révèle l'existence de quatre facteurs qui affectent directement la qualité informationnelle de la bourse de Casablanca et constituent des poches d'inefficience propres et spécifiques à la réalité d'un marché émergent tel que le marché boursier national.

✓ *Les autorités de contrôle*

Le manque d'indépendance du Conseil Déontologique des Valeurs Mobilières «CDVM» (vis-à-vis de l'exécutif)[26] et le champ étroit de ses prérogatives, constituent une poche d'inefficience pour la bourse de Casablanca. Dans ces conditions, l'intervention des autorités de surveillance reste peu efficace. Or, l'efficacité des organismes de contrôle est un élément clé pour le renforcement de la transparence du marché.

✓ *Les canaux de diffusion de l'information et leur influence sur les investisseurs boursiers au Maroc*

Au Maroc, les sociétés de bourse occupent une place importante comme canaux de diffusion de l'information, ces sociétés monopolisent la formulation des recommandations d'achat ou de vente à travers l'émission des notes de recherche ciblant les différentes valeurs de la cote. Cependant, les recommandations formulées ne sont pas tout à fait saines et neutres, dans la mesure où elles peuvent être motivées par des considérations liées à la propre rentabilité commerciale de ces sociétés de bourse. Ainsi, les analystes financiers marocains restent prisonniers des enjeux commerciaux des sociétés de bourse qui les emploient. Cette absence de neutralité dans la diffusion des recommandations biaise l'efficience informationnelle de la place.

✓ *Les coûts de transaction*

Le régime fiscal de la bourse de Casablanca constitue une contrainte de plus qui perturbe le comportement des investisseurs. Le relèvement de la taxe sur les plus-values de cession d'actions de 10% à 15%, a réduit sensiblement le gain potentiel susceptible d'être réalisé par les particuliers. Dans ces conditions, l'investisseur individuel n'agira sur le marché que dans la mesure où le gain espéré est supérieur au coût fiscal de la transaction. Son comportement devient donc tributaire de la variable fiscale, au lieu de dépendre uniquement de l'information diffusée, ce qui nuit à l'efficience de la bourse. De leur part, les institutionnels ont perdu le droit aux abattements appliqués auparavant sur leurs profits de cession de valeurs mobilières. La perte de cet avantage fiscal réduit la marge de manœuvre des investisseurs institutionnels, et limite l'efficacité de leur rôle dans la stabilisation du marché et l'amélioration de son efficience. Leur comportement risque de devenir spéculatif en visant le court terme (les placements à long terme ne sont plus fiscalement avantageux pour eux).

✓ *L'irrationalité des investisseurs individuels*

Le Maroc a connu un regain d'intérêt des particuliers pour le marché boursier, ces derniers ont maintenu une forte présence sur le marché entre 2005 et 2008, concentrant – en moyenne – près de 28% du volume des transactions. Cette part est descendue, toutefois, au dessous du seuil de 20% depuis l'année 2009. Les investisseurs individuels marocains sont en principe des agents sous-informés, leur comportement est spéculatif, leur raisonnement est court-termiste et leur culture boursière est peu développée. Ce sont donc des opérateurs irrationnels qui perturbent le marché casablancais et entravent son efficience.

Le volet empirique de notre article montre, ainsi, que l'indice MASI n'évolue pas selon une marche au hasard, ceci implique le rejet de la forme faible de l'efficience pour la bourse de Casablanca. Le marché boursier national reste incapable d'intégrer efficacement l'ensemble des informations diffusées, ce qui témoigne de son inefficience. Les raisons derrière cette inefficience sont nombreuses, leur détection passe par l'analyse des composantes structurelles du marché boursier casablancais. Le contexte baissier actuel offre au marché boursier l'opportunité de redémarrer sur des bases solides, toutefois, un tel redémarrage reste conditionné par les efforts effectués par les autorités compétentes pour améliorer la qualité informationnelle de la place.

II. Conclusion

L'étude de l'efficience informationnelle d'un marché boursier ne doit pas se limiter à l'application de tests visant l'infirmation ou la confirmation de sa validité. L'analyse doit être poussée plus loin en essayant de fournir les raisons qui expliquent les résultats de ces tests. Autrement dit, l'accent doit être mis sur les facteurs influençant le niveau de la qualité informationnelle du marché étudié, ces facteurs restent généralement liés aux caractéristiques organisationnelles de la place boursière. Ainsi se confirme le rapport étroit qui existe entre l'efficience et la microstructure des marchés.

[26] Le Conseil d'Administration du CDVM est présidé par le Ministre de l'Economie et des Finances.

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En traitant le cas de la bourse de Casablanca, notre objectif était triple: tester l'efficience informationnelle de la place, déterminer les éléments qui influencent cette efficience et proposer les mesures susceptibles de l'améliorer. Notre étude a abouti au rejet de la forme faible de l'efficience pour la bourse casablancaise,

L'analyse de la structure organisationnelle de la bourse de Casablanca, révèle l'existence de plusieurs poches d'inefficience engendrées par la faiblesse des organes de contrôle, le dysfonctionnement des canaux de diffusion de l'information et la fiscalité contraignante qui pèse sur les échanges. La situation est aggravée par la présence d'investisseurs irrationnels qui perturbent le marché. Ces éléments se conjuguent pour affecter négativement la qualité informationnelle de la place. Plusieurs mesures peuvent être prises pour changer cette réalité.

En effet, la qualité informationnelle de la bourse de Casablanca peut être améliorée par la mise en place d'un programme ambitieux tournant autour des axes suivants :

- Le renforcement des pouvoirs et de l'indépendance du CDVM, ainsi que l'élargissement du champ de ses prérogatives. Notons dans ce cadre l'adoption en 2013, par le parlement, du texte de loi qui consacre l'indépendance du gendarme de la bourse et lui confère la qualité d'Autorité Marocaine des Marchés de Capitaux (AMMC).
- Le rôle des sociétés de bourse comme canaux de diffusion de l'information est aussi à revoir. La diffusion des recommandations par ces organismes doit se faire dans le respect des règles déontologiques. Pour cette raison, il est nécessaire de contrôler la crédibilité et la neutralité des informations diffusées par les sociétés de bourse. Signalons dans ce cadre l'édiction en 2008, par le CDVM, d'une circulaire définissant les règles déontologiques minimales devant être appliquées par les analystes financiers produisant des notes de recherche, contenant des évaluations et recommandations sur les titres des émetteurs. Le but étant de professionnaliser davantage le métier d'analyste financier.
- Le lancement, par la société gestionnaire de la place en partenariat avec les sociétés de bourse, d'une vaste campagne de communication dans le but de sensibiliser les investisseurs individuels aux principes fondamentaux de la gestion du portefeuille. L'amélioration de la rationalité des investisseurs particuliers, passe par leur sensibilisation à la nécessité d'investir sur le long terme au lieu d'adopter un comportement spéculatif, l'importance de la diversification du portefeuille et la nécessité de fonder les décisions d'investissement sur des informations pertinentes, telles que l'activité de l'entreprise, ses projets, son secteur, ses résultats, etc.
- Notons enfin, qu'un niveau raisonnable de coûts de transaction est une nécessité pour améliorer l'efficience informationnelle du marché casablancais. Les pouvoirs publics ont un rôle clé à jouer dans ce cadre, en allégeant la pression fiscale sur les investisseurs boursiers, et en évitant de taxer davantage les plus-values de cession de valeurs mobilières, surtout pour les personnes physiques.

La mise en place de ces mesures nécessite l'adhésion de tous les acteurs du marché, qui doivent être conscients de l'importance de la transparence comme choix stratégique nécessaire à un développement sain de l'activité boursière au Maroc.

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Some Considerations on the Underlying Need to Reform the Current International Monetary System

By Ion Corbu & Aurelian Virgil Băluţă
Université Hassan II – Mohammédia ,Morocco

Abstract - This paper addresses a pressing current topic on the International Monetary System (IMS) and the need for its fundamental reform. In principle, at present, this need for reform is agreed by all specialists and more and more of those who govern the world's countries. The paper presents the main vulnerabilities of SMI, some aspects of his background, a review of several papers, a brief critical analysis of IMS and some proposals and conclusions which the authors deem useful. The novelty the paper brings concerns the design of a new currency of international reserve and also the proposal the for the issuance and surveillance of its use should be formed a new entity that has the role of the Central Bank but worldwide.

Keywords : international monetary system, reformation, imbalances, crisys, international reference currency.

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Some Considerations on the Underlying Need to Reform the Current International Monetary System

Ion Corbu [α] & Aurelian Virgil Băluţă [σ]

Abstract- This paper addresses a pressing current topic on the International Monetary System (IMS) and the need for its fundamental reform. In principle, at present, this need for reform is agreed by all specialists and more and more of those who govern the world's countries. The paper presents the main vulnerabilities of SMI, some aspects of his background, a review of several papers, a brief critical analysis of IMS and some proposals and conclusions which the authors deem useful. The novelty the paper brings concerns the design of a new currency of international reserve and also the proposal the for the issuance and surveillance of its use should be formed a new entity that has the role of the Central Bank but worldwide. The idea of such an entity is not completely new but almost all experts, probably under routine, attributes the regulation, coordination and control roles of the new SMI, to the International Monetary Fund which has had and still has yet another determining role in the functioning of the current SMI. Or, as seen, the IMF failed to maintain an efficiently functional IMF that would fulfill the role and mission that have been attributed to its creators. Nor will it be done in the future and that is because IMF is not and can not be a neutral entity in relation to the globalized banking system, with the world governments and monetary funds users. The authors advocate the establishment of a superorganizational, even a superguvernamental entity that has to coordinate, monitor and control all the central banks of SMI members.

Keywords: international monetary system, reformation, imbalances, crisys, international reference currency.

I. Introduction

The global economic crisis that began in 2007, in addition to the huge disasters it produced, also had a positive role. It highlighted the limitations and vulnerabilities of the International Monetary System (IMS), the current major imbalances that it generates and therefore, brought in public an issue that not many years ago could not even be thought: the reformation of the system based on the American currency issue, respectively, the dollar.

Recall that Michele Bachmann introduced a bill[1] in the House of Representatives which prohibits replacing the dollar with any other foreign currency.

Now this theme is a permanent presence on the G20 agenda and the subject of more and more Interventions from the countries of the world and, in particular, those who hold U.S. Treasury bonds.

Some the major vulnerabilities[2] of SMI that have have been observed during this crisis are:

1. The dollar, a reference currency, is itself, a vulnerable currency due to the fact that it is in a continuous depreciation[3] and the U.S. budget records a chronic deficit. For example, in the year 2013, the U.S. debt approaches the astronomical figure of 17. 000[4] billion dollars. At the same time we must not forget that virtually we are in a currency[5] war so that vulnerabilities can be speculated and hightened.
2. The lack of an international reserve currency to ensure global financial stability and facilitation of world economic growth.
3. The international monetary disorder generated mostly by the use of the dollar as the standard currency and that has replaced the use of gold as a monetary anchor.
4. The permanent erosion of foreign reserves of countries that have based their economy on the dollar.
5. The use of "global", "complex" and "sophisticated" financial instruments but basically opaque, outside international accounting rules, corporate governance. Because of that, losses were produced outside the specific laws of the market and fair competition mechanisms.
6. Decision-making within the system based on levels of rating given by rating agencies. They are few in number and therefore generate monopolistic dangers. At the same time they work without private

Author: e-mail:vicobnoru@yahoo.fr

[1] http://en.wikipedia.org/wiki/Michele_Bachmann

[2] Positions 1 ÷ 9 adapted from I. Corbu, The reformation of the global financial system, an imperative of sustainable development, Sustainable development and renewable energy, Romania of Tomorrow Fundation Publishing House, Bucharest, 2009.

[3] U.S. export interests have made the dollar be permanently impaired.

[4] http://lebulletindamerique.com/2013/03/27/la-dette-americaine-peut-elle-etre-reduite/

[5] http://www.lefigaro.fr/tauxetdevises/2011/01/05/0400420110105ARTFIG00442-l-euro-demarre-l-annee-en-baisse.php „«Nous ne pouvons pas oublier que nous sommes dans une guerre des monnaies, tous les pays oeuvrent pour dévaluer leur monnaie afin d'en tirer des avantages commerciaux» Guido Mantega, ministre des Finances du Brésil

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or public control over their activities which puts their credibility into question.

7. The existence of major weaknesses in the functioning of rating agencies whose correction is difficult to accomplish due to the lack of a control or authority system over them. The monopol position of rating agencies limits the feedback of beneficiaries.
8. The existence of conflicts of interest between rating agencies and rated entities. Both the corporations and the public system regards the conflict of interest as one of the worst attacks on fair competition. We cannot speak of the fundamental rules of the market in conditions of conflict of interest.
9. Questionable at least, and sometimes arbitrary procedures of evaluation and assessment of financial assets. Financial instruments called "innovative", "complex" and "sophisticated" are actually lacking transparency. Usually they are measured and recorded in small circles, without applying the mandatory evaluation standards for all other securities in the financial market. Such instruments are introduced into the market without adequate financial analysis. Investors really do not know the reality behind these instruments.
10. The tolerance of these tax havens allows some market competitors to gain benefits out of the competition based on equal opportunities.
11. High capacity in disseminating negative processes (especially crisis) and limited ability to transmit development. A reality was already established: the rapid spread of the crisis (that began in 2007). Starting from U.S. financial centers, the crisis affected most countries of the world, both developed or emerging. This contagion of the crisis was an export from those responsible for its production in areas that lacked any interference in this crisis. Thus SMI proved to be a driver of negative phenomena canceling many of its positive effects.
12. The lack of financial rigor and discipline in SMI enabled the accumulation of large global imbalances. So, while the U.S. accumulated current account deficits, China and Germany, oil-exporting countries, have accumulated large surpluses. The natural consequence of these imbalances is represented, on one hand, by an enormous inflationary pressure, on the other hand, by generating capital flows in search for its utility. Such cash flows based on structural imbalances will also create unsustainable international reserves and increased credit flows, difficult to reinsert in the economy. All this will put pressure on monetary policy.
13. Lack of international bodies for monitoring and control, either private, public or civic that would effectively monitor the system, perceive early warning signals regarding the creation of imbalances and their production. These bodies should be neutral in relation to financial institutions and corporate and citizens interests as users of financial resources. Almost all financial experts considers IMF for this role. In our opinion, the IMF, as it is known, is mainly a bank and therefore will never have a neutral monitoring and control behavior. Furthermore, financial and economic policies promoted by the IMF have not revealed their efficiency. Even if we bring up experiments done in countries like Argentina, Uruguay, Paraguay, Ukraine and we find that the claim is submitted. As we have seen above, not even rating agencies have the practical ability to act professional, efficient, objective and neutral.
14. „The expansionist policies" of some developed countries in which the "economic growth" takes place based on deficit. The lack of coverage in goods and services of huge funds, mostly inflationists, injected into the market without any control, have contributed decisively to the generation of major imbalances affecting world economies. Here, it might appropriate to mention thelose of any control on "innovative" or "derivative" financial instruments.
15. The misinterpretation of neoliberal concept according to which there should not be any control because the unseen hand of the market adjusts the market and maintains its balance. According to the liberal approach, it was natural that after acquiring profit in business, the failure that followed on the financial market to be penalized by company loss even by bankruptcy in case of severe errors. Liberal economic and competition means clear rules applied to all and harsh penalties imposed for their violation. Practically, after a long period of time, about 60 years, in which large financial institutions have privately appropriated their profits, when the due date came and bankruptcy would have been the sanction of irresponsibly promoted policies, they began to invoke state intervention. On this basis, they turned to the state asking for help. Thus such losses were nationalized and were transfered to the citizens of the entire planet, primarily for small taxpayers. In fact, major financial institutions don't have and do not defend a certain economic doctrine out of the ones already established. They use the current SMI in their personal interest. These financial institutions invoke a certain doctrine according to their interests at that moment in time and, aided by an outdated mechanism, the current SMI, manage to assert those interests against the demands of development.
16. The authors noted in various debates or informal meetings that there is a high degree of corruption in certain large financial institutions, public control and

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regulation institutes, departments of rating agencies. The authors have no documents or evidence in this regard but they cannot notice that if the informal reports are true, then the amplification of negative effects of the crisis on a planetary scale is explainable. With or without corruption in key points of the financial system, lack of IMS performance was evidenced by the inability to mitigate a local phenomenon, the liquidity crisis of financial institutions caused by incorrect management.

