Business Administration and Business Economics

An Assessment of the Influence of Selected on the Performance of Small to Medium Sized Family Owned Businesses in the Zimbabwe Retail Sector

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Abstract: The study attempted to assess the factors that are affecting business performance of small to medium sized family owned businesses in the Zimbabwean retail sector. The objective was to establish the effect of innovation, management skills, succession planning and corporate governance on family owned SMEs in Zimbabwe. The study sought to complement other previous studies that were carried out in other different contexts by producing evidence on the same phenomenon from a developing country context. The study adopted a quantitative approach. A self-administered survey was conducted to collect data that was analysed using descriptive, correlation and regression analyses. The results showed that the most significant factors affecting business performance in order of predictive power were innovation, proper management skills, succession planning and corporate governance. The findings have implications to family business managers and owners in Zimbabwe who are encouraged to be innovative, properly manage, practise succession planning and be guided by business morals in managing their enterprises. Whilst the factors ensuring the success of Small and Medium sized enterprises have extensively been examined, there is dearth of research on family business success factors especially in a developing country like Zimbabwe.

Keywords: SMEs; family business; innovation; succession planning; corporate governance

JEL Classification: M10

1. Introduction

Family businesses are the oldest form of business organization (Bienayme, 2009) and they continue to hold a key place in all economies (Nordqvist & Melin, 2010). Governments have acknowledged the impact of family owned SMEs on job creation, improvement of people's standards of living and hence an overall impact on the economy (McCartan-Quinn & Carson, 2003). However despite the efforts

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by the Zimbabwean government and other bodies to render k2support to the family owned SMEs through various support programmes, SMEs in the country continue to close shop, a trend that is affecting most African countries. About 75% of new family owned SMES that are started eventually fail to become established firms (Fatoki & Garwe, 2010) and most family business in the SME sector have stagnated without growing (Hove & Tarisai, 2013). The survival and longevity of family businesses is a cause of concern if family businesses must be a major contributor to the social and economic well-being. Research has estimated that only 14% of family businesses make it beyond the third generation. In South Africa only one in four family businesses survived to the second generation whilst only one in ten makes it to the third generation and Zimbabwe is seemingly following the same trend (McCartan-Quinn & Carson, 2003). The lifespan of family firms is far from smooth as two thirds fail in the transition to the second generation and their growth rate is very low (Lester & Canella, 2006). It is this rate of failure of businesses in the family business SMEs sector that has become a concern and the basis of this study to bring out the factors that these businesses need to adopt in order to reverse the alarming mortality rates. The purpose of this study was to assess the success factors essential for the long term survival of family owned SMEs. The general objective of the study is to assess the success factors that contribute to the long term survival of small to medium sized family owned businesses in the Zimbabwean retail sector.

The specific objective was to establish the effect of innovation, management skills, succession planning, and corporate governance on the long term survival of family businesses in the Zimbabwean retail sector. The study sought to test the following hypotheses:

H1: Innovation positively influences the performance of small to medium sized family enterprises

H2: Management skills have a positive impact on the performance of family owned SMEs

H3: Succession planning ensures the success of family run SMEs

H4: Proper corporate governance practices have a positive influence on family run businesses

This research is a significant contribution to the understanding of growth and survival of small to medium sized family owned businesses and will aid in management, policy making and as contribution to scholarly source in advancing the call for adoption of factors that will reverse the death or failure of most family business. The results will help equip family business owners with knowledge necessary to improve growth and survival their enterprises.

The study will contribute to the expanding knowledge base of the family business by developing a conceptual framework that assists owners/managers of family businesses to ensure the success and growth of their firms.

2. Family Business

Family businesses are an important part of the world's economy and the backbone of the economic systems in most countries. In fact they make up more than 60% of all companies in Europe and the USA and account for about 50% of employment (Kellermans & Eddleston, 2010). Family businesses have become a predominant form of business organization around the world and they contribute extensively to global wealth creation (Burkart *et al*, 2003).

Miller and Le Breton Miller (2008) report that several businesses founded by families as very small enterprises have grown into world class businesses. However, some family businesses especially those that are small and medium sized face unique challenges (Zumilah, 2010).

Most of the documented information on the rise and fall of family businesses has covered mainly organizations that are big in the different industrial sectors. While there are numerous examples of family owned businesses that have prospered over multiple generations, even prosperous family firms rarely survive beyond three generations (Chami, 2001).

The rise and fall of family businesses in the retail sector are rising but most of them remain undocumented. But what could be contributing to this failure of family owned businesses? Some succumbed to family wrangles after death of owner whilst some faced financial challenges along the way whereas some had other factors contributing to their failure. This research will therefore focuses on the small to medium sized family businesses in the retail sector so as to assess the factors that family businesses need to embrace so as to grow and survive in the long term.

2.1 Business Success

Business success has been defined in many ways. Maes, Sels and Roodhooft (2005) note that several performance, success or survival models appear in literature. Small business success can be measured by financial and non – financial criteria although the former has been given more attention in literature. Most used performance indicators in literature include earnings, employment and growth where growth is defined as any element of growth (growth in profit, earnings and number of employees. (Peake & Marshall, 2011).

In a bid to explain success many family business researchers have used a wide variety of factors. Owner characteristics in terms of financial, human and capital have been adopted by different researchers to explain business performance

success and survival (Anderson & Miller, 2003, Baron & Markman, 2003, Stafford, Bhargava, Danes, Haynes, & Brewton, 2010, Montgomery, Johnson, & Faisal, 2005). According to Lee, Jasper and Fitzgerald (2010) and other authors firm characteristics have also influenced business success and survival. Walker and Brown (2004) asserts that financial criteria are usually considered to be the most suitable measure of business success. However because many small business owners are motivated to start a business on basis of lifestyle or personal factors which make non- financial goals alternative measures of success in the small business sector. All businesses must be financially viable on some level in order to continue to exist. However some business have no interest in growth which implies that financial gain is not their primary or only motivation and that there must be other non – financial criteria to measure the success of these businesses.

Watson and Everett (1999) considered success or failure of a business to de dependent on a number of factors. They measured success of a business by the continuance in operation or longevity of the enterprise although financial performance (profitability, sales amd market share) can be used. Walsilczuk (2000), notes that small business growth and success measurement is difficult to assess and can be measured objectively or subjectively. Objective measures are often referred to as "hard" information since they are quantifiable measures that impact fulfillment of specific objectives e.g. sales or profits whereas subjective measures are "soft" and often include evaluative or trait information e.g. self evaluation on performance in relation to others.

3. Conceptual Model and Hypothesis Development

In order to empirically test the influence of succession planning, innovation, corporate governance and management practices on the long term survival of small to medium sized family businesses a conceptual model has been developed premised on the family business literature reviewed. The conceptual framework is grounded on four major theories which are Systems theory, Agency theory, Resource- based theory and the Stewardship theory all making significant contributions which provide a solid foundation for the current study. In this conceptualised model succession planning, innovation, corporate governance and management practices are the independent variables whereas survival business success measured subjectively as longevity or survival is the dependent/ outcome variable. Figure 3 depicts this conceptualized research model.

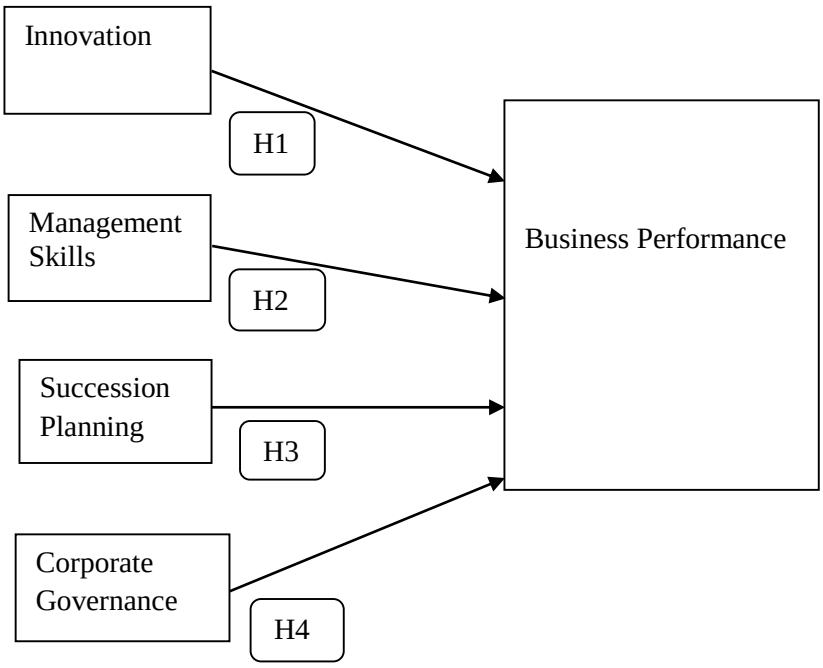

Figure 1. Conceptual Model

4. Research Methodology

The study adopted the quantitative research design which helped in qauntify the impact of innovation, management skills, succession planning and corporate governance on the success of family owned businesses and to generalise the results to a wider population (Zindiye , Roberts - Lombard, & Herbert, 2008).

4.1. Population and Sampling Techniques

The target population was small and medium sized family businessES in the retail sector of Harare, Zimbabwe. A number of attempts were made to obtain a database of family businesses from relevant offices and associations, however all efforts were in vain as a representative sample could not be obtained. The researcher had to resort to convenience sampling and in particular to the snowballing technique. This is a non probability sampling method that was adopted to identify probable family businesses in the reail sector who were eager to contribute. Through this exercise a list of 200 family businesses was compiled as an outcome of these efforts.

4.2. Research Instrument

A self–administered questionnaire with standardised questions was employed which gave the researcher confidence that all the questions will be interpreted the same way by all respondents (Robson, 2000). The self-administered questionnaire was either hand delivered or emailed to respondents. For both methods an informative and well articulated cover letter was attached to the questionnaire with objectives and importance of the study well explained.

A five point Likert scale was devised ranging from 1=Strongly Agree to 5=Stongly Disagree. Using the Likert scale standardised response items made the responses easily comparable amongst respondents. It also eliminated response bias and made coding and analysis directly from the questionnaire possible (Cant 2003).