II. International Monetary System – Background

With the abandonment of an IMS operating according to the Bretton Woods agreement in 1976, in the Conference in Kingston, Jamaica, were laid the foundations of the current financial and economic crisis. For though they were highlighted in the brightest ideas and concepts, principles laid down in the conference, in fact, could not fill in the Bretton Woods agreements on the one hand and could not keep up with the rate of development of contemporary economy and the general imbalances and their constant increase. So little by little, the system came to demonstrate its limits and ineffectiveness. And the crisis that started in 2007 and which has not yet ended, gave the final blow, proving that the system has become obsolete and as such, must necessarily be reformed.

From a long, sinuous and sometimes spectacular development of IMS, otherwise a known trends, we briefly analyze whether the IMS objectives have been achieved starting from the principles from which IMS, based on the Bretton Woods agreements, was abandoned.

We recall the agreements in Kingston, 1976 after which the gold standard was formally abolished but which was abandoned unilaterally since 1971 by President Richard Nixon[6]. However, in a certain way, an end was put to tensions arising in the system due to unilateral termination of the gold convertibility of the dollar. At least as a front. Because tensions and frustrations continued to exist, their sharpening in time showing by the form of the various crises affecting the system.

Technical aspects of the current IMS regulation

At the Conference in Kingston, "Agreements Kingston recorded:

- *increase of participation rates of the member countries at the IMF social capital by 33.5%;*
- *wider use of IMF resources in the national currencies of the member countries for transactions and operations of the Fund;*
- *restricting the role of gold in the international monetary system (its demonetization), including the sale of part of the gold held by the IMF [...];*
- *increasing the capacity of the IMF to provide financial assistance for Member States in order to balance external payments;*
- *liquidation of differences between the U.S. and France on the issue of exchange rates, first allowing member countries to choose their exchange rate regime that suits them, including the use of courses under the supervision of the IMF, and then, when economic and financial conditions permit, to skip to a parity and stable training system but adjustable, controlled by the IMF [7].*"

Haircut was between limits [-4.5% ÷ 4.5%] and IMF member states had to adopt macroeconomic policies to ensure price stability and margin fluctuation of currencies. In light of economic developments and possible macroeconomic imbalances coming from statal payments, it were to be intervened for adjustments or changes.

These agreements will be essentially found in the modified statute[8] of the International Monetary Fund which entered into force on 1 April 1978. In Article IV, Section 2, General Exchange Arrangements, paragraph (b) reads what was actually settled in the Kingston Conference:

„(b) Under an international monetary system of the kind prevailing on January 1, 1976, exchange arrangements may include (i) the maintenance by a member of a value for its currency in terms of the special drawing right or another denominator, other than gold, selected by the member, or (ii) cooperative arrangements by which members maintain the value of their currencies in relation to the value of the currency or currencies of other members, or (iii) other exchange arrangements of a member's choice."

[6] The Nixon Shock was a series of economic measures taken by United States President Richard Nixon in 1971 including unilaterally canceling the direct convertibility of the United States dollar to gold, http://en.wikipedia.org/wiki/Nixon_Shock

[7] Elena Drăgoescu – International Monetary Fund, „Dimitrie Cantemir" Publishing House, Tg. Mureş, 2000, pg. 47

[8] Articles of Agreement of the International Monetary Fund, Adopted at the United Nations Monetary and Financial Conference, Bretton Woods, New Hampshire, July 22, 1944. Entered into force December 27,1945. Amended effective July 28, 1969, by the modifications approved by the Board of Governors in Resolution No. 23–5, adopted May 31, 1968; amended effective April 1, 1978, by the modifications approved by the Board of Governors in Resolution No. 31–4, adopted April 30, 1976; amended effective November 11, 1992, by the modifications approved by the Board of Governors in Resolution No. 45–3, adopted June 28, 1990; amended effective August 10, 2009, by the modifications approved by the Board of Governors in Resolution No. 52–4, adopted September 23, 1997; amended effective February 18, 2011, by the modifications approved by the Board of Governors in Resolution No. 63–3, adopted May 5, 2008; and amended effective March 3, 2011, by the modifications approved by the Board of Governors in Resolution No. 63–2, adopted April 28, 2008.

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a) The historical method of analysis of the current SMI

According to the intentions of its creators, the International Monetary System had to ensure some stability in prices, a harmonious and balanced development of all its members. In a systemic approach, IMS is a unified and coherent whole, characterized by a coin or set of coins accepted by all members, rules and regulations, infrastructure, logistics and procedures for payment and value intercountry transfers as necessary.

Will the International Monetary System's mission and role that will be assigned by its creators really be achieved?

The answer is clear and undeniable. And can easily be given by both specialists and ordinary people. IMS has not fulfilled its assigned mission and role. One can justify this response by the multitude of crises that have occurred[9], that of 2008 being the largest since the Great Depression of `33. Also, the major imbalances existing in the world today, major tensions and their potential for generating conflicts that smolders in various parts of the world, shows how far the initial target was to be reached by using this system. The following are the major crises that occurred starting with the 80s[10] "*[...]* which were marked by the fall of the Tokyo and New York Stock Exchange. In 1987 the stock market crash occurred. In the 90s, pressures on the exchange rate mechanism caused the pound sterling, the Italian lira and the Portuguese escudo to "come out of the tunnel." Also in the early 90s there was the collapse of "Junk Bonds" and the "Saving and Loans" crisis (American savings banks). Mexican peso collapsed, in the fall of 1994, revealing the fragile financial state of Mexico which was based on speculative financing of the budget deficit on increasingly shorter terms. In 1994 the U.S. property titles crash occurre;, in 1997 was the onset of the Asian financial crisis that has internationalized and which came to extend, like a domino, Thailand, Korea and Hong Kong and in 1998, Russia and Brazi;, in 2001-2003, the Internet crisis and 2007 brings forth the U.S. mortgage crisis. "

Then came the Greek crisis, in which the state authorities were involved in handling and hiding financial and economic data. After the Greek crisis followed a crysis in Cyprus. In fact, when they are not systemic, crises are necessary, in that they "are an indispensable sanction for management errors[11]". In fact, crisis are precisely a sanction on management errors to which IMS had an important role.

[9] In fact in the last 200 years, there have been numerous crises, more rare at first and more frequent in the last 50 years that, on average, at about 2.5 - 3 years we are dealing with a crisis. Our note.

[10] Ion Corbu, U.S. mortgage financial crisis, Economy, integration, eficiency, Romania de Maine Publishing House Foundation, Bucharest 2008, pg. 264-271.

[11] Une crise revelatrice, Alexandre Lamfalussy, audited in Februarie 27th, 2008 during the Finance Committee of the EU, where he presented his analysis of the subprime crisis. (Our Note)

III. Literature Review

The paper "La reforme du systeme monetaire international: une approche cooperative pour le vingt-et-unieme siecle[12]" analyzes and justifies, in detail, the need to reform the International Monetary System. The report concludes with the following conclusions and remarks: „The crisis heralded, indeed accelerated, a transition to a new world where emerging market economies together play a large role on a par with advanced ones in driving global growth; a world that will be fundamentally multi-polar, and in which global monetary problems must be dealt with cooperatively. The reformed International Monetary System we aspire to is one that preserves the gains of the past sixty-five years, without succumbing to its own instability. It is a system that maintains freedom of trade and current payments and that allows sharing more widely the benefits of financial globalization, appropriately regulated. It is a system where all countries recognize their stake in global stability and accept that near-term national objectives may, if needed, be constrained by the global interest. International cooperation is, in the long run, a necessary ingredient in the search for national prosperity. This should lead every country to look with a renewed sense of responsibility and discipline to the system as a whole. The G20 is in a powerful position to promote the global common good, and to make it prevail, at times against limited, parochial interpretations of national interests. The opportunity for the emergence of a fully fledged international monetary order is here at stake."

As a result of the effects and disasters of the crisis which began in 2007 and due to the fact that, finally, this crisis has managed to open the eyes, of both of professionals and of ordinary people regarding the vulnerabilities and frailty of the International Financial System, specialized literature is extremely rich on this theme. And experts almost unanimously agree that the current IMS cannot function anymore and is in need of reformation.

Zhou Xiaochuan, in an essay[13] published in March 23rd, 2009 states categorically that *„The reestablishment of a new and widely accepted reserve currency with a stable valuation benchmark may take a long time. The creation of an international currency unit, based on the Keynesian proposal, is a bold initiative that requires extraordinary political vision and courage. In the*

[12] Report at the initiative of the Royal Palace, by a group Groupe coordinated by Michel Camdessus, Alexandre Lamfalussy and Tommaso Padoa-Schioppa and which also included Sergey Aleksashenko, Hamad Al Sayar, Jack T. Boorman, Andrew Crockett, Guillermo de la Dehesa, Arminio Fraga, Toyoo Gyohten, Xiaolian Hu, André Icard, Horst Koehler, Guillermo Ortiz, Maria Ramos, Y.Venugopal Reddy, Edwin M. Truman, et Paul A. Volcker. The report was published on 18 January 2011

[13] Zhou Xiaochuan, Reform the international monetary system Essay by Dr Zhou Xiaochuan, Governor of the People's Bank of China, 23 March 2009

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short run, the international community, particularly the IMF, should at least recognize and face up to the risks resulting from the existing system, conduct regular monitoring and assessment and issue timely early warnings."

We also mention *Global Imbalances and Developing Countries: Remedies for a Failing International Financial System,* [14] *Reforming the privatized international monetary andfinancial architecture*[15]*, À la recherche d'un nouveau système monétaire international*[16] *şi A Brief History of the International Monetary System*[17]*.*

IV. Some Critical Aspects Regarding the Current Internation Monetary System's Vulnerabilities / Statistical and Economic Arguments on IMS Vulnerability

The first and largest vulnerability of current IMS is the currency it uses, namely the currency issue of the U.S. Federal Reserve, the dollar. The use of this currency issue, as well as the use of any currency issue as international payment and international reserve currency, will sooner or later lead to placing it in a certain "conflict of interest". This is because, to encourage and increase the expansion of exports, the issuing country will tend to devalue its currency against the currencies of other countries, and primarily against the currencies of countries in which the exports are made. And basically this became constant in the case of the dollar. The graphs in Figure 1-4 proves this aspect.

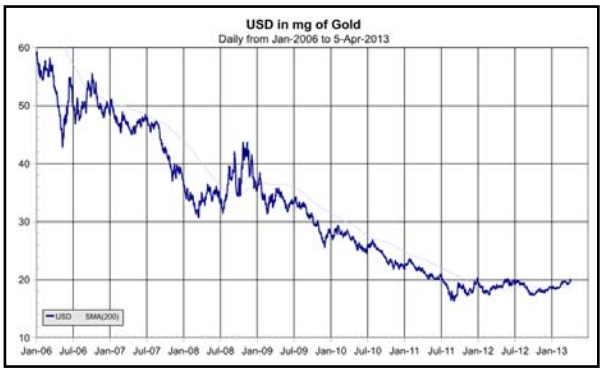
Source: http://pricedingold.com/us-dollar/

Figure 1

Source: http://pricedingold.com/us-dollar/

Figure 2

It is noted that, except for small periods of time, the general trend for the U.S. currency was to devalue. As said above, this monetary policy helped U.S. exporters and positively influenced U.S. balance of payments. For those who voluntarily make saving and place them in banks, wither individuals or legal entities, this behavior led to constant erosion of savings. One of the largest holders of U.S. dollar financial assets is China, which has more than 2000 billion. Therefore, China's position to assume that the current International Monetary System is "dead" and belonging to other historical times is justified. If corroborated with the great technical and economic development of China in the last 40-50 years, the claim of this country for the Yoani to become international reserve currency is justified. Besides Sino-American relations know many frictions as concerns the permanent depreciation on the dollar. With growing competition between the two countries (China and USA), the existence of these problems shows that the current IMS might constitute an obstacle to the development of trade, investments in other markets and economic progress.



Source: http://pricedingold.com/us-dollar/

Figure 3

[14] White, W. R. 2007. The need for a longer policy horizon: a less orthodox approach, in Teunissen, J. J. and Akkerman, A. (eds), Global Imbalances and Developing Countries: Remedies for a Failing International Financial System, The Hague, Forum on Debt and Development (FONDAD)

[15] D'Arista, J. 2000. Reforming the privatized international monetary and financial architecture, Challenge, May–June, vol. 43, no.3, 44–82

[16] À la recherche d'un nouveau système monétaire international, Revue de l'OFCE, 2012/2 n° 121, p. 289-293. DOI : 10.3917/reof.121.0289

[17] Kenneth N. Matziorinis, A Brief History of the International Monetary System, Montreal, QC, Canada, 2006.

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Source: http://pricedingold.com/us-dollar/

Figure 4

In the introduction from the article *„Chinese–US Economic Relations After the Global Financial Crisis*[18]*"* professorul Geoffrey Garrett menţionează: *„The global financial crisis has had three profound effects on Sino–American relations. First, China and the United States have become a de facto Group of Two (G2), largely by default, as Europe and Japan have fallen on even harder times than the United States and because India's development path is at least 15 years behind China's. Second, the speed with which China is catching up to the United States has increased, with the mid-2020s projected as when China will pass the United States to become the world's largest economy—though it will then still be a much poorer and less powerful country than the United States. Third, the global financial crisis (GFC) did not—as some projected—reduce the enormous economic imbalances between China and the United States even as both countries reduced their imbalances with the rest of the world."*

The graph in Figure 5 reveals the deficit situation recorded by USA against China, from 2001 to 2010 and by comparison in Figure 6, deficit against China, red curve and against the rest of the world, the black curve.

Here is what is mentioned in the article above in the paragraph „Chinese–US economic imbalances": *„Putting together all we know about the economics of the crisis, the world does appear to be moving towards a de facto G2, almost by default. The Chinese–US economic relationship is very big. But it is also very imbalanced. The headline statistics concerning the two key indicators of Sino–American imbalances pre-GFC are by now well known: the mushrooming of Chinese Government purchases of American Treasury bonds (T-bills) and American consumption of Chinese goods. China increased its holding of T-bills more than fivefold to well more than US$500 billion from 2000 to 2008. Over the same period, America's trade deficit with China more than trebled to more than US$250 billion*[19]*".*

Because this crisis, which was caused mostly by the irresponsible actions of some of the leaders of Wall Street, by speculating current IMS vulnerabilities, affected the whole planet, more and more researchers, specialists, heads of state and governments criticize this situation and seek those responsible and the guilty.

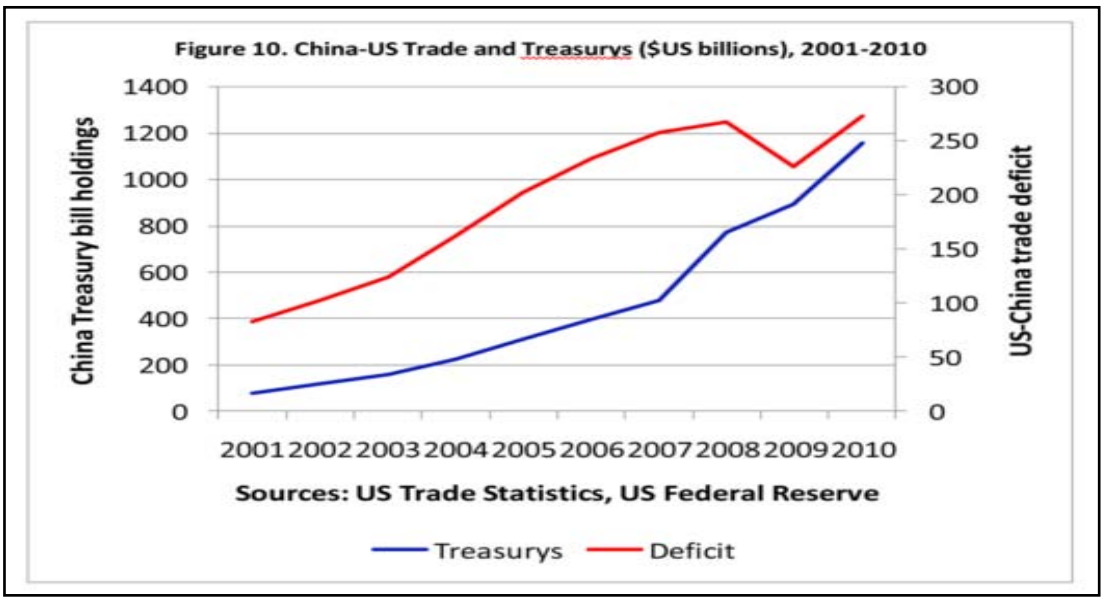

Figure 5

[18]http://ussc.edu.au/s/media/docs/publications/1107_Garrett_ChinaUS.pdf

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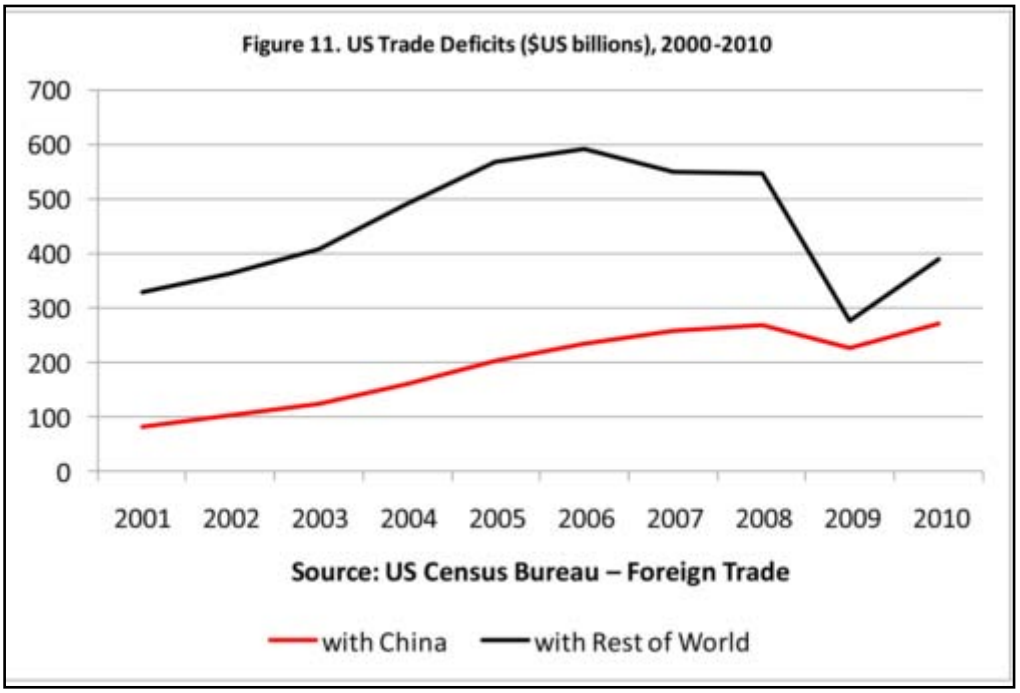

Figure 6

Some outspoken critics of global currency status of the dollar include the Kremlin. Several times it has exhibited strongly its antidollar position and pro reform of the IMS. However Russia has massively declined in U.S. currency reserves trying repeatedly to promote the ruble as a reserve currency, even regional.

It's more often talked about establishing a monetary union of Gulf states, countries that hold about 45% of global oil reserves. Besides, four countries of the Gulf Cooperation Council (GCC), Saudi Arabia, Bahrain, Kuwait and Qatar signed in 2009 in Riyadh, an agreement to create a monetary union and the launch of a new currency, originally planned for 2010. According to some analysts, the new currency could be launched in 2013[20].

If, initially, the U.S. authorities did not even conceive talking about a new global currency, now they are already used to the idea. Besides, U.S. Treasury Secretary Tim Geither, produced some shockwaves in global markets when he said he was "quite open" to China's proposal on the progressive implementation of a new global reserve currency under the coordination and management of the International Monetary Fund.

Moreover, the idea of replacing the dollar as the international reference currency is not new. Many years ago J.M. Keynes advanced as single currency, the bancor and F.D. Roosevelt, the unitas. Let's remember that a Nobel Prize winner, Joseph Stiglitz, considering that the dollar has a high degree of risk, proposed a new international reference currency. There were many other that also pleaded in this respect.

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Table 1 : Current account balance, percentage of GDP, 3 year backward average

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	:	5.3	5.2	5.3	4.8	4.2	4.0	3.8	3.7	2.9	2.3	1.9	0.8	-0.3	-0.3	-0.3
Bulgaria	0.6	2.1	2.1	0.2	-3.4	-5.2	-4.4	-4.4	-4.7	-7.8	-11.9	-18.1	-22.0	-19.1	-11.2	-3.4
Czech Republic	-3.5	-4.9	-4.8	-3.4	-3.0	-4.0	-5.0	-5.5	-5.4	-4.0	-2.7	-2.4	-2.8	-2.9	-2.8	-3.0
Denmark	1.2	0.9	0.4	0.6	0.8	2.2	2.3	3.0	3.0	3.6	3.4	2.9	2.4	2.5	4.1	5.0
Germany	-1.1	-0.7	-0.6	-0.8	-1.3	-1.0	0.1	1.3	2.9	3.9	5.3	6.3	6.6	6.5	6.1	5.9
Estonia	-6.5	-7.9	-9.4	-8.0	-6.1	-4.9	-7.1	-9.0	-11.1	-10.9	-12.2	-13.8	-13.5	-7.2	-0.9	2.8
Ireland	:	2.5	2.0	1.1	0.2	-0.3	-0.7	-0.5	-0.5	-1.4	-2.5	-4.1	-4.9	-4.5	-2.3	0.0
Greece	:	-3.0	-3.2	-3.3	-4.7	-6.2	-7.2	-6.8	-6.3	-6.7	-8.3	-11.2	-13.6	-13.6	-12.1	-10.4
Spain	-0.6	-0.2	-0.5	-1.4	-2.7	-3.6	-3.7	-3.6	-4.0	-5.4	-7.2	-8.8	-9.5	-8.1	-6.3	-4.3
France	0.8	1.6	2.3	2.7	2.2	1.8	1.3	1.1	0.7	0.2	-0.2	-0.7	-1.1	-1.4	-1.5	-1.6
Italy	2.1	2.7	2.6	1.9	0.9	0.4	-0.1	-0.3	-0.5	-0.7	-0.9	-1.2	-1.9	-2.0	-2.8	-2.9
Cyprus	:	-4.0	-2.2	-1.1	-1.3	-3.5	-4.1	-3.1	-3.7	-4.4	-6.0	-8.2	-11.5	-12.7	-12.1	-8.4
Latvia	-0.1	-3.6	-6.6	-7.9	-7.6	-7.1	-6.4	-7.5	-9.3	-11.2	-16.0	-19.2	-19.4	-9.0	-0.5	3.1
Lithuania	-6.6	-9.1	-9.9	-10.7	-9.4	-7.1	-5.2	-5.5	-6.5	-7.1	-8.4	-10.7	-12.7	-7.9	-3.0	0.0
Luxembourg	:	11.3	10.3	9.3	10.3	10.1	10.8	9.1	10.2	10.5	11.3	10.7	8.6	7.5	6.9	7.5
Hungary	-6.3	-3.7	-3.5	-4.9	-7.1	-7.5	-7.2	-7.0	-7.8	-7.8	-7.6	-7.3	-7.3	-4.9	-2.2	0.6
Malta	:	-8.9	-7.4	-4.8	-7.1	-6.4	-4.6	-1.5	-2.2	-5.9	-8.2	-8.3	-7.0	-6.3	-5.8	-4.3
Netherlands	5.5	6.0	5.0	4.6	3.1	2.8	2.4	3.6	5.3	6.9	8.1	7.8	6.8	5.4	5.7	7.5
Austria	-2.3	-2.8	-2.3	-1.9	-1.3	-1.1	0.4	1.2	2.2	2.0	2.4	2.8	3.7	3.7	3.7	2.2
Poland	-0.1	-1.7	-3.3	-5.0	-5.8	-5.5	-4.0	-2.8	-3.5	-3.4	-3.8	-4.1	-5.5	-5.5	-5.2	-4.6
Portugal	:	-3.3	-5.7	-7.2	-8.7	-9.8	-9.6	-8.3	-7.7	-8.4	-9.8	-10.4	-11.1	-11.2	-11.2	-9.1
Romania	:	-5.9	-6.6	-5.6	-4.8	-4.4	-4.1	-4.9	-5.9	-7.6	-9.1	-10.8	-11.8	-9.7	-6.7	-4.3
Slovenia	1.3	0.1	0.0	-1.2	-2.1	-1.9	-0.5	0.1	-0.8	-1.7	-2.3	-3.0	-4.5	-3.9	-2.5	-0.4
Slovakia	-1.2	-5.7	-9.5	-8.1	-6.2	-5.8	-6.5	-7.4	-7.2	-7.4	-8.1	-7.2	-6.4	-4.7	-4.2	-2.1
Finland	3.1	4.5	4.8	5.2	6.1	7.2	8.2	7.2	6.5	4.8	4.6	3.9	3.7	2.9	2.0	0.6
Sweden	1.9	3.1	3.8	4.0	4.0	4.4	4.6	5.5	6.1	6.8	7.3	8.1	8.9	8.3	7.5	6.6
United Kingdom	-1.0	-0.7	-0.4	-0.9	-1.8	-2.4	-2.1	-1.8	-1.8	-2.1	-2.7	-2.8	-2.4	-1.8	-2.1	-2.2

Source: Macroeconomic Imbalances Procedure Scoreboard Headline Indicators, 1 November 2012 Statistical information (Eurostat 2012)

Note: The current account covers all transactions that involve economic values occurring between resident and non-resident units. The basic components are exports minus imports of goods and services, net factor income (such as interest and dividends) and net transfer payments (such as foreign aid). The current account provides important information about the economic relations of the country with the rest of the world. A high current account deficit indicates that the economy is importing in excess of its exports. Data for the current account are based on Balance of Payments information. The Balance of Payments summarises the economic transactions of an economy with the rest of the world, and may be broken down into three broad sub-balances: the current account, the capital account, and the financial account. The legal basis of the Balance of Payment can be found in the Regulation n°184/2005 of the European Parliament and of the Council of 12 January 2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment (OJ L35/23 of 8/02/2005), together with its implementation and amendment.

Figure 7 graphically presents the developments of European countries imbalances during 2003 – 2011. It's observed that the maximum deviation, respectively, the maximum offset of the imbalance between European countries ranges from 32% (- 22% Bulgaria 2008 and + 10% Sweden 2011). In that period only five countries had surplus, namely Sweden, Holland, Germany, Finland, Austria, Denmark and Belgium (not the entire period). All other countries had deficits.

Certainly, these imbalances are not due to IMS. A multitude of factors, among which, management, productivity, competitiveness, economic structure, policies, etc. have a substantial influence. But IMS with its vulnerabilities influence these factors and leads to greater imbalances and polarization of the world. The constant depreciation of the international reference currency and injecting huge amounts of money in the system, without coverage of goods and services, undoubtedly lead to greater imbalances.

[20]http://www.7sur7.be/7s7/fr/1536/Economie/article/detail/1319495/2011/09/15/Les-pays-du-Golfe-veulent-lancer-leur-monnaie-unique.dhtml

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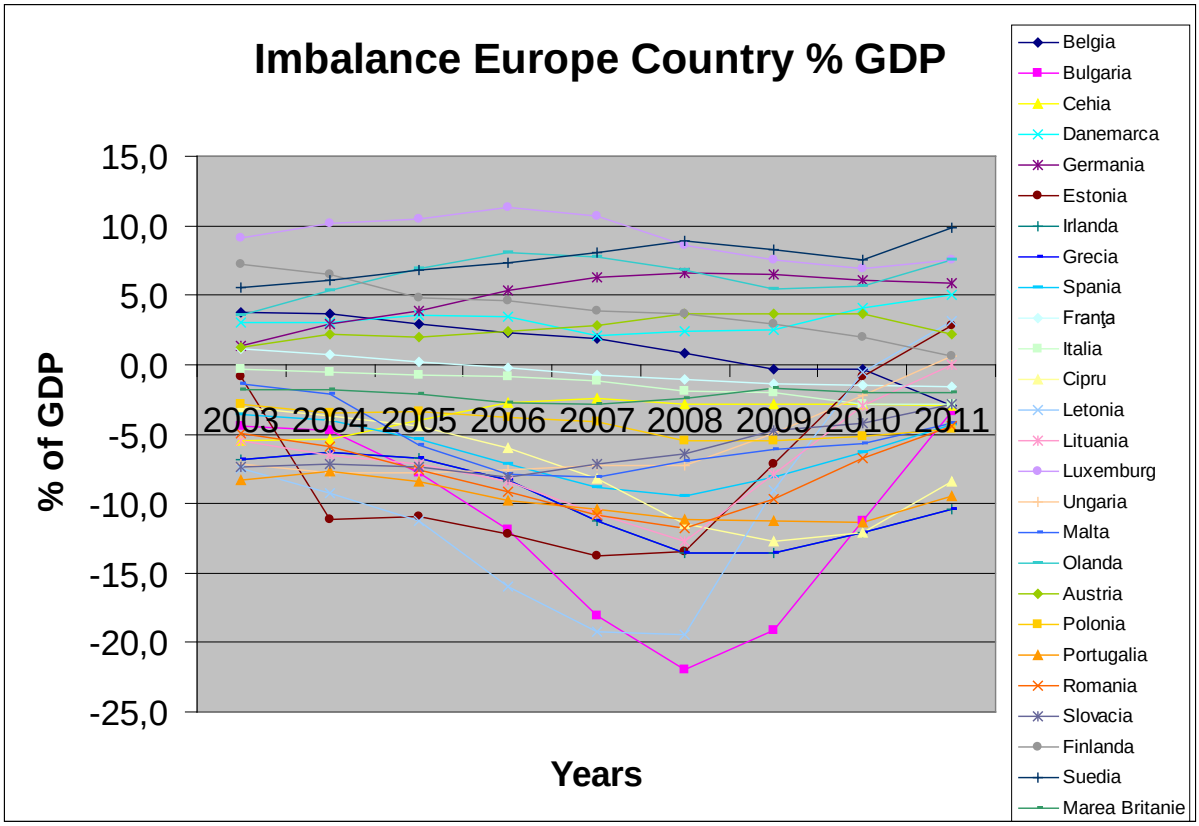

Source: Chart prepared by authors based on data from Eurostat

Figure 7

A second large vulnerability of the IMS is precisely the coordination and management of the system which is conducted by the IMF and related institutions. It would be naïve to believe that what IMF could not resolve over a period of about 70 years[21], will succeed from here on. Whether out of organizational saturation or out of habit and routine, the IMF cannot and will not be able to effectively lead a new IMS and a new global reserve currency. A new vision, a new spirit is needed, a dynamic corporate culture, open and suited to the circumstances of the XXI century and the new realities on the free movement of goods, capital and labor. In addition, this new authority should be neutral with monetary and banking institutions, capital markets, governments and international institutions, with users of financial resources and citizens. Such authority must not have overlapping activities, must not be involved in government policies, etc.. Such an authority should be constituted after the model of a central bank and must have decisional independence from governments and international bodies. At the same time, it must coordinate the central banks of all IMS members. Therefore it must behave neutrally to all market operators. The mission and role of this authority are issuing, monitoring and controling the new currency, maintaining global price stability and facilitating a harmonious and balanced development of the member states. With the Central Banks of the members or monetary unions, this new authority, which we could call the World Central Bank (WCB) could achieve the Global System of Central Banks (GSCB). Following the model of success, the European System of Central Banks (ESCB).