5. Results

A total of 120 questionnaires were distributed personally by the researcher and out of these 78 questionnaires were successfully returned. These responses gave an overall response rate of 65% with a frequency of (n=78) which was quite remarkable considering the difficulty of getting respondents to participate voluntarily and timely in field research.

Statistics were obtained from the respondents indicating various demographic characteristics that included age, gender, position in organisation academic qualification, type of retail business, employee numbers and years in business existence. These were analysed in isolation and presented as below.

The majority of respondents are in the groceries and clothing retail business (n=16) 21%, followed by agriculture (n=14), 18%, Hardware followed closely at (n=13) 17%, followed by Pharmaceuticals at (n=10) 13% and lastly Food & Beverages (n=9) 9%.

The results above show that most small to medium family businesses are concentrated in the clothing, groceries, agriculture and hardware sectors of retail. These are areas that require minimum capital, have low barriers to entry, few regulatory requirements and are less technical compared to the pharmaceuticals and food and beverage sectors. With regard to gender, of the 78 respondents (n=43) 55% were males and (n=35) 45% were females.

5.1. Reliability Test

Table 1. Reliability Statistics

Variables	Number of Items	Cronbach's Alpha value
Innovation	12	0.737
Management Skills	9	0.738
Succession Planning	8	0.737
Corporate governance	6	0.735
Performance	6	0.730
Overall Cronbach's Alpha	**41**	**0.746**

As shown by the results in Table 1, the internal consistency of the overall reliability test gave a Cronbach's Alpha coefficient of 0.746 which is greater than the acceptable benchmark of 0.6 the reliability test involved checking each variable in the study for validity confirming if the items loaded were sufficient to make the questionnaire instrument reliable. In the results shown in Table 1 all the variables yielded an alpha value greater than 0.6 with Innovation (0.737), Management skills (0,738), Succession planning (0.737), Corporate governance (0,735) and performance (0.730). implying that all the variables in the study are reliable and valid to the instrument. Further checks were done on face and content validity were achieved by seeking expert advice which enhanced the validity of the instrument. A pilot study was also conducted with a maximum of 20 respondents to check for adequacy and reliability of the questionnaire instrument. The pilot study results aided in adjusting the items in the instrument to fully represent each variable.

5.2 Correlation Analysis

Spearman's rank correlation "rho" was adopted. This is a non–parametric rank based statistical test that is unevenly distributed data. Correlation takes range from -1.0 for a perfect negative relationship to +1.0 for a perfect positive relationship. The table below shows the level of association between the independent variables and performance as the dependent variable.

Table 2. Correlation Analysis

Factors	**1**	**2**	**3**	**4**	
Innovation **1**	1				
Management Skills **2**	.319**	1			
Succession Planning 3	.280**	.439*	1		
Corporate Governance 4	.416**	.674*	.386**	1	
Performance Measure 5	.557**	.552**	.524**	.317**	1

**. Correlation is significant at the 0.01 level (2-tailed).

According to the results in Table 2, it is evident that there is a strong positive relationship between independent variables and performance: innovation (r=0,557**, p<0.01), management skills (r=0.552**, p<0.01), succession palnning (r=0.534**, p<0.01), and corporate governance (r=0.317**, p<0.01).

5.3. Regression Analysis

With results on correlation analysed, the researcher sought to do a further regression analysis as correlation analysis simply measured the association or strength of the relationship between the independent variable and the dependent variable. Regression analysis allowed the researcher to determine the predictive relationship between variables. A regression model was therefore computed to show how succession planning, management skills, innovation and corporate governance as independent variables predict performance/ survival of small to medium sized family businesses. Table 3 below shows the predictive power of each independent variable on family business performance.

Table 3. Regression Analysis

Independent Variables	**Std. Error**	**Beta**	**t-value**	**Sig.**
(Constant)	0.586	2.139	0.179	0.039
Innovation	0.462	0.221	1.543	0.013
Management Skills	0.675	0.249	2.266	0.026
Succession Planning	0.353	0.041	0.286	0.028
Corporate Governance	0.208	0.029	0.208	0.018

R=0.794; R Square = 0.687; Adjusted R Square = 0.591; F = 132.24. * significant at p<0.05

Results from the regression analysis show that the goodness of fit is satisfactory with an (Adjusted R square = 0.591). This means that the independent variables (succession planning, innovation, management skills and corporate governance) have a 59% explanatory power of the variance in business performance/ success.

However 41% of the influences of business performance in small to medium family business is explained by other factors which creates a gap for future research.

The βeta values revealed that management skills followed by innovation have more predictive power and are more significant in explaining the contributions of the factors to the performance of small to medium family businesses at ($\beta = 0.249$, $p<0.05$) and ($\beta = 0.221$, $p<0.05$) respectively. Succession planning and corporate governance though are significant and explain the contributions of the factors to business performance, their influence or predictive power is very low at ($\beta = 0.041$) and ($\beta = 0.029$).

6. Discussion of Results

The view of innovation's positive impact was consistent with the findings by Bayus & Argarwal (2006) who brought out the facet that survival beyond the first few years is positively associated with the innovative intensity of the industry. In support of this the findings on the positive impact of management skills on family business success, Worku (2009) management skills development enabled efficiency in managing these enterprises. Lerner and Wulf (2007) also state that there is a significant association between management skills and efficiency of small family firms and long term survival, profitability and viability. With regards to succession planning, the results of this study are consistent with Gilding (2010) who view succession planning as critical in small family business continuity. The results of this study showing the positive impact of corporate governance on small family business success is consistent with Jayashree (2006), who posited that firms with effective governance are more likely to carry out strategic and succession planning hence on average grow faster and live longer. Governance also assists in relationship management hence sharpening management skills and creating a soild structure that is open to innovation, therefore this variable embraces all the other variables in the study.

7. Recommendations

Capacitating family business owners with management training courses may help to improve their management skills. Family business owners and their employees need to be aware of knowledge and talent management as it is a key resource for the viability of a business. Family businesses need to identify the potential successor in family members to succeed and not only assume that it is the male heir who will take over the business. There is also need to practice proper corporate governance practices to ensure that all transactions are professionally and ethically

done. Family businesses need to adopt family governance structures with a certain degree of formalization if they are to function well. There is need for them to make effort to document the organizational structure, clearly spell out roles and responsibilities of each family business member and enforce accountability.

8. Research Limitations

There are a number of limitations to the study. Firstly there was lack of a comprehensive sampling frame and lack of a comprehensive database which meant that the sample selected may have not been representative. Secondly with resources limiting the survey could not be spread around the whole country therefore study was restricted to the province of Harare. A quantitative research design was employed for the study. It will be worthwhile to carry out the same study using triangulation methodology which uses both quantitative and qualitative paradigms.

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Private Equity Capital in a Less Developed Economy: Evidence, Issues and Perspectives

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Abstract: This study investigates the structure of the private equity industry and issues that impact on its development and growth in Zimbabwe. Studies conducted internationally have unequivocally demonstrated the importance of private equity investments in assisting firms at start/growth phase and decline phase. However there is a dearth of literature on how these financial intermediaries assist in unlocking firm value from an emerging markets perspective. The study uses the document analysis and an exploratory research paradigms to achieve the stated objectives. The study finds that the venture capital industry in Zimbabwe mimics similar industries in other countries except that it is constrained by market liquidity. Lack of regulation and viable business sectors coupled with excessive risks in the political economy narrows the scope of private equity operations. Several issues impacting on the development of the private equity industry are identified and evaluated. The study has policy implications for the development of regulatory framework to bolster the growth of the private equity industry in emerging market economies. This study provides new evidence and policy suggestions on the operations of the private equity industry in a liquidity constrained and less developed economy.

Keywords: private equity; venture capital; financial intermediation; start-up business

JEL Classification: G23; G24

1. Introduction

Globally, private equity funding is becoming the preferred source of finance for businesses amid growing shadow banking activities that compete head on with the banking sector. Private equity funds fall within the financial intermediation theoretical framework, which has received great attention since the work of Gurley and Shaw in 1956. Like any emerging market economy, Zimbabwe competes with other countries for capital, and as such, attracting private equity investments from

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both institutional investors and trade investors becomes paramount. The period between 1998 and 2008 saw a significant drop in capital investment in Zimbabwe (Zimbabwe Investment Authority, 2010). High inflation resulted in the destocking of the economy and loss of investor confidence (Mutengezanwa, Mauchi, Njanike, Matanga, & Gopo, 2012). Zimbabwe suffered industrial decline during the period 1998 to 2008 as the viability of companies was threatened (Mhlanga & Sibanda, 2013). However, the economic decline was substantially halted in 2009 when the government adopted the multiple currency system with the use of the United States dollar, the South African rand and the Botswana pula as its major currencies (Nakunyada & Chikoko, 2013). Consequently, after the adoption of the multiple currency system, companies regained their previous operational capacities despite the need for significant working capital investment (Mabhungu, B., Mhazo, & Chiriseri, 2011). The adoption of a multiple currency system brought revival and growth in the otherwise collapsed industries and, more importantly, the mushrooming of small industries and the emergence of venture capital companies and private equity funds.

Capital injection in either foreign direct investment or private equity is essential in improving productivity and company growth (Bender & Ward, 2009). To ensure domestic business remains competitive and relevant to the economy in a dynamic global economy, such businesses require significant investment in new equipment, technologies and contacts (Javorcik, 2004), which presents an investment opportunity in the private equity space. Private equity investment is important for the development of the country in that private funds are unlocked and become accessible to businesses that would generally not be able to access funds from the traditional banking institutions, which have very stringent lending practices owing to the level of risk associated with new businesses (Bender & Ward, 2009). Exacerbating the need for capital injection is the fact that the Zimbabwean working population depends on small enterprises for employment. The need for private equity finance to boost start-up firms and provide finance for leverage buyout transactions is therefore important. With limited access to bank debt due to insufficient trading history and the riskiness of cash flows, access to venture capital funds becomes pivotal (Bender & Ward, 2009). Venture capital firms can be engines of new job creation and a source of innovation as they support growing and innovative companies (Bertoni, Colombo, & Grilli, 2013; Harris, Jenkinson, & Kaplan, 2014).