A third major vulnerability of the current IMS is the rating agencies. They are outside of any private, governmental or civic control, they lack transparency, often acting almost occult and, as resulted from this crisis, often have conflicting interests and acted connive in the interests of fraud. In most cases, on the reports and notations of these agencies dependents the life and existence of countries, areas, regions or even whole continents. Through their work, some agencies have contributed directly to the onset of many crises. We believe that given these facts, it is required to introduce some performance standards for rating agencies. It is also found useful to have one or more institutions for periodic assessment and accreditation of rating agencies, institutions under private, public and civic control.

A fourth important vulnerability of the current IMS is the speculative financialization of the economy and the removal of financial economy from the real economy. Also the deregulation and lack of certification

[21] The current financial crisis and many other crises that preceded it, bears witness to the inability of the IMF to effectively manage IMS (our note)

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by a neutral body of "complex" and "sophisticated" financial instruments, but in reality nontransparent, have enabled financial markets to be infested with fake currency, impossible to detect from real currency. This is also caused by the fact that the reference currency of the current IMS is, in fact, in this financial mess without end, lacking any anchor.

The fifth major vulnerability is the "conflict" of the current IMS with sustainable development.

The weaknesses and vulnerabilities of IMS mentioned above cause the current IMS to conflict with the principles of sustainable development[22]. Either sustainable development is the only way humanity can develop and therefore this paradigm of avolution should not be affected by defects of a system that has exhausted its possibilities of stimulation, being, in fact, a powerful accentuation of imbalances and a brake on development.

In accordance with principle 8[23] of sustainable development that "*to achieve sustainable development and a better quality of life for all people, states should reduce and eliminate unsustainable patterns of production and consumption [...]*". The current financial system proved unsustainable since it has direct and significant influence over all forms of production and consumption. As noted above, the current IMS is generating major imbalances manifested by crises of all kinds that occur periodically. These crises are at the root development of wild capitalism and unethical globalization. At the same time, it generates a large and immoral polatization of the world which is the carrier of a potential conflict which may sooner or later manifest.

The current IMS comes in contradiction with principle 12 of sustainable development according to which, "*States must cooperate to promote an open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Commercial policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or any hidden constraint on international trade. [...]* ". It is undeniable that the current IMS can not ensure long-term stability, balanced development, economic growth and sustainable development. On the contrary, it leads to crises, recession, rich-poor extreme polarization, environmental destruction. This behavior contradicts the rights and aspirations of future generations. If the financialisation of the economy it also reminded, particularly the speculative financialization, in the sense of a break from real economy in which speculation[24] ranks first, the need to rethink a new IMS becomes imperative. The natural role of finance should be to finance the real economy. Now, we are witnessing a 180 degree turn of normality. The real economy is in the service of the financial economy and is a pretext for speculation of all kinds.

Also, every point from 1 to 15 presented in the introductory paragraph, represents IMS vulnerabilities which a new system should take into account.

V. Discussion

A new IMS should have a currency that can fluctuate within certain limits to ± 3-4%, but also to be stable in this range for long periods, namely to act as a „financial flywheel" against shocks in different economies. Of course, such a currency should be designed, created, based on a basket of currencies that reflects the main centers of economic power in the world. A currency formed after the extended DST model. At the limit, for reasons of acceptability and to spare the national pride of IMS members, the basket of currencies could include all the currencies of countries or monetary unions participating in the new IMS.

Such currency, effectively managed, coherent, consistent with the rules and regulations adopted and neutral by all operators belonging to the system, may lead in time to fulfill the role and mission for which IMS has been or will be created: maintaining price stability, harmonious and balanced development of members, making secure international payments, disposing a stable currency to build confidence in the financial markets.

Following the crisis, IMS reformation is increasingly discussed. Current G20 agenda includes this topic. We consider that it actually launches ideas without horizon and without force, simple adjustments, a kind of stall. Those involved in reforming IMS think maybe the problem will resolve itself. Apparently, still the seriousness of the problem is not realized and it is not decidedly proceeded to a substantive reform of the system. In our opinion, the reformation has a few basic directions: a new currency, a new management and regulatory central bank authority type, one or more institutions of authorization, accreditation, monitoring and control of credit rating agencies, standards and procedures. This reform must begin and be implemented quickly. The delay of IMS reform and its distrust will not remain without effect. "Sanctions" will even appear from users of currency, treated in an unfair matter by the current system. In the end they become suspicious, frustrated and looking for alternatives. What do they want? A supple, flexible, secure, reliable,

[22] Adapted from "Introduction" in McKeown, Rosalyn. Education for Sustainable Development Toolkit, Version 2, Center for Geography and Environmental Education, University of Tennessee, July 2002.

[23] Principles of sustainable development, as was stated in the 1992 Rio Declaration on Environment and Development

[24] It is estimated that only 2.2% of the stock transactions in 2008 represented real economic transactions. The other 97.8% were mere speculation. Not illegal but speculation broken from real economy.

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reasonably priced IMS. Huge and undeserved salaries of some of the leaders of Wall Street are notoriously known. The first thing they did after receiving support for their institutions not to enter bankruptcy, was to give themselves and to collect fees and wages. Therefore, instead of having an IMS to help world economies, increasingly more operators feel it as a burden. And alternatives are looming. Maybe the barter or multilateral clearing, maybe a new currency imposed by practice and reality. Behold, now, the Bitcoin, an electronic currency, unregulated reached transactions of about 1 billion USD. Sure, at the beggining it is experimental and controversial. According to some, very reliable, to others uncertain. It took advantage of the current crisis events and developed rapidly (launched in 2009[25]). However, in our opinion, this currency puts pressure on the reforming of IMS. We can not make predictions but it would not be excluded that such management technology of the new Bitcoin currency to impose itself (some say it's a speculative bubble, others, as a result of its decentralized and shared concept using absolutely safe cryptographic information means, suggest it could be the new currency of the future). The fact is that the world is looking febrile and appears to be boiling. A sign that time must not be wasted and proceed to the reforming of IMS.

There are many proposals and initiatives on a new international currency of reference. Thus, Nursultan Nazarbaev, supported by a Nobel laureate, Robert Mundell , the father of the single European currency "Euro", proposed the introduction of a single currency crisis, "acmetal[27] ". Mundell declared that such a plan is feasible and that it offers the global economy very good prospects. He also proposes that Asia[28] should create a single currency with the U.S. dollar as anchor. He also commented on the need to create a global single currency with fixed rates against the currencies of economies of more developed, U.S. dollar, the Euro and the Japanese yen.

The current states of the Middle East are also dissatisfied with IMS. Thus, "The Independent" newspaper published reports that a number of states in the Middle East have initiated talks with Chinese, Russian, Japanese and French officials to stop trading oil in dollars.

Circulating reports indicate that the global economic crisis could lead to major geopolitical restructuring, respectively, forming the North American Union (NAU), a replica of the European Union. NAU would include the U.S., Canada and Mexico and will adopt a single currency, the "amero". The dollar will no longer be necessary because it will depreciate to extinction. This scenario started at an event on March 13, 2007. Then, the American Senate held a fifth, out of its 182-year history, secret meeting and its unofficial agenda seems to have been the following: the imminent collapse of the U.S. economy, the decline of state finances and civil war because of economic collapse. NAU would be provided with cheap labor from Mexico and raw materials from Canada. Coin to be issued would be called "Amero". The dollar, remained without coverage, would be dropped.

Japan and the Asian Development Bank support the creation of a common currency ACU (Asian Currency Unit), equivalent ECU (European Currency Unit), the forefather euro.

VI. Main Actions in Order to Reform and Implement the IMS Worldwide[29]

From the above, it results a concern for reforming the current monetary and financial system and urgent need to achieve this goal. Unfortunately, out of the need to save the system, the beneficial effects of any crisis[30], manifested brutally and on penalties like bankruptcy of underperforming entities or entities that violate market rules, were not allowed to manifest. And the role of crisis, to clean up market, was taken over by global management and we refer to G20 achieved by transforming G8, through an interventionist and regulatory path and by adding a necessary and appropriate control. That is a "peaceful revolution" of the

[25] https://en.bitcoin.it/wiki/Satoshi_Nakamoto

[26] Canadian economist, professor at Columbia University, has formulated theories on which the single currency was created. Received (1999) Nobel Prize for economics namely for his analysis on exchange rates and how these fluctuations affect monetary policy. He laid the theoretical foundation of the European Monetary Union being one of the most ardent supporters of the euro currency. However, paradoxically, based on his theory on "optimal" currency areas, many economists have countered the idea of creating the European Monetary Union and questioned the chances of achieving the project. However Mundell did not participate directly in planning the launch of the euro. But he was the first who, since 1961, has raised a key question: "At what point is more advantageous for the state to give up monetary sovereignty?"

[27] "Acmetal" is the name of the currency and is a combination of the Greek word "acme" (peak level of development) and "capital". Nazarbayev believes that the establishment of a single monetary system will allow replacing the word "capitalism" with "acmetalism" to define a more accurate global finance.

[28] It's foreseen here a possible idea that we support, namely the creation of some economic and financial poles and some coins to represent these poles. In this context one can imagine an IMS with a few competitive components (economic and financial poles) following that world currency will be based on the basket of currencies representing the poles. Such a world currency would be more stable. And it may be much less sensitive to shocks under one of the poles. The probability that all poles simultaneously suffer shocks, in different currencies, is much smaller than when there is a single global currency of issue. (our note)

[29] Paragraph taken from paper of I. Corbu, The reformation of the global financial system, an imperative of sustainable development. Sustainable development and renewable energy Romania of Tomorrow Foundation Publishing House, Bucharest, 2009.

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system which will be difficult to achieve. Because, once saved, the entities responsible for producing the crisis, regaining their power and influence, will resist mightily to major changes that threaten their privileges. An example of this is the opposition of the tax on financial transactions as well as capping bonuses refusal.

Many economists believe that the proposal of J.M. KEYNES[31] to introduce a taxation of financial capital to reduce speculations and create a global currency as well as a supranational institution to manage it, could have prevented such a major crisis or at least it could have lessened the effects. Moreover, the need for a new international reserve currency was and will be of great interest and represents one of the directions for creating the new system. Also, although major challenges were put forward, some of which of technical matter, we consider that the financial transaction tax and building an international solidarity fund with poor countries upon this charge or at least the implementation of the Tobin[32] tax, also representing an important direction of action.

As analyzed, the 2007 crisis is not incidental. Lack of adequate control as well as rating agencies deficiencies overlapped over systemic roots of the structure and working mechanisms of the current monetary and financial system and which represents the root causes of the current crisis. One of the main causes of the current crisis are: the dominant role the U.S. dollar holds as international reserve currency, the huge deficits which it is based on, creating money and injecting it into the market through non-transparent oversofisticate instruments, all brilliantly packaged and disseminated with the jointly interested support of some well known banks. Therefore, it requires severe financial regulation both in banking circuits and financial circuits.

A particularly important direction of action is to strengthen the banking and financial regulations and rethink the functioning of credit rating agencies: risk provisioning requirement for loans, non-acceptance of securities (financial instruments) off balance, not accepting refinancing by central banks of other banks that hold securities with speculative character, solvency ratio increase to ≥ 8% of risks assumed, rulemaking to remove black holes from derivative markets, hedge funds, including OTC market. Evaluation of financial return for investors, traders, to reduce the speculative spiral and the financial arrangements and, perhaps, even certification titles introduced in the market by an independent authority. Also, there is a need for rethinking the rating agencies by diversifying and increasing their number and their evaluation and approval by an independent authority. There will also have to be developed uniform criteria for assessing the risk by rating agencies.

Another direction is to increase the role of global governance in the sense of enhancing the role of the IMF and the restructuring and modernizing it with increasing financial and granting new responsibilities, especially regarding market surveillance. We can say that the crisis has brought the state back in the economic stage, dominated so far by the neoliberal doctrine and the minimalist, almost nonexistent, state.

Finally, returning to the real economy and providing it with the necessary funds for healthy and sustainable productive activities that produce goods and services for the man who, under the new management models must be considered in an anthropocentric way, namely put in the center of all the technical, economic and financial activities.

Let us not forget two of the decisions of the European Council[33] of 18-19 June 2009, which "agreed on a new supervisory structure to be introduced in Europe, inspired by the work of the High Level Reflection Group chaired by Jacques de Larosière[34]. The new framework aims to strengthen the surveillance system and restore confidence in the financial system that was affected by the global financial crisis. It involves the creation of a European Systemic Risk Board to continuously assess the stability of the global financial system and the three supervisory authorities responsible, respectively banking, insurance and securities industries, cooperating with national surveillance in a network." "The Council welcomes WGPC[35] report, which focuses on four main policy responses to reduce the potential pro-cyclical effects of financial regulation and the development of counter cyclical measures, namely:

i. monitoring of system-wide risks;
ii. creation of anti-cyclical reserves through capital and provisions
iii. improving accounting rules
iv. establishing a solid framework for remuneration schemes.

[30] For Alexandre Lamfalussy, former general manager of the Bank for International Settlements, financial crises are necessary in that they "are an indispensable sanction of management errors"

[31] J.M. KEYNES Théorie générale ch 12 p 160

[32] James Tobin (05.03.1918 - 11.03.2002) American economist. Known for his suggestion to create a fee on foreign transactions, known as the Tobin tax. It was designed to reduce speculation in the forex market, which he reckoned to be unproductive. He also suggested that the charge could be used to fund projects for the benefit of third world countries or to support the United Nations.

[33] Council of the European Union, Press Release, The 2954th meeting of the Brussels Economic and Financial Affairs Council, July 7, 2009 The President, Mr. Finance Minister Anders Borg of Sweden

[34] Former managing director of the International Monetary Fund.

[33] Council of the European Union, Press Release, The 2954th meeting of the Brussels Economic and Financial Affairs Council, July 7, 2009 The President, Mr. Finance Minister Anders Borg of Sweden

[34] Former managing director of the International Monetary Fund.

[35] Working Group on pro-cyclicality

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The report focuses on developing a macro prudential approach through various means, including the inclusion of automatic stabilizers in the regulatory framework and through better information on the discretionary supervisory measures and changes to the regulatory framework through enhanced monitoring."