Business and investment opportunities in Zimbabwe range across mining, tourism, manufacturing, transport, telecommunications and energy, among others. The Zimbabwean economy has been on the recovery path since the country adopted a multiple currency system in 2009 (Pindiriri, 2012; Nakunyada & Chikoko, 2013). Prospects of private equity investment therefore became entrenched in the country's instutions and investment climate. This study explores issues impacting

adversely on private equity participation in Zimbabwe and provides further perspectives on promoting the private equity trajetory in an emerging market context.

Venture capital companies, by definition, focus on investing in the development of companies at the very early stages with the intention of exiting once the company has grown, thereby realising substantial financial gains (Altı, Kaniel, & Yoeli, 2012; Bender & Ward, 2009). Venture capital falls within the private equity framework. Five characteristics of venture capital finance are: the financial intermediary role; the active role in monitoring and assisting a company in its portfolio; return maximization through exiting in trade sales or initial public offerings; that they invest only in private companies; and that they invest to fund the internal growth of companies (Metrick & Yasuda, 2010). On venture capital and equity investment funds development in Zimbabwe, there has not been much attention, and the industry is still nascent as currently there is no regulation for this industry. The private equity firms are considered private investments because once the fund is registered as a company with the registrar of companies in terms of the Companies Act, private equity funds and venture capital companies begin to transact.

2. Literature Review

Start-up businesses have very high financial and business risk and only investors willing to bear this high risk invest in such companies (Bender & Ward, 2009; Metrick & Yasuda, 2010). Based on financial theory, only equity finance is appropriate at the start-up phase. hence the role of venture capitalists is essential at this stage (Bender & Ward, 2009). However, in some instances evidence shows that start-ups do not necessarily turn to private equity and venture capital because of their perceived level of risk, but use bank finance as a substitute for private equity and vice versa (Berger & Schaeck, 2011). Nevertheless, this has only been observed in continental Europe where bank finance is the major source of corporate finance (Levine, 2002; Demirgüç-Kunt & Levine, 2004). However, venture capital finance varies across regions and countries based on economic conditions and levels of formal institutional development (Li & Zahra, 2012). Although a thin line seems to exist between private equity and venture capital, the distinction between the two forms of equity finance is important. Private equity is mainly equity finance used in the acquisition of mature and established firms, while venture capital is equity used to finance start-up business or sometimes provide seed capital (Bender & Ward, 2009; Matthews, Giuliodori, & Mishkin, 2013).

Venture capital funds can thus be defined as "investments by professional investors of long-term, unquoted, risk equity finance in new firms where the primary reward is an eventual gain, supplemented by dividend yield" (Tyebjee & Bruno,

1984:158). Venture capitalists invest in new, unproven, high-risk, high-potential start-up businesses as they usually acquire control in the businesses they invest in and exit when they have realized significant returns, and in most cases they exit when the company goes public (Bender & Ward, 2009; Metrick & Yasuda, 2010). Venture capitalists are usually attracted to these new firms because of the skill they perceive themselves to possess (Tyebjee & Bruno, 1984). Instead of lending money, venture capitalists exchange capital for equity or an ownership stake in the companies they finance.

Private equity funds differ across countries with differences starting with organizational form. In countries such as the United States and the United Kingdom, firms are said to be organized as limited partners, while in countries such as France and Germany, they have a structure that involves banks (Lerner, Pierrakis, Collins, & Bravo, 2011). The management style of venture capitalists differs across countries as well, depending on the development of institutions (Lerner & Tåg, 2013; Lerner et al., 2011). Venture capital firms are actively involved in managing their investments by way of getting board representation and involved in the day-to-day management issues (Jääskeläinen, 2012; Metrick & Yasuda, 2010). This makes private equity and venture capital-owned companies better managed compared to those company funded by other sources (Bloom, Sadun, & Van Reenen, 2015).

Due to the fact that venture capital funds are private companies, it makes their accessibility limited to a few people with projects with the potential of generating returns (Bender & Ward, 2009; Li & Zahra, 2012). As a result, the poor remain unable to access funding from private equity funds due to the fact that they have no security and nowhere to start from. Consequently, access to funding becomes easy for the rich and those with potential to run successful businesses (Robb & Robinson, 2012). The key motivator for these investors lies in their ability to grow such businesses and present opportunities for venture capital and equity investment funds to exit the businesses (Bertoni et al., 2013; Metrick & Yasuda, 2010).

Very few studies have attempted to provide evidence of financing start-up businesses in Zimbabwe. One major study by Mhlanga and Sibanda (2013) provides a critical review of the mushrooming and growth of the banking industry from the 1990s to the end of the country's economic turmoil in 2008. What came out clearly in that study was the pivotal role played by venture capital firms in the establishment and growth of banks in Zimbabwe. Mabhungu et al. (2013) also conducted a survey on the determinants of financing used by small businesses in Zimbabwe though aspects of private equity were ignored. It is therefore important to provide a discussion on challenges and issues affecting private equity finance in an economic set-up such as Zimbabwe.

3. Methodology

This study employs document analysis and exploratory approaches to research. Venture capital information is obtained from private equity capital firms' websites and annual reports, investment bankers, and analysts' reports. In Zimbabwe the venture capital industry is relatively small as it is dominated by four big players, namely, Takura, Brain Works Capital, African Century and Masawara Capital. There are some small companies but their presence is insignificant. Venture capital funds are not regulated in Zimbabwe and they operate in the private space. The discussion is premised on the investment strategies of the private equity investors and the resultant issues affecting the industry.

4. Discussion

Valuation of the Zimbabwe private equity market is difficult as the industry is not regulated and firms do not have any association to which they submit returns for industry self-regulation. The industry comprises four major players, although institutional investors and banks actively participate in the private equity market. The following table shows the distribution of equity funds investments in Zimbabwe. Panel A describes the investment strategies while Panel B describes private equity transactions.

Table 1. Summary of venture capital/ private capital activities

Panel A: Investment Strategy			
Fund	Target Internal Rate of Return	Sector/ industry distribution	Geographical Distribution
A	N/A	Technology	Not specified
B	30%	Energy, financial services, hospitality, real estate	Not specified
C	25%	Not specific but high growth firms, real estate, financials, technology, telecommunications in the portfolio	Not specified
D	32%	Not specific but agribusiness, manufacturing, telecommunications, transport in the portfolio	No specified

Panel B: Private equity transactions			
Fund	Buyout Activity Reported	Venture capital activity reported	Exit Strategy
A	No	Several technology sector deals reported	Not reported
B	No	Cross-industry venture capital deals at greenfield or start-up level	3-5 years holding period
C	Yes	Cross industry venture capital deals	Trade sales and listings
D	Yes	Few cross- industry deals reported	Not specified

Source: Authors' compilation using various companies' websites

Table 1 shows that private equity firms in Zimbabwe are heterogeneous as they have different investment strategies. Some of the firms target specific sectors/ industries while others simply target high growth opportunities in various sectors of the economy in line with existing theory and evidence (see Metrick & Yasuda, 2010). Venture capital deals are in line with evidence in the literature relating to exit strategies via listings or trade sales within five years of commencing operations (Bender & Ward, 2009; Metrick & Yasuda, 2010; Mhlanga & Sibanda, 2013). High growth industries such as technology and telecommunications are the target investment destinations in line with assertions in the contemporary literature (Bender & Ward, 2009; Bertoni et al., 2013).

For the period between 2009 and 2015, seven delistings from the Zimbabwe Stock Exchange were private equity deals, while others delisted due to bankruptcy and viability reasons.

4.1 Factors Promoting the Growth of Venture Capital and Equity Investment Funds in Zimbabwe

Zimbabwe's prolonged, economic challenges have severely impacted negatively on the confidence of investors and the majority of the business community. However, the situation has presented opportunities for venture capital funds with high risk appetite, and in this section some of the factors that have promoted the growth of venture capital and equity investment funds are discussed. With many manufacturing enterprises having ceased operations due to viability challenges, and others having immensely downsized, private equity funds were presented with opportunities to make investments in different industries.

Inadequate availability of working capital for companies, stemming from hyperinflation between 1998 and 2008 at levels greater than ever experienced globally, and the demonetization of the Zimbabwean currency without compensation to those who were holding Zimbabwean dollars, resulted in many companies having to build their financial capacity from scratch. Unfortunately this void could not be immediately filled by the available financial institutions, which were also undercapitalized and had a low deposit base (Sibanda & Chikoko, 2014).

Inability of existing companies to replace lost capital due to the limited financial resources in the banking sector compounded by exceptionally high interest charges on such limited, short-term funding, also promotes the existence of venture capital funds as they provide an alternative for funding companies.

Moreover, the development of venture capital funds is affected by the accessibility of new investment capital by firms to replace the capital lost due to the marginal monetary liquidity circumstances in Zimbabwe. Currently, there is a low investment appetite among foreign investors in Zimbabwe for fear of lack of assurance of investment security due to the unclear indigenization and economic empowerment policies and Zimbabwe's noncompliance with Bilateral Investment Promotion and Protection Agreements (BIPPAs), and perceptions of an absence of respect for property rights and law and order. This presents great opportunities for venture capital funds, which are keen to take risks in the high-potential start-up businesses and even existing businesses that have the potential of being turned around to profitability, which foreign investors are afraid to support. However, strong institutions remain paramount to the existence and growth of private equity investments (Lerner & Tåg, 2013; Li & Zahra, 2012).

4.2 Factors Hindering the Development of Venture Capital and Equity Investment Funds in Zimbabwe

Venture capital investments are meant to be long-term with periods ranging from three to five years (Bender & Ward, 2009; Puri & Zarutskie, 2012). However, due to the nature of the investment environment in Zimbabwe the development of the industry remains subdued due to a number of challenges hindering the development of the industry. The lack of development of venture capital and equity fund investment may be attributed to the following:

Poor Returns and Business Failures

Due to the difficulty of managing venture capital investments, most start-up businesses fail, hence making development difficult as most primary investors who invest in venture capital and private funds migrate towards investment in larger and well-established public companies. As demonstrated in Table 1, venture capital firms in Zimbabwe target an internal rate of return of above 25%. Private equity firms are selective in their choice of partners and always look for high-growth potential businesses where they can also take up a large shareholding stake in order to influence company decisions, hence profitability (Berger & Schaeck, 2011; Black & Gilson, 1998; Bloom et al., 2015; Croche, Steward, & Yermo, 2011).

Lack of Recognition as an Alternative Investment Asset

Institutional investors, pension funds and life assurance companies with huge balance sheets do not yet consider venture capital and private equity investments as alternative investments. Institutional investors are considered to provide more patient capital necessary for economic growth and development (Croce, 2012; Croche et al., 2011). With limited investment options in Zimbabwe, if these institutions would consider venture capital as investment options (alternative investments status) there will be great levels of development in the sector. This however has regulatory implications on the institutional investors and the governance of private equity firms.

Knowledge Gap and Lack of Awareness

The other factor hindering the development of venture capital and private equity investment funds is the knowledge gap in the country. Very few people focus on venture capital and equity investment funds, hence the level of development. Until a time when the knowledge about the sector increases, the level of development will remain low.

Weak Business Environment

Due to corruption and weak policies in the country, the government has created a weak business environment. Weakness in the business environment affects the development of private equity funds (Li & Zahra, 2012). For example, the indigenization and economic empowerment policies and the lack of the rule of law and respect for property rights, scare away investors and thus negatively impact on the development of the venture capital industry.

Lack of Managerial or Technical Capacity

The economic decline experienced in the country led to the migration of skilled labour to other countries in search of greener pastures. As a result there is a skills gap in the country and the country has extraordinary raw entrepreneurial talent with no capacity to build and manage an enterprise that can compete globally. The flight of skilled labour from the country resulted in the shortage of skilled personnel who are key to the country's developmental agenda. An estimated 25% of skilled Zimbabweans are living outside the country. Because of the need to train new staff it raises the costs that the venture capital fund has to invest in the business before getting their return on investment.

Lack of Access to Capital

Zimbabwe is experiencing liquidity challenges making long-term investments limited despite the attractiveness of the investments. Venture capital funds may have a portfolio of projects but get crippled by the shortage of capital to fund all the projects, and as a result focus on a few projects.

4.3. Possible Policies that will Make Venture Capitalists Work Better in Zimbabwe

In order to promote the growth of venture capital funds, the government needs to adopt policies that promote their growth by way of regulation and supervision. The following are some of the policies that the government could adopt for the viability and development of venture capital and private equity investment funds.

Fund Allocation from the National Budget

Venture capital funds are developmental as they promote growth of business entities. The government should promote their growth by allocating funds to the Ministry of Small- and Medium-Scale Enterprises and make it mandatory for the ministry to support venture capitalists who in turn will support start-up and growth industries.

Prescribed Asset Status

The government may also prescribe that institutional investors, pension funds, life assurance companies and asset management companies invest a certain percentage of their funds in venture capital funds, which in turn will invest in specific sectors of businesses with high potential so as to promote private equity investments. This will have a ripple effect in the economy as there will be growth in many industries that traditionally do not have access to funding from traditional sources of funding. Raising money from pension funds provides numerous advantages to the venture capitalist as the venture fund can quickly raise large amounts of investment capital by approaching a few pension funds. With proper legislation, many pension funds will be more eager to partner with venture capital firms.

Venture Capital Funds Regulation and Reporting Standards

The government could also regulate these institutions by way of legislation to eliminate the principal agent problems that they face between themselves and the providers of capital, and between themselves and the managers of the companies in which they invest (Acharya, Gottschalg, Hahn, & Kehoe, 2013; Bloom et al., 2015). Venture capital firms receive funding from various sources, each with its own objectives that need to be met, hence the importance of having regulations governing these firms so that they choose investments in line with the objectives of the fund providers. In turn, the venture capitalists need some protection from fund providers in case of unforeseen losses, because they take a lot of risk although they attempt to manage the risks involved in their activities. Regulations will improve the functioning of the private equity firms as there will be clear valuation procedures for reporting to providers of funds, because currently there is no standard procedure and no accepted valuation standards. It is the venture capitalists

as agents who are responsible for valuations and on which their performance will be judged (Sahlman, 1990; Acharya et al., 2013).

Increase Public Awareness and Encourage Public Listing of Firms

There is need to promote the establishment of venture capital funds in the country due to the importance of the role they play. Black and Gilson (1998) argue that the health of the venture capital fund market depends fundamentally on the vibrant public market, which allows new firms to issue shares. Hence the success of venture capital firms is linked to the rise in initial public offering market activity, and it becomes important to increase public awareness by filling the knowledge gap that exists about private equity investment.

Legal and Regulatory Environment and Respect for Property Rights, Law and Order

An environment of absolute respect for property rights, law and order and human rights must be created and maintained as this will attract regional and international venture capital and equity fund investors. If laws are enforced, the functioning of the venture capital industry will be enhanced as investors will gain confidence in investing in the country. Different forms of protection of property rights induce different entrepreneurial behaviour. The success of venture capital funds also depends largely on the legal and regulatory environment, which is largely determined by public policy. Recent studies have shown the importance of legal and regulatory aspects (Lerner & Tåg, 2013).

Linkages to Pure Commercial Markets

Venture capital and equity investment funds should be encouraged to work closely with other local financial institutions to graduate their companies for later stage financing from commercial sources such as the banking sector, and co-investing at later stages of financing with banking institutions.

Technical Assistance

It is not enough to provide funding to small businesses without assisting with technical skills to run the business. Venture capital funds should help companies with management training, advice from experienced business people and insights on how to build the business. Since the investments that the funds make will be concentrated in a particular sector in which the firm has expertise, technical support to start-up firms will be highly beneficial as it will be based on best practice and what has worked well in the sector.

Viable Exit Markets

As a matter of policy, the government may come up with viable exit markets for venture investments as this increases the expected return to investors and

entrepreneurs. Government policies that result in the creation of stock markets suitable for listing entrepreneurial companies are expected to increase the development of venture capital and equity investment funds.

5 Conclusion

This study investigates the structure of the private equity funds markets in Zimbabwe. Evidence, issues and perspectives are presented and discussed in the context of private equity investments. The study finds that the private equity market in Zimbabwe is subdued with only four big firms dominating the market. Lack of knowledge and market liquidity is identified as some of the challenges facing the private equity industry in Zimbabwe. In line with existing evidence, the study further reveals that the industry is adversely affected by political factors and lack of sound and transparent institutions. The findings further show that the investment strategies are in line with existing literature. The issues identified, together with evidence presented in this paper, have policy implications that could be leveraged to attract private equity investments and subsequently grow the targeted sectors of the economy. The study has limitations in that monetary data and values of private equity funds were not obtained. A survey of private equity firms could boost further research in this field.

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Impact Assessment of Bank Consolidation on the Performance of Commercial Banks in Nigeria

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Abstract: This study focuses on an impact assessment of the consolidation exercise on the performance of commercial banks in Nigeria. While prior studies focused on the financial performance of banks (with emphasis on profitability), the main thrust of this study was on how the consolidation exercise had affected different areas of commercial banks in Nigeria other than profitability. Secondary data were sourced from the annual accounts and statistical bulletins of the CBN and SEC respectively for the relevant years. The data obtained were analysed by means of sensitivity analysis, in addition to the correlation and regression analyses. The results obtained show that the consolidation exercise had positive impact on the selected variables (Non Performing Loans, Liquidity Ratio, Bank Credit to Private Sector and Bank Capital To Asset Ratio) for this study. Based on the above findings, we recommend among others that while efforts are made by the CBN to sustain the increased capital base of banks, a very sound corporate governance framework and effective risk management systems must be put in place to check the level of non-performing loans which seem to be predominant in the industry. The quality of bank credit to private sector and their recovery procedures should also be improved upon.

Keywords: Non-Performing Loans; Liquidity Ratio; Recapitalization; Return on Equity

JEL Classification: E58; G21

1. Introduction

Banking activities in Nigeria have experienced significant changes over the years not only as a result of technological advancement but also as a result of what Aregbeyen & Olufemi (2011) described as increased competition which resulted from financial sector deregulation that took place in mid 1980s.

Despite the significant improvement in the sector, it is on record (Soludo, 2006; Olokoyo, 2012; Bebeji, 2013 and Kareem, Akinola & Oke, 2014) that the industry experienced high level of competition coupled with political instability and inconsistencies in policy implementation; thus, leading to a rapid decline on the

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level of profitability and financial performance of banks. This is because the deregulation (Olugbenga and Olankunle, 1998; Taiwo & Musa; and Olusanmi, Uwuigbe & Uwuigbe, 2015), led to the proliferation of banks with the attendant problem of the banks virtually chasing the same customers (Olugbenga & Olankunle, 1998). This made the management of banks to believe that the only option for them to survive is to take excessive risks (Aregbeyen and Olufemi, 2011). The funny developments in the sector however culminated into series of bank failures, related financial shocks and crises in the banking sector in particular, and the entire economy in general (Gunu, 2009; Gunu and Olabisi, 2011; and Ajede, 2011). In line with this assertion, Uchendu (2005) listed a number of factors that were responsible for the crisis in the Nigerian banking industry. Notable among the factors identified by Uchendu (2005) was that Nigerian banks were highly undercapitalized.

In view of the above, it was no longer a surprise for the decision on the need for reform and recapitalization in the sector to have arisen, probably to prevent frequent bank failures as well as restructuring the banks by increasing its capital base in order to primarily increase depositors' confidence in the sector which will in the long run affect the overall economic activity of the country since according to Olajide, Asaolu and Jegede (2011) and Olusanmi, Uwuigbe & Uwuigbe (2015), the financial system is central to the growth process of Nigeria.

Outside Nigeria, studies had attempted to examine the impact of reforms generally on the performance of banks in both developed and developing economies like Japan (Ito and Sasaki, 2002; Montgomery, 2004; and Montgomery and Shimizutani, 2005), Indonesia (Soemonagoro, 2006), Malaysia (Allen and Boobal-Batchelo, 2005), and Sweden (Gjirja, 2003). In Nigeria, efforts have been made to study the impact of the recapitalization on various indices such as shareholders fund, total assets, costs of equity, number of branches, employment, as well as manpower planning and control (Aregbeyen and Olufemi, 2011; Ajede, 2011; Gunu and Olabisi, 2011; and Gunu, 2009). To date, not much empirical works have been conducted to the knowledge of the author on the area of the impact of the reform with respect to bank recapitalization as if affects the financial performance of commercial banks in Nigeria with emphasis on financial ratio measures like Capital to Assets Ratio (CAR), Liquidity Ratio (LR), and indices like Return on Equity (ROE), level of Non Performing Assets (NPAs), Credit to Private Sector (CPS) amongst others. Thus, this study is designed to fill the existing empirical gaps as well as adding to existing empirical evidence in available literatures on this area, using the Nigerian banking industry as a case study. Attempts would be made to distinguish this study from previous ones in Nigeria.