VII. Conclusions and Proposals

1. The International Monetary System, with all the adjustments and tests for adapting to new economic and financial realities, according to its role and mission, can not ensure stability and development. This is mainly due to its involvement in the economic policies of governments though, often a not recognizable fact. However, even the imposition of conditions, specific agreements with governments, means a more or less veiled interference in the economic policies of the countries they lend. The fact it borrows, respectively wears out the bank status, makes it lose its vocation of neutral regulation, monitoring and control of IMS and financial markets. And, amassing an organizational culture as having overlapping or conflicting tasks of interest, could not and will never be able to fulfill the role that the IMS so desperately needs, which is that of the Central Bank. For these reasons and many more, it is necessary to fundamentally reform the IMS, not symbolic adjustments, but substantive changes. If this reform is not done, a new crisis with far greater disastrous effects will be produced. The problem is not if it occurs but when it occurs. And it is not one but many crises.
2. For achieving goals regarding stability and harmonious, balanced development of its members the IMS must have a stable, strong and credible international reference currency that is not a national issued currency. Such currency should not longer be in "conflict of interest" in relation to internal and external interests. A national issued currency, used as an international reserve currency, will always have the doubt of conflict of interest, and this is a major vulnerability of the system. Because the State of the issued currency will always be tempted of using it in their own interests, which come into conflict with the interests of other operators, internationals, which will have to use this currency. The U.S. dollar has exhausted all possibilities to substantiate a monetary and financial international system, mainly as a result of its continuous depreciation and economic development based on a huge deficit.
3. Such currency should be designed to have cargo anchors and a stack of coins to equally represent the major economic poles of the world. For reasons of political acceptability, this basket could contain all the currencies of IMS members. Such a global currency would be denominated[36] monemo, monem or similar, suggesting its global nature.
4. It is necessary to establish a Central Bank regulatory, monitoring and control entity that should be independent from governments and bank financial institutions. This entity could operate under the UN to which it should submit regular progress reports.
5. It is necessary to establish performance standards and developing a harmonized set of rules and regulations to provide a rigorous discipline of monetary and financial markets, and certification of financial instruments that are introduced into the market.
6. The establishment, authorization and operation process of credit rating agencies must be reassessed and have new basis. Independent bodies of authorisation and accreditation of rating agencies must be established. And this, because through their activity they can fundamentally influence the lives of millions of people. It is necessary to rethink institutional rating agencies and their functioning on the basis of harmonized procedures and subjecting them to control and authorization from a competent, autonomous and independent international authority.
7. The establishment of a civic or government control of IMS is necessary and have strengthened the role of the states in the functioning of the new system.
8. We believe that the financial transaction tax exchange and establish a solidarity fund could end arbitrariness and disorder in these markets. These measures should be subject to scientific debate and public debates.

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Análise Fundamentalista Em Empresa "Pontocom" Brasileira: Um Estudo Da Relação Entre Indicadores Contábeis E Preços Das Ações

By Gilberto Crispim Da Silva, Celma Duque Ferreira, Alan José De Moura Silva & Raimundo Nonato Rodrigues
Universidade Federal De Goiás - UFG,Romania

Abstract - This research is a case study, which seeks to determine whether the fundamental analysis can contribute to understanding the behavior of share prices of dotcoms Brazil. Trying to answer whether a relation between the stock prices of a company "dot" and its main Brazilian accounting indicators? This study made use of the deductive method with literature search and exploratory, with the completion of a case study focused on a technology company in Brazil. We calculated the correlation between stock prices and company values such losses, the indicators of liquidity and debt, as well as Tobin's Q.

Keywords : *dot-coms; indicators; stock prices.*

GJMBR-A Classification : *JEL Code: G02.*

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Análise Fundamentalista Em Empresa "Pontocom" Brasileira: Um Estudo Da Relação Entre Indicadores Contábeis E Preços Das Ações

Gilberto Crispim Da Silva [α], Celma Duque Ferreira [σ], Alan José De Moura Silva [ρ] & Raimundo Nonato Rodrigues [ω]

Resumo- A presente pesquisa trata de um estudo de caso, onde busca verificar se a análise fundamentalista pode contribuir para a compreensão do comportamento do preço das ações de empresas "pontocom" brasileiras. Procurando responder se há relação entre os preços das ações de uma empresa "pontocom" brasileira e seus principais indicadores contábeis? Este estudo utilizou-se do método dedutivo, com pesquisa bibliográfica e exploratória, com a realização de estudo de caso focado em uma empresa de tecnologia brasileira. Calculou-se a correlação entre os preços das ações dessa empresa e os valores dos prejuízos, os indicadores de liquidez e endividamento, bem como o Q de Tobin. Conclui-se que a análise fundamentalista pode contribuir para a compreensão do comportamento do preço das ações de empresas "pontocom" brasileiras, tendo em vista que há relação significativa entre tais preços com diversos indicadores contábeis da empresa estudada.

Palavra Chave: *empresa pontocom; indicadores; preços de ações.*

Abstract- This research is a case study, which seeks to determine whether the fundamental analysis can contribute to understanding the behavior of share prices of dotcoms Brazil. Trying to answer whether a relation between the stock prices of a company "dot" and its main Brazilian accounting indicators? This study made use of the deductive method with literature search and exploratory, with the completion of a case study focused on a technology company in Brazil. We calculated the correlation between stock prices and company values such losses, the indicators of liquidity and debt, as well as Tobin's Q. It is concluded that fundamental analysis can contribute to understanding the behavior of the stock price of dotcoms in Brazil, considering that there is significant relationship between those prices with various indicators studied the company's accounting.

Keywords: *dot-coms; indicators; stock prices.*

I. Introdução

As empresas "pontocom" foi uma coleção de companhias recém-criadas no auge da exploração comercial da internet, que comercializavam, em sua maioria, produtos ou serviços relacionados de alguma maneira com a internet. Elas proliferaram na explosão dot-com (dot-com boom) do final da década de 1990, em tecnologias, empresas e ações com ela relacionadas. O nome deriva do fato que várias dessas empresas tenham o sufixo TLD ". com" em seus nomes.

A sigla TLD, do inglês top-level domain, é um dos componentes dos endereços de Internet. Cada nome de domínio na Internet consiste de alguns nomes separados por pontos, e o primeiro desses nomes é o domínio de topo, ou TLD. Por exemplo, no nome de domínio exemplo.com, o TLD é com (ou COM, visto que nos TLDs a capitalização é ignorada).

As empresas Pontocom, termo originalmente aplicado a empresas exclusivamente virtuais, a exemplo da Submarino ponto com, passou a ser usado para se referir não só às companhias que iniciaram a comercialização de produtos e serviços na web, mas também para mencionar as empresas que são hoje referência neste canal de vendas, ainda que não sejam exclusivamente virtuais, como por exemplo, as Lojas Americanas, tradicional varejista no Brasil.

Todo site com tal sigla significa que ele é comercial. Tudo isso veio a consolidar no dito "estouro da bolha" em abril de 2000, com bastante impacto na Bolsa de Valores (NASDAQ). Companhias ou empresas ponto com, também chamadas pelo termo anglófono dot-com (dotcom ou redundantemente dot.com) são empresas de comercialização eletrônica que exploram a comercialização serviços ou produtos na Internet.

Segundo Damodaram (2000), é possível a avaliação de qualquer empresa, porém há três grupos de empresas em que se torna mais difícil de realizá-la, são as que: apresentam prejuízos, não possuem histórico significativo, e possuem poucas empresas comparáveis ou nenhuma. O autor conclui que a questão chave não é se estas empresas podem ser avaliadas, mas sim se as pessoas estão dispostas a conviver com avaliações que dão margem a muitas interpretações.

Afirma ainda que aqueles que se arriscam a fazer tais avaliações estão mais preparados para enfrentar a volatilidade das ações, demonstrando que, no caso em pauta, pode-se utilizar o método dos fluxos

Authors α σ ρ ω: Universidade Federal De Goiás – UFG.
e-mail: crispim@ufg.br

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de caixa descontados, com alguns ajustes e o método baseado em múltiplos. Mas alerta sobre os perigos inerentes a esse último método de avaliação. Um dos métodos mais utilizados para realizar avaliações de empresa é o método dos fluxos de caixa descontados - FCD, porém há defensores e contraditores, que argumentam sobre suas qualidades e fragilidades.

Na opinião de Martins (2001) dentre os modelos enumerados, o FCD é tido como o que apresenta a efetiva capacidade de geração de riqueza de determinado empreendimento. Mas para Santos & Pamplona (2001) o modelo não pode captar o valor da flexibilidade administrativa, ou seja, as diferenças entre o que foi previsto e o que de fato ocorreu e que os executivos não investem em projetos apenas pelo fato de apresentar valor presente líquido positivo.

Nesse sentido, há quem defenda a importância do valor presente, Afirma Assaf Neto (2003), que a empresa ou um ativo em particular são avaliados por sua riqueza econômica que deve ser expressa pelo seu valor presente, a partir dos fluxos de caixa esperados para o futuro e considerando uma taxa de atratividade que representa o custo de oportunidade do investidor.

Na opinião de Endler (2004), embora esse seja o método mais utilizado para obtenção do valor da empresa é comum verificar-se na prática a utilização de taxas de atratividade incorretas, levando a resultados inconsistentes.

Todos esses argumentos enriquecem a discussão sobre o tema, mas é bom considerar a necessidade de sensatez ao escolher o método de avaliação a ser utilizado. Afirma Martins (2001), que os diversos métodos não devem ser tratados como substitutos uns dos outros, mas como complementares, cabendo ao decisor se valer do máximo de informações possíveis para subsidiar suas decisões de investimento.

No caso de empresas que se caracterizam pelas dificuldades apontadas por Damodaram, têm-se as "pontocom" como um bom exemplo, especialmente quanto ao fato de apresentarem prejuízos contábeis por diversos exercícios.

Diante do exposto, a presente pesquisa busca verificar se a análise fundamentalista pode contribuir para a compreensão do comportamento do preço das ações de empresas "pontocom" brasileiras.

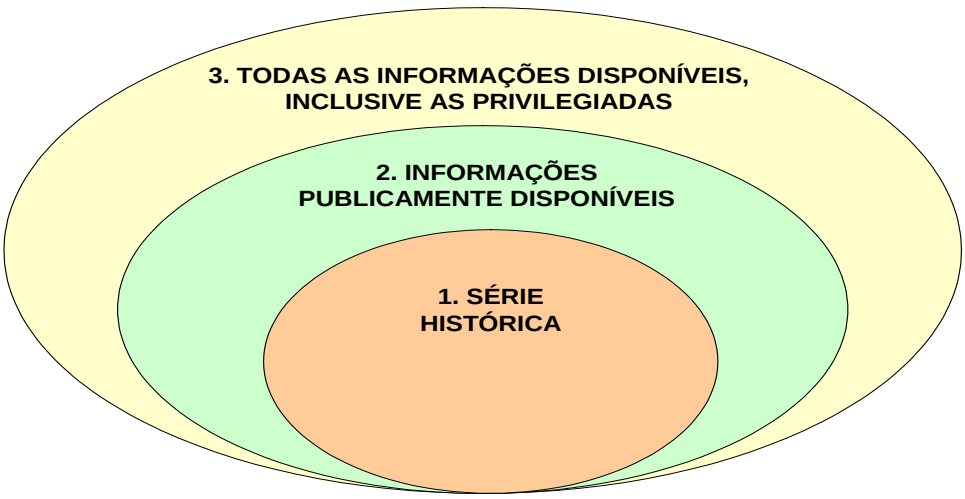
Nasce assim a questão de pesquisa: Haverá relação entre os preços das ações de uma empresa "pontocom" brasileira e seus principais indicadores contábeis?

II. Fundamentaçao Teórica

a) Mercados Eficientes E Análise Fundamentalista

Ahipótese dosmercados eficientes foi propostapor Eugene F.Famaem 1969. Fama (1976) demonstra que o preço de uma ação representa o equilíbrio entre a oferta e a procura por este ativo, bem como reflete informações da empresa num momento determinado.

Segundo Juchem Neto (2001) a hipótese dos mercados eficientes consiste na verificação de quais informações disponíveis no sistema econômico estão incorporadas no preço das ações. Assim, classifica tais informações conforme a seguinte representação gráfica:



Prossegue afirmando que essa hipótese apresenta-se de três formas: a fraca, a semi-forte e a forte. Na fraca, a série temporal do preço dos títulos está refletida no preço dos títulos. Na semi-forte, todas as informações publicamente disponíveis estão refletidas no preço dos títulos, incluem-se nesse caso as informações contábeis. Na forte, pressupõe-se que todas as informações disponíveis, inclusive as informações privilegiadas, estão refletidas no preço dos títulos.

Segundo Minardi (2001) diversas pesquisas internacionais afirmaram que não havia um padrão previsível de comportamento do preço das ações, pois esses aparentemente evoluíam aleatoriamente. Esse

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comportamento aleatório, ou random walk, indicava que o mercado funcionava bem, que era eficiente, e que os preços das ações refletiam as informações correntes. Assim, não seria possível ter retornos anormais positivos significativos adotando estratégias de investimento com base no comportamento de preços passados. Mas, recentemente há casos que afirmam justamente o contrário.

Pesquisando o mercado brasileiro esse autor concluiu que existe certa previsibilidade em examinar retornos passados, e que essa previsibilidade resulta em ganhos econômicos significativos. Entretanto, Ross, Westerfield e Jaffe (2002) argumentam que o baixo custo e a relativa facilidade de encontrar padrões de comportamento em preços, fariam com que não se obtivessem lucros extraordinários analisando apenas as séries temporais, pois todos o fariam e assim os lucros desapareceriam com o passar do tempo.

Penman (2004) afirma que a análise fundamentalista pode reduzir o risco de pagar muito por uma ação ou vender por pouco dotando o investidor com informações sobre o valor intrínseco da ação. A análise fundamentalista estuda as causas que fazem os preços variarem de forma ascendente ou descendente, partindo do pressuposto de que existe uma correlação lógica entre o valor intrínseco de uma ação e o seu valor de mercado (FAMA, 1995).

Nesse sentido, Chan et al (1991) verificaram a capacidade de explicação de quatro variáveis fundamentalistas nas variações dos retornos médios das ações no mercado japonês: índice lucro por ação/preço, valor de mercado, índice valor patrimonial da ação/preço e índice fluxo de caixa por ação/preço, concluindo que o índice lucro por ação/preço, o índice valor patrimonial da ação/preço e o índice fluxo de caixa/preço apresentam relação positiva com a rentabilidade das carteiras, enquanto a variável valor de mercado apresenta relação inversa.

No Brasil, pesquisa realizada por Schiehll (1996) investigou se a divulgação de demonstrações financeiras de uma empresa de capital aberto produz efeitos no comportamento do preço de suas ações, concluindo que os efeitos são significativos e permitem afirmar que o mercado de capitais brasileiro possui um nível de eficiência semi-forte.

Costa Júnior e Neves (1998) investigaram se outras variáveis, como valor de mercado, índice preço/lucro e índice valor patrimonial/preço, podem explicar as variações nas rentabilidades médias das ações negociadas à vista na Bolsa de Valores de São Paulo. Concluem que existiu uma influência significativa destas variáveis no apreçamento das carteiras de ações.

Balke e Wohar (2001) pesquisaram o impacto de longo prazo dos dividendos e lucros sobre os preços das ações e concluíram que a influência é maior do que normalmente se imagina. Ainda nesse sentido, Anchite e Issler (2002) reconhecem a importância da razão lucro-preço e da razão preço contábil-preço de mercado, para explicar o valor fundamental de uma empresa, pois ampliam o conjunto de informações do agente.