2. Literature Review and Conceptual Framework

The term *"consolidation"* has received various definitions in the literature. A general consensus on the definition is that consolidation is a policy strategy designed to enhance commercial banks' performance through an increase in their capital base either by means of mergers, recapitalization or by means of absorption (Bebeji, 2013; Osuji & Okoli, 2013; and Bebeji, Dogarawa & Sabari, 2014). In line with the above, Soludo (2005), described consolidation as a combination that results in a legal dissolution of combining entities such that a new company emerges with the hope of enhancing performance. Consolidation increases the size and concentration of entity, and at the same time, it reduces the number of interests in such a company. Shih (2003) is of the view that bank consolidation reduces the level of insolvency risk since it results to asset diversification. While embarking on consolidation, the pattern and manner in which it is done matters alot. This is because, according to Aregbeyen & Olufemi (2011), consolidation can be of two types - market-driven or government induced. Accordingly, Aregbeyen & Olufemi (2011) pointed that while the market-driven consolidation is prominent in developed countries (where rather than using bankruptcy or other means, consolidation is used to efficiently eliminate excess capacity in identified industries); the government induced consolidation is common in developing countries. According to Ajayi (2005) as cited by Aregbeyen & Olufemi (2011), the government induced consolidation is borne out of the need to resolve issues of financial distress prominent in banking industries, especially in developing economies with the hope of preventing systematic crises by restricting operations of banks that were inefficient.

2.1. Consolidation, Recapitalization and the Nigerian Banking Industry

The consolidation of the banking industry in Nigeria started in 2004 when the CBN mandated all banks to meet the N25billion minimum paid-up capital by 31st December, 2005 (Donwa and Odia, 2010; Donwa and Odia, 2011; and Bebeji, 2013). The crux of the consolidation exercise in the Nigerian banking industry was recapitalization since banks needed adequate capital which according to Babalola (2011) would provide a cushion to withstand abnormal losses not covered by current earnings, such that banks would be able to regain equilibrium thereby re-establishing a normal earnings pattern.

In attempting to explain the ideology behind the recapitalization policy in Nigeria, Oladejo & Oladipupo (2011) noted that recapitalization as a reform in the banking industry was designed amongst others to create a more resilient, competitive and dynamic banking systems that would support and contribute positively to the

growth of the economy. Oladejo & Oladipupo (2011) further opine that the exercise would guarantee strong and forward looking banking institutions that would be technology driven and ready to face the challenges of liberalization and globalization.

No doubt, recapitalization is simply a policy thrust aimed at raising the minimum paid-up capital (capital base) for banks in the country. The general belief is that banks with strong capital base would have the ability to absorb losses that may arise from non-performing liabilities (Adegbaju & Olokoyo, 2008).

Soludo (2004), pointed that recapitalisation of the Nigerian Banking Sector became necessary as a result of the fact that there was a high concentration of the sector by small banks whose capitalizations were below $10 million, yet were having very high fixed and operating costs. In order to survive, banks were advised to either consolidate with existing banks or raise additional funds through the capital market (Sulaimon, Akeke & Fapohunda, 2011).

2.2. The State of the Nigerian Banking Industry before and after the 2005 Consolidation Exercise

2.2.1. Before the 2005 Consolidation Exercise

Before the consolidation exercise of 2005, the banking sector in Nigeria was presumed to be fragile (Soludo, 2004, and Adegbaju & Olokoyo, 2008). According to CBN (2004), of the 89 banks that were in operation as at 2004, only 10 banks could account for 51.9% of total assets, 55.4% of total deposit liabilities, and 42.8% of total credit. CBN (2004) further lamented that only few banks (10 banks) were rated as sound following the CAMAL parameters for rating. The rest were either satisfactory (51 banks), marginal (16 banks) or unsound (10 banks).

Note that prior to 2004, the number of satisfactory banks in the country stood at 63 (2001), those that were "marginal" were 8 (2001), while those that were unsound was 9 (also in 2001). These figures however rose respectively to 51, 16 and 10 by 2004. The marginal and/or unsound banks according to CBN (2004) and Soludo (2004) exhibited such weakness as undercapitalization, illiquidity, weak/poor asset quality, poor earnings etc.

Following the decision of the CBN on the need for banks to embark on the consolidation/recapitalization exercise, banks were therefore mandated to drastically increase their minimum capital base to N25 billion. This amount prior to 2005 was only N2 billion (Nasiru, Joshua & Nasiru, 2012 and Sani & Alani, 2013). This decision however led to a remarkable reduction in number of banks in the country. Immediately after the deadline for banks to consolidate by a way of recapitalization (December 31st, 2005), the number of banks operating in the

country was seen to have reduced in number to 25 banks (Bakare, 2011; Oleka & Mgbodile, 2014 and Oluitan & Ashamu, 2015). This reduction was from 89 banks that were in operation as at 2004.

2.2.2. After the 2005 Bank Consolidation Exercise

Immediately after the consolidation exercise of 2005, the number of banks in the country stood at 25. Shortly after that, there was a further merger of Inland Bank with First Altantic Bank Plc (FinBank Plc), in addition to another merger of Stanbic Bank Limited and IBTC Chartered Bank Plc (Stanbic-IBTC bank Plc). This made the number of banks in the country to reduce in number to 23 banks. Again, when Citibank Nigeria Limited came on board, the number of banks in the country had a slight increase to 24 banks.

With subsequent mergers and/or acquisitions that took place between 2008 and 2013, in addition to the revocation of the operating licenses of three banks that failed to show the ability of recapitalising by a mandated deadline of 30th September, 2011 given by the Central Bank of Nigeria (CBN), the number of banks in Nigeria by the end of 2013 became 21.

It is noteworthy however that following the collapse of the sub-prime lending market in August, 2007 in the United States of America (Bunesco, 2010), economies across the globe were adversely affected, Nigeria not an exception. In view of this, the post-consolidation/recapitalization performance of banks in Nigeria was believed to be overcast in 2008 following the global financial and economic crisis. This was as a result of the fact that foreign investors were in a hurry to liquidate their investments in order to repay their outstanding loans back in their country. This action which was in a bid to avoid excessive lending rate was believed to have had a negative impact on the Nigerian stock market. This negative impact or near collapse of the stock market did not only affect the financial performance of some of the banks, it also increased their risk exposure. According to Sanusi (2010a) the post-recapitalization challenges in Nigeria could be attributed to inability of regulators and the industry to sustain and monitor the sector's explosive growth which resulted to a huge level of in-built risk in the system. Furthermore, Sanusi (2010b) pointed that from the reports of a special examination team of the CBN/NDIC nine (9) out of the 24 (twenty) banks in Nigeria as at 2010 were in grave situation; a situation that prompted immediate intervention by CBN. The reports further revealed that Capital Adequacy Ratio in ten banks were below the minimum accepted ratio of 10%. In light of the above situation, Adegbie, Asaolu & Enyi (2013) are of the view that the Nigerian banking industry should no longer be seen as the bedrock of the economy. It is therefore necessary to conduct a study of this nature to evaluate the extent to which the consolidation exercise of 2005 had impacted on the Nigerian banking industry.

2.3 Review of Empirical Studies

It is noteworthy however that the findings in empirical literatures differ on the effect of reforms and/or recapitalization on the performance and/or efficiency of banks in the world over. According to Stern (2002), while liberalization of financial services brought about mutual opportunities to the world, it also may have raised mutual vulnerabilities. Thus, scholars like Taggart (1978), Fama (1980) and Weber (1984) noted that from their review of the free banking era, the banking system actually worked quite well during periods of little or no regulation. In support of this view, Berger, Demsetz and Strahan (1999) assert that bank consolidation does not significantly improve the performance and efficiency of banks.

On a different note, a substantial body of literature have over the years indicated that financial sector reforms significantly have improved the performance of banks in different ways. Prominent among these can be found in the works of Berger and Mester (1997), Okoro (2006), Somoye (2008), Owusu-Antwi (2009), Farooq et. al. (2010), Donwa and Odia (2011).

It is however pertinent to note at this juncture that in assessing the performance of banks, different approaches have been suggested in the literature. Bank performance can be assessed on the basis of profit and cost using the Data Envelop Analysis (DEA) or Stochastic Frontier Analysis (SFA) (Grigorian and Manole, 2002; and Bonin, Wachtel and Hasan, 2004). Also, bank performance can be analysed on the basis of profitability by looking at key variables such as Return on Assets (ROA), Return on Equity (ROE) as well as Net Interest Margin (NIM). It is in line with the above paradigm that Athanasoglou, Brissimis and Delis (2005) in a survey of emerging markets investigated the effect of bank-specific industry related and macroeconomic variables on the profitability of banks in Greece. Their study found that variables such as capital, labour productivity growth and operating expenses to a large extent had a significant impact on the profitability of banks in Greece. Athanasoglou, Brissimis and Delis (2005) also noted in their findings that size, ownership status and industry concentration does not significantly affect the profitability of banks.

As evidenced in the literature, proponents of recapitalization believes that increase in size could potentially increase bank returns through revenue gains as well as at the same time, reducing industry risk through the elimination of weak banks in the system.

Wahab (2001) analysed the performance of commercial banks under reforms and observed that though reforms had favourable impact on the overall performance of commercial banks generally, major issues like low productivity in the sector despite the existence of reforms still needed some considerations for further improvements. Similarly, Somoye (2008) conducted a study on the performance of

commercial banks in post consolidation era and pointed that consolidation in the banking sector can go a long way to create better opportunities for banks especially in the area of diversification.

In addition to the aforementioned, Umar (2009) conducted a study on the impact of banking industry recapitalization on employment in Nigerian banks using simple percentages and the multiple regression analysis. The study revealed that there was reduction in the level of employment in the industry between 1999–2001, but experienced an appreciable increase in the level of employment between 2006-2008 owing to an increase in the number of domestic branches.