Entretanto, Mendonça Neto e Bruni (2004) buscaram verificar empiricamente a associação entre o retorno de ações e variáveis contábeis, como o beta contábil, o coeficiente de variação do lucro líquido e a variabilidade do retorno sobre o patrimônio líquido. Chegaram à conclusão de que a associação entre o mercado e as variáveis contábeis não é significativa e não permitem dizer que as variáveis estudadas explicam o retorno das ações.

Estudo realizado por Galdi e Lopes (2006) analisou a relação entre o lucro contábil e o preço das ações no mercado latino-americano. Concluindo que as evidências apontam para um relacionamento de longo prazo entre o lucro e os preços das ações. Contudo, afirmam que não se pode estabelecer uma relação de causação entre essas duas variáveis.

Segundo Galdi et al.(2006) muitas pesquisas constataram que a divulgação dos lucros contábeis impacta os preços das ações, mas não foi observada uma correlação perfeita.

Parte do motivo para a falta de correlação perfeita está no fato de que os preços captam o impacto de um conjunto de informações muito mais amplo do que o representado apenas por lucros contábeis. Por exemplo, os preços reagem a coisas tão exóticas como boatos de guerra e tão corriqueiras quanto variações da taxa de juros de Letras do Tesouro. (HENDRIKSEN e VAN BREDA, 1999).

Observa-se, então, que em circunstâncias diversificadas as variáveis contábeis em uma análise fundamentalista, têm apresentado resultados diferentes quanto à sua relação com os preços das ações.

Considerando com Galdi et al. (2006) que de acordo com a Teoria da Hipótese do Mercado Eficiente, na forma semi-forte, as informações contábeis deveriam estar refletidas nos preços das ações.

Considerando ainda que a análise fundamentalista, segundo Kühl (2007), consiste num procedimento de estudo de todas as informações que possam influenciar o valor das ações, exceto a própria evolução do preço e dos volumes de negociação das ações, a presente pesquisa busca contribuir para uma visão sobre a influência de algumas variáveis contábeis no preço das ações de empresas "pontocom" no mercado brasileiro.

b) A Crise Das Empresas "Pontocom"

Com a crise das empresas pontocom (empresas que exploram a comercialização virtual de serviços ou produtos) no início do ano de 2001, o banco central americano Federal Reserve passou a diminuir sua taxa de juros na tentativa de evitar a

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retração de consumo no país. Em meio a esse cenário, o mercado imobiliário pôde aproveitar a diminuição da taxa de juros, ganhando maior credibilidade e sustentabilidade no mercado.

Durante o intervalo de 2001 a 2004 o "boom" do mercado imobiliário se consolidou, e as taxas de juros do Federal Reservem chegaram à recordes mínimos fazendo com que bancos e investidores sentissem uma confiança extra para fornecer empréstimos e linhas de crédito.

Segundo Kindleberger (1992), uma bolha nos ativos financeiros corresponde a uma forte elevação de seus preços em processo contínuo (provocada por expectativas de elevações adicionais, que atraem novos compradores) seguida de uma forte reversão desses preços, resultando em crise financeira. Isso ocorreu no início dos anos 2000 com as empresas "pontocom", gerando forte crise financeira que redundou no fechamento de inúmeras empresas desse setor.

O problema já era anunciado, pois afirmava Lünnemann (2001) que as estimativas nas empresas da nova economia estão mais sujeitas às contingências e às projeções de crescimento de preço e de lucros realizadas nos últimos anos parecem ser irreais.

Segundo a opinião de Ayrer, Upper e Werner (2001) as empresas da nova economia são difíceis de avaliar. Não obstante essa dificuldade afirma Kaplan (2002) que em meados do ano 2000, o mercado começou a notar que as avaliações das empresas "pontocom" não correspondiam às expectativas criadas e que esse fato deu início à crise no setor. Mesmo assim, o autor dá sua contribuição em termos de modelo de avaliação de empresas "pontocom", ou seja, crê na possibilidade de avaliá-las, mas sugere cuidados.

Nesse sentido, reforça Schmitt Jr. (2002) que uma das questões mais debatidas no mercado de investimentos é se existe diferença entre a valorização e a volatilidade de ativos relacionados a empresas do mundo real e empresas do mundo virtual (nova economia). O autor compara uma empresa do mundo virtual com uma do mundo real e conclui que em determinado período as duas empresas, que são voltadas a um mesmo público, com um mesmo produto, tiveram trajetórias distintas de valorização de seus negócios, apesar de irem à mesma direção.

Segundo Martins (2005), embora as oportunidades de negócios estejam em um outro estágio e os investidores tenham amadurecido um pouco mais para lidar com estimativas de valor para estes negócios, ainda existem muitas dúvidas sobre qual a melhor maneira para precificar as empresas da nova economia.

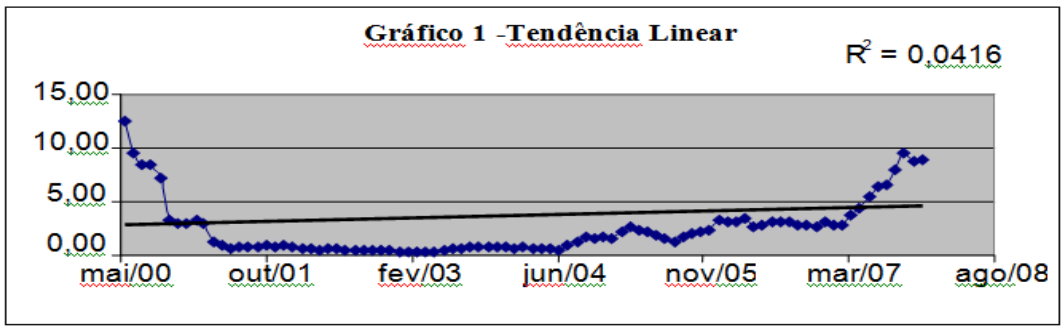
c) Ideiasnet: Evolução Do Preço De Suas Ações

A Ideiasnet S.A. iniciou suas atividades em 10 de abril de 2000 objetivando a participação no capital de outras sociedades, empreendimentos e consórcios como sócia, acionista, quotista ou consorciada. Sua atuação se dá na forma de holding de participações em projetos de Tecnologia de Informação, em diversos estágios de desenvolvimento, participando ativamente da gestão dessas empresas com suporte financeiro, operacional, estratégico, administrativo e comercial. Segundo o site corporativo da IDEIASNET:

Em oito de junho de 2000, o pregão da Bovespa abriu com uma novidade: a Ideiasnet tornou-se a primeira empresa de Tecnologia de Informação brasileira a lançar ações no mercado, sendo todas ordinárias ("IDNT3"). Atualmente, a Ideiasnet conta com um portfólio de empresas atuando nas áreas de business-to-business (B2B), business-to-consumer (B2C), infra-estrutura, wireless, desenvolvimento de softwares e Mídia&Entretenimento. (IDEIASNET, 2007)

Para se ter uma idéia sobre o comportamento do preço das ações da IDEIASNET foi realizado através do EXCEL uma análise preliminar da série histórica mensal dos preços acima citados.

Observou-se que do ponto de vista linear, logarítmico e exponencial o R^2 não é expressivo, portanto as respectivas equações não explicam adequadamente o comportamento das ações ao longo do tempo. Porém do ponto de vista polinomial observou-se que o R^2 de aproximadamente 70% é significativo e, portanto pode-se afirmar que essa série temporal apresenta uma tendência polinomial, conforme se pode observar nos gráficos um a quatro, a seguir:



Fonte : Elaboração própria baseada em dados da BOVESPA

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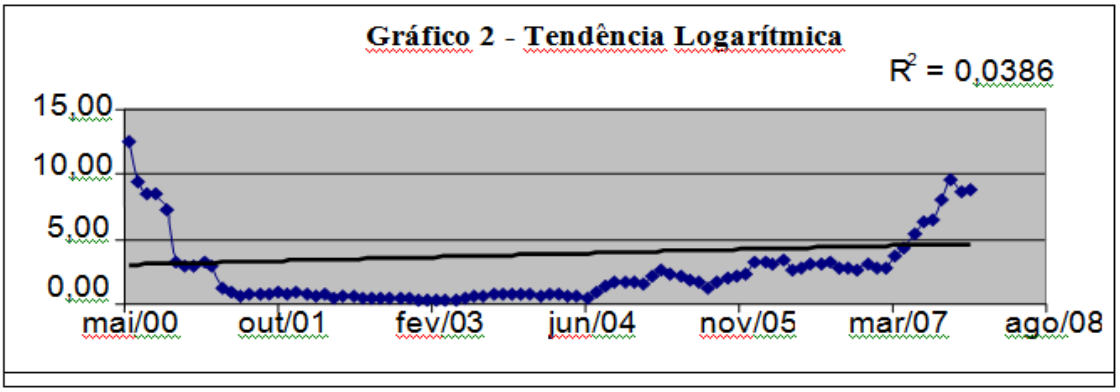
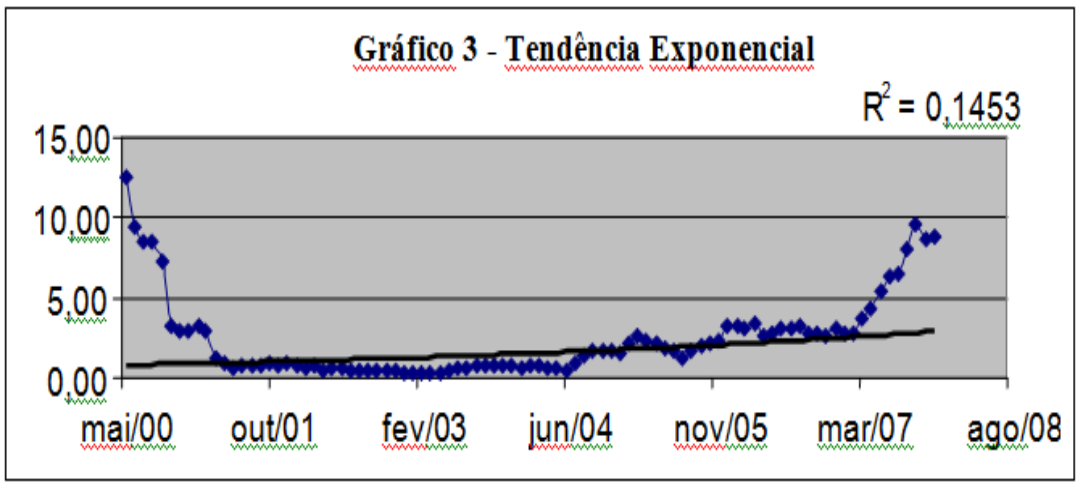
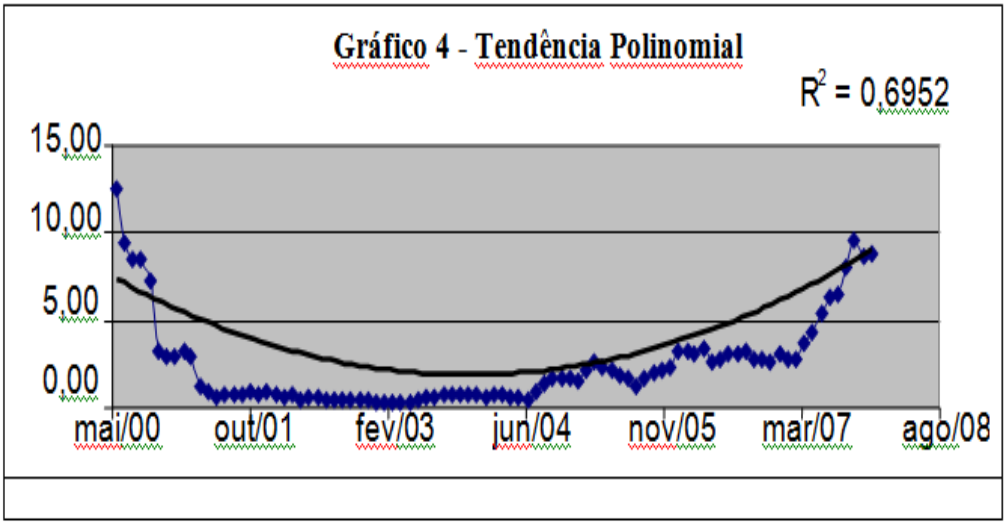


Fonte : Elaboração própria baseada em dados da BOVESPA



Fonte : Elaboração própria baseada em dados da BOVESPA



Fonte : Elaboração própria baseada em dados da BOVESPA

Fazendo uma análise qualitativa observa-se que a IDEIASNET iniciou suas atividades na Bolsa de Valores justamente no período da crise das empresas "pontocom" e demonstra ter sofrido as conseqüências da grande incerteza que marcou tal período, pois iniciou com a ação valendo R$ 12, 50 em junho de 2000, chegando a R$ 0,25 em maio de 2003. A partir daí os dados apontam para uma virada; o que antes era uma forte queda passou para uma forte alta que está em curso até os dias atuais.

O Relatório da Administração atribui o movimento de recuperação nos preços ao amadurecimento e à reestruturação da empresa:

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> O ano de 2003 foi marcado pela retomada e fortalecimento das empresas do setor de tecnologia da informação. Apesar do cenário econômico instável ao longo do ano, as empresas investidas que já estavam reestruturadas e amadurecidas encontraram espaço para crescerem e assim consolidarem os seus modelo de negócios. (IDEIASNET, 2004)

Observa-se também que nesse período estudado a empresa comportou-se de acordo com as observações de Damodaram (2000), pois vem apresentando prejuízos contábeis, os quais gradativamente têm declinado. De acordo com suas demonstrações contábeis tem-se a seguinte situação conforme a Tabela 1:

Tabela 1 : Evolução dos Lucros/Prejuízos em Reais

Tabela 1 - Evolução dos Lucros/Prejuízos em Reais	
2000	-23.909.819
2001	-8.792.478
2002	-3.557.317
2003	-6.092.238
2004	-9.726
2005	-2.217
2006	-4.127

Fonte: Elaboração própria baseada em dados da BOVESPA

d) Indicadores Contábeis

Afirma Kühl (2007) que os indicadores levantados por meio da análise das demonstrações contábeis são importantes fontes de informações para o usuário externo, já que este não tem acesso a muitas das informações geradas internamente.

Para Jiambalvo (2002), o retorno sobre o investimento é uma das principais ferramentas para avaliar o desempenho dos centros de investimentos e que tem uma vantagem sobre o lucro como medida de desempenho, pois focaliza a atenção dos gerentes não apenas no lucro, mas também nos investimentos. A utilização de indicadores de rentabilidade e não o valor do próprio lucro é defendido por Assaf Neto (2003).

No entanto, considerando que Lebas (1995) identifica, entre outros, o crescimento dos lucros como indicador de desempenho da corporação e que Damodaram (2000) considera que, em empresas as quais apresentam prejuízos históricos, a informação sobre retorno dos investimentos perde sentido, no presente estudo não se utilizou de indicadores de rentabilidade. Restringiu-se a análise aos indicadores de liquidez e de endividamento, calculado conforme Matarazzo (2003), e ao próprio prejuízo histórico.

Afirmam Famá e Barros (2000) que o q de Tobin tem sido utilizado com utilidade em diversas linhas de pesquisa e entre outras interpretações permite opinar sobre a estrutura de capital de uma empresa. Assim, acrescentou-se nessa pesquisa esse indicador, o qual foi calculado conforme o pensamento de Chung e Pruitt (1994).