In another vein, Aregbeyen and Olufemi (2011) examined the impact of recapitalization and consolidation on the cost of equity of banks in Nigeria in order for them to measure the effectiveness and efficiency of the recapitalization and consolidation programme in the country. They used the student t-test to test the difference between the mean cost of equity capital for all sampled banks prior to consolidation and after the consolidation exercise. Their study revealed that the recapitalization programme brought about a considerable reduction in the cost of equity capital in the sampled banks.

Bank performance according to Okafor (2012), also depends on the level of efficiency exhibited in the application of human, financial and material resources available to a bank. It is however a known fact that the management of banks do face several risks in the process of managing the resources available to their respective banks. Hence Okafor (2012) added that banks operate on the premise of minimising risks since any bank that assumes all risks cannot adequately serve the credit needs of her customers and in the long run may not be able to respond appropriately to the demands of economic development owing to liquidity and capital adequacy problems.

One key factor that impinges on bank efficiency and profitability is the extreme dynamism of the banking regulatory environment (Okafor, 2012) which of course is a function of changes in government policies. In Nigeria for instance, the financial sector (banking sector inclusive) has been visited with different reforms designed to cater for the various operation within the sector. Okafor (2012) further asserted that major areas so far affected in the Nigerian banking sector include the minimum capital requirement of banks, methods of access to foreign exchange, determination of foreign exchange rates, composition of bank credit mix and the imposition of a common year reporting date (31st December) on all banks. It is a general believe that these reforms in the banking sector have far reaching implications particularly on the profit margin as well as the performance of banks generally in the country.

3. Research Methodology

In this study, we adopted the quasi experimental research design and secondary data were obtained and analysed with the Ordinary Least Square (OLS) technique. The study population consist of the 21 banks that were in operation in Nigeria as at 31st December, 2012. Given the nature of available data and the number of banks in operation, the entire 21 banks in operation constitute the sample for this study. The data used by the researcher covered before and after the recapitalization exercise in Nigeria (2000 - 2012).

3.1. Statistical Procedure and Model Specification

In order to analyse the data obtained in this study by means of the OLS technique, a multiple regression model was estimated. This was done by linking our dependent variable (Bank Performance – BPERF) as a function of the independent variables (non-performing loan, capital to asset ratio, bank credit to private sector, liquidity ratio, and bank recapitalization). The model to be estimated in this study is thus stated below:

$$BPERF = b_0 + b_1NPL + b_2BCAR + b_3BCPS + b_4LR + + b_5BRECAP + U_t$$

Where:

BPERF	=	Bank Performance (proxied by Return on Equity)
NPL	=	Level of Non – Performing Loans
BCAR	=	Bank Capital to Asset Ratio
BCPS	=	Bank Credit To Private Sector
LR	=	Liquidity Ratio
BRECAP	=	Bank Recapitalization (proxied by the minimum

capital base (MCB) of banks for the relevant years/period.

b_0, $b_1 – b_5$	=	Regression Coefficient
U_t	=	Error Term

4. Data Presentation and Analysis of Results

4.1 Preliminary Analysis

In this section, we present a preliminary analysis of the sensitivity of the explanatory variables (asset quality, liquidity ratio, bank credit to private sector and bank capital to asset ratio) to movements in the dependent variable: bank performance (proxied by return on equity). The statistical indicators used for this

analysis are the standard deviation, minimum and maximum values obtained from the Ordinary Least Square results. We provided a comparative analysis of the period before and after recapitalization using the standard deviation, minimum and maximum values in order to establish whether recapitalization of banks result to any material change in the industry.

Table 1. Sensitivity of Independent Variables to Movements in BPERF

Sampled Period: 13/ 2000-2012	**Std. Value**		**Minimum Value**		**Maximum Value**	
	Before	**After**	**Before**	**After**	**Before**	**After**
Sensitivity Coefficient	41.35760	60.60258	27.2300	67.8719	114.2900	144.2299

Source: SPSS Output

Table 1 showed the sensitivity of the independent variables: Non-Performing Loans (NPL), Liquidity Ratio (LR), Bank Credit to Private Sector (BCPS) and Bank Capital to Asset Ratio (BCAR) to movements in Bank Performance (BPERF) proxied by Return on Equity (ROE). A closer look at the result suggests that on the aggregate, the independent variables were more sensitive to movements in bank performance (return on equity) after the recapitalization period. The period before recapitalization recorded a standard deviation, minimum and maximum values of 41.35760, 27.2300 and 114.2900 respectively and the period after recapitalization recorded a standard deviation, minimum and maximum values of 60.60258, 67.8719 and 144.2299 respectively. With these outcomes, it implies that NPL, LR, BCPS and BCAR indicators were better off in the period after the recapitalization exercise.

4.2. Correlation Analysis

We adopted the technique of the Pearson Correlation Coefficient (PCC) to measure the degree of linear association between the dependent and independent variables in this study. According to Nachmias & Nachmias (2009), there could be strong positive relationship, a weak positive relationship and no relationship and Pearson's *r* ranges from -1.0 to 1.0, where a negative coefficient indicates inverse relations between the variables. The Variance Inflator Factor (VIF) and Tolerance Level (TL) were also used to establish the multi-collinearity between the dependent and independent variables. Note that the closer the VIF and TL to 1, the greater the collinearity between the variables.

Table 2. Correlation Results for the Independent Variables & Bank Performance

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	TL	VIF
(Constant)	833.337	175.612		4.745	.018					
NPL	-5.629	1.644	-.852	7.424	.042	-.804	-.892	-.837	1.559	1.790
LR	-9.901	2.350	-1.508	6.212	.024	.830	.925	.983	1.270	3.708
BCPS	-4.702E-006	.000	-.250	5.114	.347	.898	.841	.807	1.684	1.461
BCAR	-15.199	3.293	-1.523	6.616	.019	-.864	-.936	-.858	1.317	3.150

Source: Regression Output

a. Dependent Variable: BPERF

b. Predictors: (Constant), NPL, LR , BCPS, BCAR

From Table 2, one can observe that there is a perfect collinearity between the independent variables (NPL, LR, BCPS, BCAR) and bank performance (proxied by returns on equity). This was established by the VIF and TL with the value of TL ranging from 1.270 (for LR) to 1.684 (for BCPS). The VIF value ranged between 1.461 (for BCPS) to 3.708 (for LR). With the Pearson Correlation using Zero, Partial and Part Correlation, the degree of association was negative and strong for NPL and BCAR while that of LR and BCPS was positive and strong.

4.3. Regression Results and Discussion

This section presents the regression results of the study.

Table 3. Summary of Regression Results

Model	**R**	**R Square** (R^2)	**Adjusted R Square** ($\bar{R}^2$)	**Std. Error of the Estimate**	**Change Statistics**					**Durbin-Watson**
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**	
1	.947[a]	.896	.758	31.48697	.896	6.483	4	3	.078	2.382

a. Predictors: (Constant), BCAR, NPL, BCPS, LR

b. Dependent Variable: BPERF

The variable of recapitalization was proxied by the minimum capital base of banks for the relevant years, while liquidity ratio was measured by the percentage of liquidity ratio of banks as contained in the CBN statistical bulletin for the relevant years. As shown in the table above, both R^2 and $\bar{R}^2$ (R^2 adjusted) measured the fitness of the model. In other words, they measured the proportion of the variation in the dependent variable explained by the model. But since $\bar{R}^2$ is the modification for the limitation of R^2, the value of the $\bar{R}^2$ is considered to be a better measure for the fitness of the model. From the table, the value of R^2 adjusted ($\bar{R}^2$) is 0.758, indicating that the independent variables in the model are explaining 76% variation on the dependent variable. Thus, we can understand that the model of the study is providing a good fit to the data. In addition, the t-calculated of 6.212 for LR (see table 2) is greater than the t-critical of 2.365**.** This is an indication that a significant relationship exist between the consolidation of banks and the liquidity ratio of banks in Nigeria. This clearly indicates that, the liquidity ratio of banks has been significantly affected by the increase in the minimum capital base of banks over the years in the country. Furthermore, we also measured bank credit to private sector by the aggregate value of commercial bank credit to small scale enterprises. Referring to Table 2 again, we observe that the t-calculated of 5.114 for BCPS is greater than the t-critical value of 2.365. This implies that the consolidation of banks had significant impact on the amount of credit given by banks to the private sector in Nigeria. On the level of NPL, we observe that the t-calculated (7.424) (see Table 2) is greater than the critical value (2.365), a suggestion that the consolidation of banks has significant positive impact on the level of non-performing loans of banks in Nigeria. Finally, we also observe that with respect to bank capital to asset ratio, the t-calculated (6.616) is greater than the critical value (2.365), a suggestion that the consolidation of banks had a significant impact on the capital to asset ratio of banks in Nigeria.

5. Conclusion

From the results of the sensitivity of the independent variables to movement in the dependent variables as well as the test of hypotheses, one would notice that on the aggregate, the independent variables (asset quality, liquidity ratio, bank credit to private sector and bank capital to asset ratio) were more sensitive to movements in bank performance (return on equity) after the recapitalization period. The period after recapitalization recorded the highest standard deviation, minimum and maximum values and with these outcomes, it implies that NPL, LR, BCPS and BCAR indicators were better off in the period after the recapitalization exercise. The results from our test of hypotheses also revealed that a significant relationship exist between the recapitalization of banks and the liquidity ratio of banks in Nigeria. This could be as a result of the fact that following the recapitalization of

banks, Nigerian commercial banks became more liquid compared to what was the case before the recapitalization exercise. This may be the reason why we found also that the recapitalization of banks had significant impact on the amount of credit given by banks to the private sector in Nigeria. In addition to the above, this study found that the recapitalization of banks significantly affected the level of non-performing loans as well as the capital to asset ratio of banks in Nigeria.

6. Recommendation

In view of the fact that the Nigerian banking industry still seem to be fragile, the need to further increase the capital base of banks in the country cannot be overemphasized. Specifically, the results from this study points to the fact that the success and growth of the industry largely depends on the capital base of banks operating in the system. Based on the aforementioned, the following recommendations have been put forth:

i. The CBN should ensure that the increase in the capital base of banks should be sustained.

ii. Since the recapitalization policy brought about banks with adequate capital base as well as increase in credit to private sector, the management of banks on their part must ensure that they are not carried away by the act of granting of credit simply because banks are more liquid in recent times. To this end, banks and the CBN must work together to see that a very sound corporate governance framework as well as effective risk management systems are in place to check the level of non-performing loans which at the moment still seems to be predominant in the Nigerian banking industry.

iii. Efforts must be made also to improve the quality of advances as well as the recovery procedures of the growing amount of bank credit to the private sector of the economy.