III. Metodologia da Pesquisa

Para testar se existe relação entre os principais indicadores contábeis e a evolução do preço das ações ao longo do tempo, foram levantados os dados contábeis da IDEIASNET no site da BOVESPA, mais especificamente os Balanços Patrimoniais e Demonstrações do Resultado do Exercício do período de 2000 a 2006.

Obtiveram-se então os seguintes indicadores contábeis:

a) **P** - Prejuízo: obtido diretamente nas DREs;

b) **Q** de Tobin, dado por: $\frac{VMA + (VCPC - VCAC) + (VCE + VCDLP)}{AT}$, onde:

VMA = Valor de mercado das ações negociadas
VCPC = Valor contábil dos passivos circulantes
VCAC = Valor contábil dos ativos circulantes
VCE = Valor contábil dos estoques
VCDLP = Valor contábil das dívidas de longo prazo e
AT = Ativo Total.

c) **CT** - Participação de Capitais de Terceiros, dada por: $\frac{\text{Capitais de Terceiros}}{\text{Patrimônio Líquido}} x100$

d) **CE** - Composição do Endividamento, dada por: $\frac{\text{Passivo Circulante}}{\text{Capitais de Terceiros}} x100$

$\frac{\text{Ativo Permanente}}{\text{Patrimônio Líquido}} x100$

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e) **IPL** - Imobilização do Patrimônio Líquido, dado por:

f) **RNC** - Imobilização de Recursos não Correntes, dada por:

$$\frac{\text{Ativo Permanente}}{\text{Patrimônio Líquido} + \text{Exigível a Longo Prazo}} x100$$

g) **LG** - Liquidez Geral, dada por: $$\frac{\text{Ativo Circulante} + \text{Realizável a Longo Prazo}}{\text{Passivo Circulante} + \text{Exigível a Longo Prazo}}$$

h) **LC** - Liquidez Corrente, dada por: $$\frac{\text{Ativo Circulante}}{\text{Passivo Circulante}}$$

i) **LS** - Liquidez Seca, dada por:

$$\frac{\text{Disponível} + \text{Títulos a Receber} + \text{Outros Ativos de Rápida Conversibilidade}}{\text{Passivo Circulante}}$$

Em seguida efetuou-se, com o auxílio do EXCEL, o cálculo da correlação entre esses indicadores contábeis e o preço médio anual das ações da IDEIASNET. Mesmo não havendo unanimidade quanto ao nível de correlação, optou-se por classificar as correlações obtidas conforme a classificação de Collins e Hussey (2005), demonstrada na Tabela 2, a seguir:

Tabela 2 : Classificação de Collins e Hussey quanto ao nível de correlação

Tabela 2 – Classificação de Collins e Hussey quanto ao nível de correlação	
Coeficiente de correlação (r)	Interpretação
1,00	Correlação positiva perfeita
0,90 a 0,99	Correlação positiva muito alta
0,70 a 0,89	Correlação positiva alta
0,40 a 0,69	Correlação positiva média
0,01 a 0,39	Correlação positiva baixa
0	Correlação nula
-0,01 a -0,39	Correlação negativa baixa
-0,40 a -0,69	Correlação negativa média
-0,70 a -0,89	Correlação negativa alta
-0,90 a -0,99	Correlação negativa muito alta
-1,00	Correlação negativa perfeita

Fonte: Baseado em dados de Collins e Hussey (2005)

Este estudo utilizou-se do método dedutivo, com pesquisa bibliográfica e exploratória, com a realização de estudo de caso focado em uma empresa de tecnologia brasileira e, portanto não permite generalizações. No entanto, apresenta indicativos das relações existentes entre o comportamento dos preços das ações em empresas "pontocom" brasileiras e seus indicadores contábeis, que devem ser testados posteriormente em outras pesquisas, considerando um grupo maior de empresas do setor.

IV. Análise dos Resultados

a) Calculando As Correlações

Com o auxílio do Excel, foram realizados os cálculos de correlação entre diversos indicadores contábeis e os preços médios anuais das ações, conforme as tabelas a seguir.

Tabela 3 : Comparação entre preço médio das ações e Lucros/prejuízos

Tabela 3 – Comparação entre preço médio das ações e Lucros/prejuízos		
Exercício	Preço médio anual das ações	Lucros/prejuízos anuais
2000	7,50	-23.909.819,00
2001	1,43	-8.792.478,00

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2002	0,55	-3.557.317,00
2003	0,53	-6.092.238,00
2004	0,99	-9.726,00
2005	1,99	-2.217,00
2006	3,00	-4.127,00
CORRELAÇÃO = -0,791362201		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 4 : Comparação entre preço médio das ações e Q e Tobin

Tabela 4 – Comparação entre preço médio das ações e Q e Tobin		
Exercício	Preço médio anual das ações	Q de Tobin
2000	7,50	5,40
2001	1,43	1,37
2002	0,55	0,78
2003	0,53	1,12
2004	0,99	1,52
2005	1,99	2,71
2006	3,00	3,51
CORRELAÇÃO = 0,960153639		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 5 : Comparação entre preço médio das ações e Indicador de

Tabela 5 – Comparação entre preço médio das ações e Indicador de Participação de Capital de Terceiros		
Exercício	Preço médio anual das ações	Participação Capital Terceiros
2000	7,50	12,93
2001	1,43	11,82
2002	0,55	15,84
2003	0,53	26,27
2004	0,99	40,42
2005	1,99	3,16
2006	3,00	40,58
CORRELAÇÃO = -0,19		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 6 : Comparação entre preço médio das ações e Indicador de

Tabela 6 – Comparação entre preço médio das ações e Indicador de Composição de Endividamento		
Exercício	Preço médio anual das ações	Composição Endividamento
2000	7,50	100,00
2001	1,43	90,80
2002	0,55	36,63
2003	0,53	55,72
2004	0,99	22,46

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2005	1,99	64,57
2006	3,00	84,27
CORRELAÇÃO = 0,70		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 7 : Comparação entre preço médio das ações e Indicador de

Tabela 7 – Comparação entre preço médio das ações e Indicador de Imobilização do Patrimônio Líquido		
Exercício	Preço médio anual das ações	Imobilização do PL
2000	7,50	30,70
2001	1,43	84,61
2002	0,55	99,36
2003	0,53	108,03
2004	0,99	100,23
2005	1,99	69,78
2006	3,00	73,38
CORRELAÇÃO = -0,96		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 8 : Comparação entre preço médio das ações e Indicador de

Tabela 8 – Comparação entre preço médio das ações e Indicador de Imobilização de Recursos não Correntes		
Exercício	Preço médio anual das ações	Imobilização Recursos não correntes
2000	7,50	30,70
2001	1,43	83,70
2002	0,55	90,30
2003	0,53	96,77
2004	0,99	76,31
2005	1,99	69,01
2006	3,00	68,97
CORRELAÇÃO = -0,96		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 9 : Comparação entre preço médio das ações e Indicador de Liquidez Geral

Tabela 9 – Comparação entre preço médio das ações e Indicador de Liquidez Geral		
Exercício	Preço médio anual das ações	Liquidez Geral
2000	7,50	6,36
2001	1,43	2,30
2002	0,55	1,04
2003	0,53	0,69
2004	0,99	0,99
2005	1,99	10,56
2006	3,00	166
CORRELAÇÃO = 0,46		

Fonte: Elaboração própria baseada em dados da BOVESPA

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Tabela 10 : Comparação entre preço médio das ações e Indicador de Liquidez Corrente

Tabela 10 – Comparação entre preço médio das ações e Indicador de Liquidez Corrente		
Exercício	Preço médio anual das ações	Liquidez Corrente
2000	7,50	3,76
2001	1,43	1,66
2002	0,55	2,04
2003	0,53	1,20
2004	0,99	3,88
2005	1,99	10,43
2006	3,00	1, 06
CORRELAÇÃO = 0,11		

Fonte: Elaboração própria baseada em dados da BOVESPA

Tabela 11 : Comparação entre preço médio das ações e Indicador de Liquidez Seca

Tabela 11 – Comparação entre preço médio das ações e Indicador de Liquidez Seca		
Exercício	Preço médio anual das ações	Liquidez Seca
2000	7,50	3,64
2001	1,43	1,33
2002	0,55	0,73
2003	0,53	0,43
2004	0,99	3,37
2005	1,99	8,51
2006	3,00	0,18
CORRELAÇÃO = 0,21		

Fonte: Elaboração própria baseada em dados da BOVESPA

b) *Classificação Dos Indicadores Contábeis*

Assim, foram transferidas as correlações de cada indicador contábil trabalhado, para a Tabela 12 de classificação, a seguir, conforme Collins e Hussey (2005):

Tabela 12 : Classificação dos indicadores contábeis, conforme correlação com os preços médios anuais das ações

Tabela 12 – Classificação dos indicadores contábeis, conforme correlação com os preços médios anuais das ações										
Coeficiente de correlação (r)	Interpretação	P	Q	CT	CE	IPL	RNC	LG	LC	LS
1	Correlação positiva perfeita									
0,90 a 0,99	Correlação positiva muito alta									
0,70 a 0,89	Correlação positiva alta									
0,40 a 0,69	Correlação positiva média									
0,01 a 0,39	Correlação positiva baixa									
0	Correlação nula									
-0,01 a -0,39	Correlação negativa baixa									

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-0,40 a -0,69	Correlação negativa média									
-0,70 a -0,89	Correlação negativa alta									
-0,90 a -0,99	Correlação negativa muito alta									
-1,00	Correlação negativa perfeita									

Observa-se então que os prejuízos contábeis apresentam uma correlação negativa alta, donde se infere que nesse caso quanto maior o prejuízo, menor o preço das ações.

O Q de Tobin apresenta correlação positiva muito alta, o que não causa estranheza, tendo em vista que em seu numerador apresenta o valor de mercado das ações. Mas, alterações expressivas nos demais componentes do numerador poderiam afetar essa correlação.Dessa forma, quanto maior o Q de Tobin, maior o preço das ações.

A Composição do Endividamento apresenta correlação positiva alta, donde se infere que nesse caso quanto maior o percentual de obrigações de curto prazo, maior o preço das ações.Outras pesquisas poderão explicar o porquê desse comportamento, que a princípio parece contraditório.

Já a Imobilização do Patrimônio Líquido e dos Recursos não Correntes, apresentam ambas uma correlação negativa muito alta, levando-se a inferir que nesse caso quanto maior a aplicação no Ativo Permanente, menor o preço das ações. Por outro lado, a Participação de Capitais de Terceiros apresenta correlação negativa baixa e os indicadores de Liquidez Corrente e Seca apresentam correlação positiva baixa, enquanto a Liquidez Geral apresenta uma correlação positiva média.Nesses casos, os resultados não foram expressivos.

V. Conclusão

O presente estudo apresenta como limitação o fato de não poder generalizar os resultados, tendo em vista que se trata de um estudo de caso.Porém, apresenta indicativos de relações entre indicadores contábeis e as variações nos preços das ações de empresas "pontocom", no Brasil.

Entre os indicativos observou-se que, confrontados com os preços médios anuais das ações da IDEIASNET: os prejuízos apresentam uma correlação negativa alta; o Q de Tobin apresenta correlação positiva muito alta; a Composição do Endividamento apresenta correlação positiva alta, a Imobilização do Patrimônio Líquido e dos Recursos não Correntes, apresentam ambas uma correlação negativa muito alta. Esses resultados demonstram que esses indicadores se relacionam de forma expressiva com os preços das ações.

Por outro lado, a Participação de Capitais de Terceiros apresenta correlação negativa baixa e os indicadores de Liquidez Corrente e Seca apresentam correlação positiva baixa, enquanto a Liquidez Geral apresenta uma correlação positiva média.Nesses casos, os resultados não foram expressivos.

Diante do exposto, pode-se concluir que a análise fundamentalista pode contribuir para a compreensão do comportamento do preço das ações de empresas "pontocom" brasileiras, tendo em vista que há relação significativa entre tais preços com diversos indicadores contábeis da empresa estudada.Outras pesquisas poderão aprofundar o assunto, especialmente quando ampliadas para número significativo de empresas semelhantes à IDEIASNET.

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Considerations Regarding Foreign Investments in Romania in the Year 2014

By Moldovan Iosif

Abstract- The financial crisis strongly marked states around the world due to the increasing indebtedness of the states and of the banks, which went through, with few exceptions, a prolonged recession. The year 2014 seems to mark a new economic cycle, and the turnaround is seen in Romania, a state which has made progress in reinforcing and stabilizing the public finance sector, as well as resuming economic growth which must be followed by economic development. The concept of economic development is more complex than economic growth, which involves the design of certain directions for long-term sustainable growth, based on the optimum use of available resources, on the continuous development of innovative potential and human capital, reducing social inequalities, etc., where the investment process has a particularly important role..

Keywords: public finance stabilization, economic development, business environment, sustainable growth.

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Considerations Regarding Foreign Investments in Romania in the Year 2014

Moldovan Iosif

Abstract- The financial crisis strongly marked states around the world due to the increasing indebtedness of the states and of the banks, which went through, with few exceptions, a prolonged recession. The year 2014 seems to mark a new economic cycle, and the turnaround is seen in Romania, a state which has made progress in reinforcing and stabilizing the public finance sector, as well as resuming economic growth which must be followed by economic development. The concept of economic development is more complex than economic growth, which involves the design of certain directions for long-term sustainable growth, based on the optimum use of available resources, on the continuous development of innovative potential and human capital, reducing social inequalities, etc., where the investment process has a particularly important role.

From this perspective, analyzing factors that influence the attraction of foreign investments, as a vector of economic development in the international context is the most important –this will be the main objective of this paper.

Keywords: public finance stabilization, economic development, business environment, sustainable growth.

I. The Global Economy after Recession – Factors of Influence

Considering the fact that the worlds' economy went through an adjustment resulted due to the economic recessional situation, 2013 in retrospect, appears to have been a year of economic transition towards a new cycle, registering an evolution in the context of international financial markets. The MSCI Word Index grew approximately 20% from January to the half of December 2013, reaching the 2007 year-end maximum.

Signs of resuming the new economic cycle are much more visible in the real economy, especially in the developed economies, which is confirmed by a number of issues such as:

- During the 2nd quarter, the economic Euro zones have emerged from the recession caused by sovereign debt;
- dynamics of some U.S. economic sectors (real estate, auto industry) and coping with fiscal-budgetary problems that it used to face;
- a record level of exports in the United States and in the Euro area;
- the stabilization of China's economy, after years of decline - in 2011 and 2012;
- Japans implementation of macroeconomic (under the aegis of Abenomics), on behalf of the aggregate supply and demand.
- The evolution of the global economic growth in the period ahead will be influenced by a number of factors such as:
- The coherent mix of politics in the United States, generated by the government debt, namely the requirement that FED bringing up the inflection for monetary policy in 2014;
- the way to counter the effects of deflation in the Euro zone;
- maintaining the current statue of both the vulnerability of emerging economies and those in the developing countries, within reasonable limits;
- avoiding the damage of the financial markets, affecting the real economic investment effort;
- avoiding and/or keeping under control the geopolitical risks;
- the gradual transition from economic austerity policies to the economic policy of expansion in the states of the Euro area;
- solving the problems in the credit sphere, given Europe's economic dependence on finance and banking;
- the attitude of China, following the development of the 18th Congress announcing a series of reforms in the economy, in order to contribute to a better allocation of resources and thereby stabilizing and reaccelerating economic growth;
- how Japan will implement the economic policies aimed at supporting sustainable economic recovery measures in terms of monetary policy (with the objective of determining the convergence of inflation to a level of 2%/year over the next two years) and structural policies;
- the development of Russia's economic growth.