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Macroeconomics and Monetary Economics

The Impact of Real Exchange Rate on Employment in Albania

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Abstract: Unemployment is a big economical and social issue for each country, in particular for Albania, which is a country that comes from a centralized system where the state ensured full employment. In the struggle of applying the transition to market economy, each government had to face the two-digit levels of unemployment. Because of this, the application of the right policies in order to decrease the level of unemployment has been in the centre of the program of each government in Albania. The objective of this paper is to show if the undervaluation or overvaluation of the real exchange rate can affect in a significant way the level of employment in Albania and that to answer the question, if the real exchange rate can be used as a political instrument for the reduction of the level of unemployment. There are relatively few works that study the impact of real exchange rate on the Albanian economy and in my knowledge there is not a previous work on employment and real exchange rate relationship in Albania, so this can be considered as the first study that attempt to assess this relationship. To evaluate the link between the real exchange rate and the level of employment the Johansen procedure and Vector Error Correction Term method is used. The result of the study demonstrates not statistically significant impact of real exchange rate on level of employment, suggesting that the increase of competition of the country through the real exchange rate doesn't improve the condition of the employment in Albania, so the Albanian government should implement other strategies to increase the level of employment in the country.

Keywords: undervaluation; overvaluation; Johansen procedure; Vector Error Correction Model

JEL Classification: F16; E24

1. Introduction

Real exchange rate, RER, affects employment through 3 channels: macroeconomic channel, labour-intensive industry channel and development channel (Frenkel & Ros, 2006).

Macroeconomic channel suggests that real undervaluation expands the demand of tradable goods sector, causing increased production and employment in this sector. This direct impact causes a multiplier effect in the non-tradable goods sector (Frenkel & Ros, 2006). Increased employment causes increased income, increased

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consumption demand even for non-tradable goods, whose firms respond increasing supply and employment level.

Frenkel & Ros (2006) suggest that in developing countries, RER determines the relative value of labor to capital, because the capital goods have a large part of imported goods. An undervalued real exchange rate encourages intensive use of labor and the relative value of labor is expected to affect the ratio of employment/production and the long run employment.

Development channel focuses on the influence of real exchange rate on economic growth and consequently the speed of generating new jobs. Leichenko & Silva (2004) highlighted that an undervalued RER increases the exports, causing higher employment and higher income. Frenkel (2004) suggests that the magnitude of the RER effect on employment depends on unused capital and the level of employment.

Koren (2001) evaluates the impact of RER on the employment level in Hungarian exporting firms. He suggests that the undervaluation of RER increases employment through increased competitively exports. On the other hand, an undervalued RER increases costs of intermediate inputs, and this may cancel positive effect of increased competitiveness. The net effect depends by the firms' exposure to exchange rate risk. Koren also (2001) suggests that type of industry does matter. Undervaluation of RER positively affects employment in food industry and tobacco industry, but negatively affects employment in machinery industry.

Filiztekin (2004) studies the impact of RER volatility on manufacturing industry in period 1981-1999 and suggests that undervaluation of RER negatively affects employment level with an even greater negative impact on wage level. Dependency of Turkish manufacturing industry on foreign inputs exceeds the positive effect of undervaluation in competitiveness.

Nucci and Pozzolo (2010) suggest that volatility of RER significantly affects employment level and labor hours in Italy. Undervaluation increases the labor hours in the following year because of increased income, but increased costs reduce the labor hours too.

The objective of this paper is to evaluate if real exchange rate can affect employment level in Albania. The study covers 2005-2012 periods and time series have quarterly frequency.

2. An Overview of Albanian Economy

Albania is a small open economy. The major contributor in GDP is the service sector, which represents about 59.3% of GDP in 2005 and 58% of GDP in 2012. Industrial sector is the second greatest contributor in GDP in Albania. In 2005, this sector counts for 22.1% of GDP and in continuous growing, with the highest value 25.4% of GDP in 2008. In 2012, this sector represents 18.1% of GDP. The agricultural sector has been fluctuating, passing from 18.6% of GDP in 2005 to the lowest value of 16.8% in 2008 and 2009 and again to 18.9% of GDP in 2012.

Unlike other economies in the region, the Albanian economy has been growing steadily in recent years, passing from 6% in 2005 to 7.5% in 2008, which represent the highest grow rate in the period under study. After this year, the growth rate of GDP decreases to 3.1% in 2011 and to 2% in 2012. Construction and service sector are the greatest contributors of the economic growth, with the service sector to be considered as the sustainable contributor. This sector counts for the 45-50% of real growth in Albania.

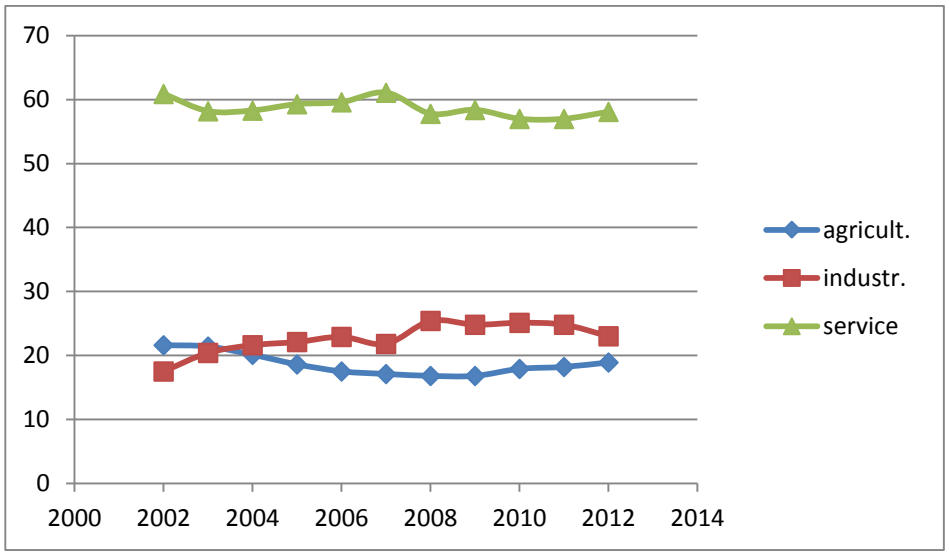

Figure 1. Composition of Albanian economy

Source: INSTAT

Industrial and agricultural sectors have contributed less in the real growth of Albanian economy. Agricultural sector have seen small growth rate. While the economy has grown on average by 5% during the period 2002-2011, the average growth in the sector is only 0.7%. Industrial sector, although has seen large fluctuation, has contributed on average by 0.7% in growth rate.

Table 1. Contribution in economic growth by sectors of the economy

Year	Agricultural sector	Industrial sector	Service sector
2005	0.1	1.9	3.1
2006	0.6	2.5	2.1
2007	0.5	0.6	4.4
2008	1.2	2.2	3.4
2009	0.3	1.0	2.0
2010	1.3	-0.6	2.5
2011	0.7	0.0	1.9

Source: INSTAT

Even with the good economic performance, Albania has a two-digit level of unemployment. In 2005, around 14% of working force was unemployed. In following years, this level decreased, but remained always above 10%. In 2008, when the economy had the highest growth, the level of unemployment was 12.5%, which is the lowest value of the period. In 2012, the level of unemployment was 13.4%.

In 2005, there were around 932.000 employees working in the economy and in the following years this number has not seen a very significant increase. In 2012, this number was 959.000 employees.

Agricultural sector is not the biggest sector of the economy, but in this sector works the majority of employees. In 2005, 58% of the employees were working in this sector, while in 2011 there were 55%. On the other side, in the service sector works around 14% of the employees, making this sector one of the biggest contributor in the GDP.

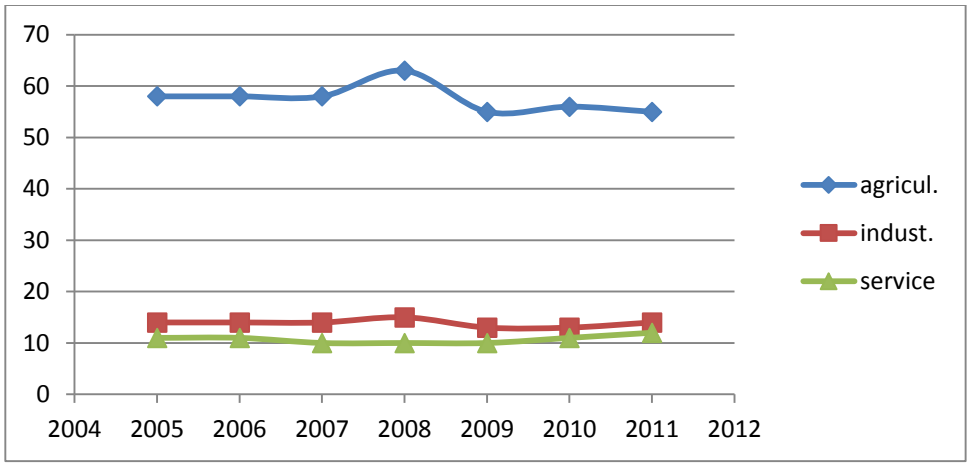

Figure 2. Employment by sectors of economy

Source: INSTAT

3. Empirical Analysis

Employment level in an economy is affected by many economical, social and political factors, but the objective of this paper is to evaluate a possible impact of real exchange rate on the employment level.

3.1. Model Specification

Real exchange rate is the purchasing power of two currencies, relative to one another and is calculated as the weighted geometric average of trade partners price index compared to domestic price index:

$$\text{RER} = E_P^{P^*} = \prod_{i=1}^{I} \left[E \ \frac{P_i^*}{P} \right]^{w^i}$$

Where E is nominal exchange rate between foreign and domestic currency, P^* is the foreign price index, P is the domestic price index and w^i is corresponding weighted of *i-th* trade partner. In this paper, the real exchange rate is calculated against the Euro, because European countries constitute around 70% of trade exchange in Albania. According to this definition, a fall in the index will show a real overvaluation, meaning that the Albanian economy is not competitive and an increase will show a real depreciation of the domestic currency. This would mean that the Albanian products are more competitive than the others.