II. Economic Growth Forecast for Romania in Year 2014

After the latest appraisal, Romania's economy grew 3.5 % during 2014 compared to 2012, exceeding even the best estimates[1].

Author: e-mail: iosif.moldovan@ulbsibiu.ro

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Looking at the prognostics that concern the evolution of Romania's economy in the following period of time[2], the Economist draws attention as having the most optimistic one concerning the GDP growth, of 3.3% in year 2014, showing an increase in people's confidence and the growth of exports.

Likewise, the International Monetary Fund and the European Commission[3] place their stake on a 2.1% growth, while the European Bank for Reconstruction and Development improved their estimations from 2.2% to 2.4 %, as it anticipated in the spring of 2013, specifying that the prognostic is reliant to the evolution of the Eurozone.

World Bank's prognostic is a 2.5 % growth for year 2014, but this could be better if the 2014 agricultural year will be similar to the 2013 one, when the wheat, maize and barley crops helped with the growth level of exports[4]. In year 2014, Romania's economy should be driven by a higher rate of structural UE funding, by an enhancement of construction (both commercial and residential).

Another instrumental matter to economic growth can be brought by consumption; even if we consider that the internal demand had a low increase during the last years, but the inflation registers minimum levels (1.55% in 2013), the interests are down and the unemployment rates are stable compared to 2007-2008. The optimist forecasts offer confidence, if we consider the reduction of gaps in the economic development; Romania needs an economical growth of 3-4% in the following period.

Positive signals are to be seen even in the evolution of direct foreign investments registered in Romania, which fell during the critical times[5]. Considering their worth in 2013 was 2.71 billion euro, up by 26.8% in regards to 2012 reaching the maximum in four years, since the beginning of the recession, as per the information from the National Bank of Romania[6].

III. Romania and the Quality of Business Environment

A major role in the effort of attracting foreign investments is played by the quality of the business environment. From this perspective, the improvement of the business environment through creating a „friendlier" one did not evolve well after 2009. Therefore, Romania dropped to position 73[7] in the top of states which have a good business climate.

If the low level of taxes in Romania is still a trump for investors, not the same thing can be said about the general climate given to them on the local market, most shortcomings are generated by the high cost of connecting to electricity, the high number of taxes and the difficulty with which you can get notes and papers necessary for constructions.

Regardless the signaled negative aspects, the World Bank's report was that in 2013, Romania managed to facilitate the process of establishing a company through transferring the issue of fiscal records from the Agency of Fiscal Administration to Trade Register and diminishing the frequency of tax payments from 4 to 2 times a year.

The same report shows that Romania has good outcome concerning the duration of credit approval, at protecting investors and the facility with which you can set a company up.

So, to open a business in Romania, five procedures are needed and about eight days, unlike Ukraine where there are six procedures and a twenty one days wait period for the paperwork.

Romania's' "Doing Business ranking" international classification, stirs concern at the European Commission[8], which points out that "The business environment in Romania must be significantly improved to attract more direct foreign investment and stimulate the process of catching up to the other EU countries "[9].

Therefore, the European Commission agreed that national authorities should take measures in four important directions, which seem to be showing a deficit, namely:

- the improvement of regulations related to the quality of business and the reduction of administrative tasks for small and middle enterprises.
- the improvement of financial access for small and middle sized enterprises and supporting said enterprises when they intend to export
- the improvement of land register system in order for the territorial market to work better

[1] www.zf.ro, accessed in 14.02.2014
[2] www.zf.ro, accessed in 10.12.2013
[3] The International Monetary Fund, in his estimation, it's expected that evolution should be decisively influenced by the growth of internal demand and not by exports. Additionally, the European Commission anticipates that PIB will increase with 2.1 % in 2014, and the growth will continue in 2015 to 2.4%, with a much more significant contribution from internal demand. Www.zf.ro, accessed in 10.12.2013
[4] www.dailybusiness.ro accessed in 06.02. 2014
[5] The highest level of direct foreign investments in Romania was recorded in 2008, of 9496 bilion euros, and compared to this maximum level foreign investment dropped to 3.48 bilion euros in 2010, to 1.6 bilion euros in 2011 and 1.8 bilion in 2012. www.zf.ro, accessed in 12.02.2014
[6] http// zf.ro, accessed in12.02. 2014
[7] According to the Doing Business ranking, conducted by the World Bank, on a sample of 189 countries, Romania has lost 28 seats, from 45 in 2009, at 73 in 2013, www.zf.ro, accessed at 19.11.2013
[8] View the position expressed by the staff Directorate General Economics and Finance, in the report published in 20.11.2013 where the evolution of Romania is analyzed in the standby agreement with the European Commission and the IMF
[9] The European Commission report for Romania, published in 20.11, 2013

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- creating a more attractive research environment for private investments through improving the stimuli received from inventions

Suboptimal management for state companies

In analyzing the investment framework in Romania it's important to notice the role that the state companies detain international economy and arrears to the budget records, have a suboptimal management and reforming them was influenced by the lack of consistency and coherence of the political factors decision. The representatives of the European Commission reported that retain that "State Enterprises play an important role in the economy of Romania, but their management is optimal. Reforms are therefore necessary, but have been slow and lisp site of ambition. Improvements in corporate governance, through the appointment of managers and boards of Directors, professionals have been limited. Selling stakes in State enterprises has suffered due to failures and changes of strategy[10].

The general business climate may be analyzed in the light of the observations made by

The European Bank for reconstruction and development in the annual report that examines the evolution of the States in 2012 that is active[11], it finds that in Romania:

- Banks have withstood the economic difficulties of recent years, and the bank supervision has been strengthened significantly and guaranteeing deposits has been brought to the EU standards.
- Romania needs to step up efforts aimed at lowering non-performing loans rate, which represents over 20% of the total balance of the loan, but the risks are outweighed by the high level of provisioning.
- There has been some progress in fighting corruption and reforming the judiciary, however, efforts in this area should be continued.
- The Government has made limited progress in terms of privatizations, while the energy sector privatization has advanced in parallel with progress in the liberalization of prices for electricity and gas, the sale of CFR and Oltchim had failed.
- Fiscal Developments in Romania was "impressive", considering that Romania has managed to emerge from the excessive deficiency procedure by the European Commission and has shown determination to control finances, after breaches during the crisis between the years 2008-2009;
- The absorption of EU funds remains at a low level, in spite of attempts to increase the access rate. More efficient use of European funds would improve prospects for economic growth.
- Romania's business environment remains difficult, and companies are faced with problems in day-to-day operations, a situation that probably contributes to the difficulties of the country to attract foreign direct investment;
- Romania continues to be heavily exposed to developments in the euro area, but prospects remain favorable environment sustainability, reflecting diversified economy and high growth potential due to low level of per capita GDP, less than half the EU average calculated at purchasing power parity, show the EBRD;
- The legal framework for the financing of SMES has been improved.

The improvement of procedures regarding acquisitions and concessions in U.S

When to make use of public revenues and public investment process in the European Union, the European Parliament adopted in early 2014 a legislative package for amendment of European directives in the field of public procurement and the award of the concession contract [12].

The new measures relating to procurement matters relating to clarifying the approach of the award criterion "most economically advantageous tender [13] ", new rules on subcontracting[14], mechanisms designed to simplify the procedure for the preparation of tenders[15], a simpler procedure for the submission of tenders, a

[10] The General Directorate for Economy and Finance of the EC, in the report published in 20.11.2013, where the evolution of Romania is analyzed in the standby agreement with the European Commission and the IMF.

[11] www.zf.ro; accessed in 21.11.2013.

[12] The Directive was adopted for the award of the contract the concession, until now covered only partially at European level and has entered into force EC Regulation 1336/13/12/2013 amending Directives on public procurement which have increased the thresholds for which must be applied tendering procedures; from 1 January 2014, the Regulation will apply immediately and directly in Romania.

[13] The new rules stipulate that public authorities are required to include criteria relating to the quality, accessibility, environment and innovative character, taking into account the price and the costs of the acquisition. Wedge currently these criteria were provided on a discretionary basis and not binding. At the same time, change the "lowest price" in the "lowest cost" which may relate only to the price (as it is happening currently) but may also be an approach based on life-cycle cost.

[14] New rules on subcontracting, providing the possibility of contracting authorities to pay directly for services and subcontractors work provided the principal contractor and clarifications in respect of substantial modification of the contract cannot, without organizing a new procurement procedure, stating that under certain conditions strictly laid down by the directive, it becomes possible without the need of a new procedure.

[15] The procedure for the submission of tenders by companies will be simpler, proof that the criteria for participation should be made initially on the basis of declarations on honor and only the winner will be obliged subsequently to present original documents. In order to facilitate cross-border tendering procedures introduced certification online Archive (e-Cergis), and the possibility of obtaining European passports for public procurement. The Commission considers that the new measures will reduce the administrative burden of companies with over 80%.

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better correlation of[1] the effective procurement requirements with those of horizontal policies, such as environmental protection, social protection and innovation, and new conditions of participation whose failure could lead to the exclusion of participants.

The concession contracts, the European Directive has proposed that the major objective to provide easier access to concession contracts through the harmonization of the principles of the Treaty on the functioning of the EU and to eliminate various interpretations thereof at national level. In this sense it defines concession contract related to the notion of operational risk transferred to the lessee, including specifically what are the risks considered "operational risk".

In order to increase the degree of transparency of public procurement, the existing value in our legislation for publication in the official journal of the European Union of the notice of invitation for public works concession is extended to all types of contracts (including contracts of concession of services). In the same sense, the Directive establishes the obligation of publication in the official journal of the European Union of the notice of the award of the concession contracts of services whose value is equal to or greater than EUR 2,500,000. Romania will have at their disposal for a period of 24 months after the entry into force of the new regulations for their implementation in national legislation. The speed with which they will be implemented and respected will influence the position of the Romanian State recipient of foreign direct investment, known as the level of corruption is high in this sector.

IV. China and Strategic Investments in Romania

A factor of greater media, at least on the investment climate in Romania is China's position that, after 20 years of economic growth has opened its intention to invest in Romania. The purpose of China which recorded economic supported development after 1990[16], is to invest in Romania in the fields of nuclear technology, tip, railway transport and build highways, under the conditions in which these sectors requires significant financial resources that Romania doesn't have due to objective reasons as well as subjective.

In a position to support major government investment projects, China considers Romania a "bridgehead" for the rest of Europe[17] and said declared intentions have resulted through a series of agreements signed to date of 25.11.2013 relating to different sectors of the economy.

In the energy sector undertaken projects relate to:

- the construction of two new nuclear units, units 3 and 4 from Cernavoda worth 6.5 billion euros, partners Nuclearelectrica and China General Nuclear Power Corporation.
- The construction of a hydro-electric pumping with 1,000 MW installed power, in Cluj County Hydroelectric Tarniţa-Lăpuşteşti, partners: Hydro and Sinohydro Corporation with a value of about 1 billion euros
- Construction of a new 500-MW energy group, partners: Energy complex Oltenia and China Huadian Corporation, with a value of 1 billion euros
- the power station rehabilitation Mintia , partners: Hunedoara energy complex and China National Electric Engineering, worth 200 million euros.
- In the transport sector was discussed the intention to build a rail line for high-speed trains linking up Constanta, Arad, in Budapest. An important addressed area was related to exports of livestock and related products in China, which offer a particularly generous market[18].

V. Investment Opportunities in 2014

As of 2013, the investment process in Romania, is strongly influenced by the process of stabilizing the banking sector, which provides the certainty that keeping savings in bank deposits is no longer advantageous, nor as safe (e.g. Cyprus) nor as yield [19]. From this perspective, it becomes important to identify investment opportunities that bring savings and profits that currently even though talk of stagnation and yet distrust can be found at banks[20]. Opportunities for financial investments are mutual funds, for which

[16] In 1990, China had a per capita GDP of $ 347, and today it has $ 6.222, so 18 times as much, while the per capita GDP of Romania grew up in the same period from € 1.650 8.470 $ $ per capita, so only five times. China has foreign reserves of more than 2,000 billion dollars, www.zf.ro; accessed 26.11.2013.

[17] Chinese Premier Li Keqiang during his visit in Romania Eastern Europe Summit-China, clearly said that relations of cooperation between China and Central and Eastern Europe is an important part of the relations between China and the European Union, and cooperation relations with Romania constitutes a solid benchmark in this cooperation, www.zf.ro, accessed 26.11.2013.

[18] In the first year of Romanian cattle breeders have committed to deliver 14,000 heads of animals known as that in the first nine months of the year 2013 the Romanian exports of food and live animals in China were only 0.9 million euros, and in 2012 the deliveries amounted to 1.5 million euros; www.zf.ro, accessed 26.11.2013.

[19] After the National Bank's decision to cut a quarter of a percentage point for monetary policy, interest income estimated to be earned from bank deposits oscillates around a rate of 3%, and the expected yields on different financial investments for 2014 are: 5% in bonds, with a plus for corporate ones, 20% growth estimate for BET, the BSE index (25% achieved in 20013)5 percent forecast, appreciation for diversified mutual funds and 0% or stagnation and even depreciation for gold and other precious metals. http//wwwcapital.ro accessed January 14, 2014.

[20] Bank deposits are of about 47 billion euros, of which nearly 30 billion euros are held by the population and the amount of mutual fund assets (SIF), the readings are less than three billion; wwwcapital.ro accessed January 14, 2014.

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economic analysts, foresee the transfer of large sums, being expected as the assets will grow with a rate of 30%. The matter is that the popular ones will be fixed-income mutual funds and bond funds. Also expected are funds like investment opportunities and in 2014, predicted yields of more than 10%. Other attractive investment opportunities are considered to be pharmaceutical sector, who will remain on the plus and in this year[21], SIF, which will attract many investors from these economic analysts forecast yields of up to 20% and property Fund.

The property Fund, given that the Fund Manager is required to reduce the discount of more than 30 percent from the present 15 percent, will continue buying shares, will diminish the social capital (distributing the money difference to shareholders) and will sell shares and the portfolio. For the real estate sector the foresight is stagnation, or even decline.

Financial investment opportunities are influenced easily by the tax regime of buying Government securities, taking into account that ownership interest income from government securities to maturity by individuals, are not subject to taxation and taxed only on income from their trading. Unlike individuals, revenue from purchase/holding/trading in government securities (interest and capital gains) by legal persons is subject to income tax.

VI. Conclusions

In Romania, 2014 may be a good year for attracting foreign investment but is subject to risks arising from changes in the international economy and mainly European, but great attention must be paid to the risks that come from the inside. These risks will be generated by the election year, namely by the government leaders abuse and the relatively low level of consumption, which will not return significantly without substantiated and effective measures, which unfortunately is not foreseeable.

In order to create a favorable framework of investments are needed for some steps, without claim to run out, aimed at:

- increasing the predictability extent of tax policy;
- improving the quality of business – related regulations and reduce the administrative burdens for IMM;
- rigorous regulation of financial investments;
- improving the access to finance for IMM's;
- restructure in order to improve the state sector;
- improvement of the cadastral system, allowing for a better functioning of land markets;
- creating an attractive research environment for private investments by improving stimulants for inventions and innovations
- increasing the absorption of European funds, as a reliable and certain source for investments;
- reduced taxation on labor and taxation of capital;

[21] Antibiotics Iasi he went up to the year 2013 with more than 70% and Zentiva with 35 %, and financial positions and business plans are reliable in respect of investors, see http//wwwcapital.ro accessed in January 14 2014.

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References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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