According to empirical studies, RER is expected to affect the employment level positively as well as negatively and to assess if there is a significant impact of it on the employment level in Albania. A modified variant of Frenkel & Ros (2006)

model is used, where employment level is considered to be determined by:

-% of industrial export to total export, INDEX: tradable products are considered labor-intensive. If RER is undervalued, then the use of labor will be increased and industrial exports can indicate this effect. Thus, an increase in industrial exports is expected to positively affect the employment level in Albania.

- real GDP: this variable is expected to indicate the macroeconomic channel effect on employment. An undervalued RER increases exports, therefore product and employment level increases. Thus, a positive relationship between GDP and employment is expected.

The relationship function is:

\+ + +/-

lnEMPL = f(lnINDEX, lnGDP, lnRER)

3.2. Model Analysis

All the variables are tested for unit root through ADF test. The results are presented in the following table.

Table 2. ADF test results

Variable	ADF test	p-value	Results
lnEMPL	-3.120759	0.0369	I(0)
D(lnINDEX)	-7.626789	0.0000	I(I)
D(lnGDP)	-25.20153	0.0000	I(I)
lnRER	-5.028596	0.0004	I(0)

Source: Own calculation

Test results show that with these variables the Johansen test of cointegration can be used, because all the non-stationary variables become stationary in first difference. Johansen test shows one vector of cointegration in the all system.

Table 3. Johansen test results

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 Critical value	Prob.**
None *	0.949129	110.2805	55.24578	0.0000
At most 1	0.491121	29.86180	35.01090	0.1601
At most 2	0.263628	11.62207	18.39771	0.3379
At most 3	0.116998	3.35955	3.841466	0.0668
Trace test indicates 1 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 Statistics	0.05 Critical value	Prob.**
None *	0.949129	80.41869	30.81507	0.0000
At most 1	0.491121	18.23973	24.25202	0.2552
At most 2	0.263628	8.262522	17.14769	0.5741
At most 3	0.116998	3.35955	3.841466	0.0668
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				

Source: Own calculation

VECM analysis (table 4) is done to verify if there exists a relationship between explanatory variables and real exchange rate. The error correction term $\alpha = -0.18$ (p-value = 0.1921) shows that the coefficient has the right sign, but is not statistically important. This implies that there is not a causality of explanatory variables on employment, meaning that the cointegration vector identified by Johansen test is not the long-run relationship tested in this paper.

Our model is modified, based on the Faria & Ledesma (2005) model and besides REER and INDEX, in the model is introduced trade openness as explanatory variable. Trade openness represents the ratio of all trade volume to GDP:

OPEN = (EX+IMP)/GDP

Where EX and IMP shows respectively the exports and imports of Albanian economy to and from European countries.

Johansen test of cointegration shows that there exist 3 vectors of cointegration in all the system. VECM test shows that the error correction term is negative and statistically important.

$\alpha = -0.37$ (p-value = 0.0002)

Table 4. VECM test results

D(LNEMPL) = C(1)*(LNEMPL(-1) - 0.107170311247*LNGDPR(-1) + 0.000162175393737*LNINDEX(-1) - 0.0380788623416*LNRER(-1) - 2.95755477757) + C(2)*D(LNEMPL(-1)) + C(3)*D(LNEMPL(-2)) + C(4) *D(LNGDPR(-1)) + C(5)*D(LNGDPR(-2)) + C(6)*D(LNINDEX(-1)) + C(7) *D(LNINDEX(-2)) + C(8)*D(LNRER(-1)) + C(9)*D(LNRER(-2)) + C(10)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.187710	0.138517	-1.355140	0.1921
C(2)	0.524091	0.231277	2.266076	0.0360
C(3)	0.353289	0.289594	1.219946	0.2382
C4)	-0.012976	0.011012	-1.178360	0.2540
C(5)	-0.004244	0.006088	-0.697079	0.4947
C(6)	-0.002196	0.004661	-0.471042	0.6433
C(7)	0.003127	0.004359	0.717236	0.4824
C(8)	-0.001164	0.030854	-0.037737	0.9703
C(9)	-0.011658	0.031536	-0.369666	0.7159
C(10)	-1.40E-06	0.000496	-0.002811	0.9978

R-squared	0.446926	Mean dependent var	0.000792
Adjusted R-squared	0.170390	S.D. dependent var	0.002278
S.E. of regression	0.002074	Akaike info criterion	-9.245798
Sum squared resid	7.75E-05	Schwarz criterion	-8.770011
Log likelihood	139.4412	Hannan-Quinn criter.	-9.100345
F-statistic	1.616155	Durbin-Watson stat	1.870441
Prob(F-statistic)	0.184409		

Source: Own calculation

The long run relationship equation results

$$\ln EMPL = 3.5 - 0.0645 \ln INDEX - 0.0972 \ln OPEN + 0.318 \ln RER + Ɛ$$

This equation suggests that the employment level in the long run is affected by real exchange rate: if RER is increased with 1% then the employment level will increase by 0.32%. By construction, an increase in RER means undervaluation of the real exchange rate. This suggests that the undervaluation of RER positively affects employment in Albania. Other variables have negative sign, meaning that an increase in their values will be followed by a decrease in the level of employment in Albania.

The INDEX variable, that is expected to show intensive labor channel effect, has a small negative coefficient. This implies that an increase in industrial exports is not accompanied by an increase, but by a decrease in employment level. This result is contradictory, because parts of industrial exports in Albania are manufactured goods, including *façon* industry goods that are labor-intensive.

Trade openness OPEN has a small negative impact on employment level: 1% increase in trade openness will be accompanied by a 0.1 % decrease in employment level.

4. Discussions

Undervaluation of real exchange rate has affected employment level in Albania through macroeconomic channel. Tradable goods sector is expanded by the undervaluation of RER, but this is not followed by an increase in employment level in this sector. However, expansion of tradable sector has increased the domestic income and the multiplier effect has increased the demand in non tradable goods to which firms respond by increasing product and employment level.

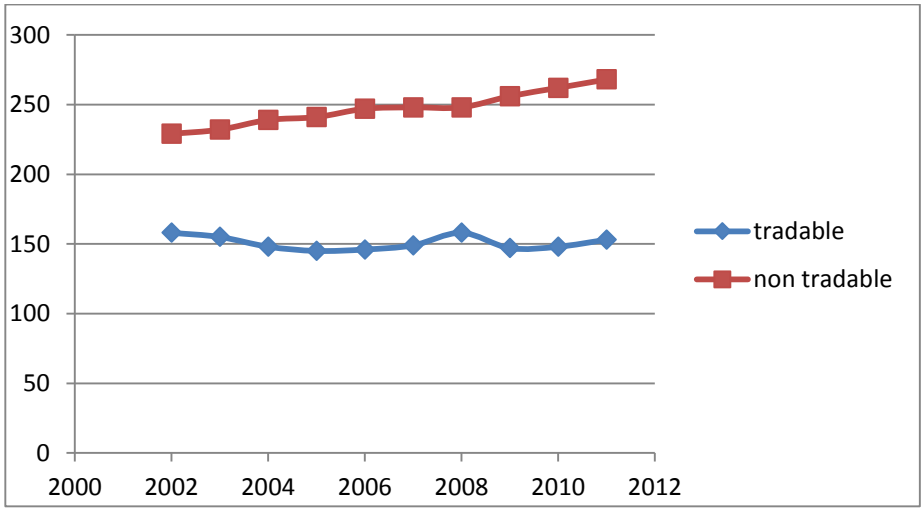

Figure 3. Employment in tradable and non-tradable sector
Source: INSTAT

Meanwhile, the INDEX that aims to catch the effect of labor- intensive channel has a negative sign. This variable represents the ratio of industrial exports on total exports. The major part of industrial exports is from *façon* industry and this industry has been decreasing continuously from 58% of total exports in 2005 in 29% of total exports in 2012.

Major increase is in minerals and oil industry, followed by construction materials industry. These sectors are not labor-intensive; hence industrial exports index doesn't catch labor-intensive channel effect.

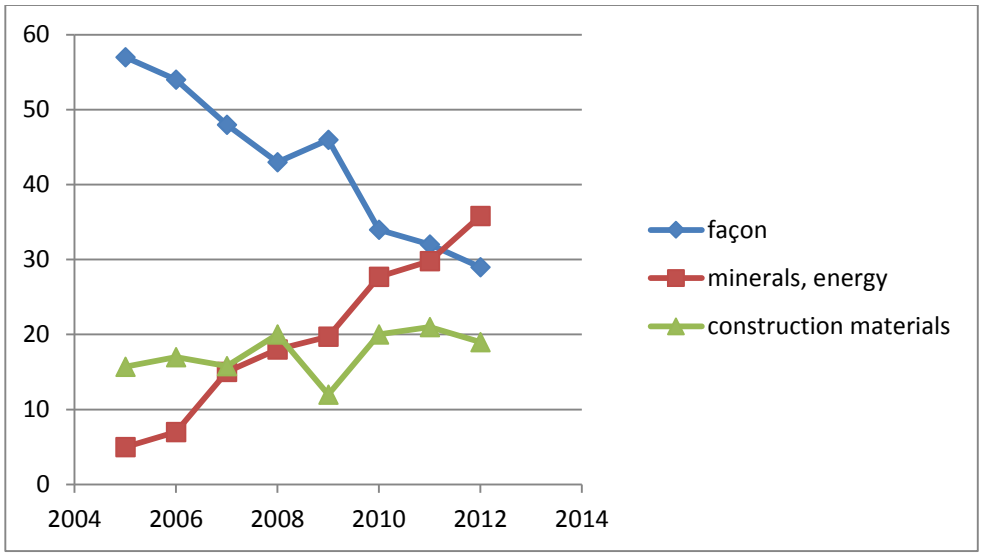

Figure 4. Industry type exports

Source: INSTAT

5. Conclusion

Real exchange rate is an important variable that affects the economy in different ways. The purpose of this paper is to evaluate a possible relationship between real exchange rate and employment level in Albania and to identify the transmission channel of a possible effect. Different variables are introduced in model to evaluate macroeconomic channel, labor-intensive industry channel and development channel of transmission, that are considered as the transmission channels of a possible impact of RER on the employment. The Johansen procedure and Vector Error Correction Model show that there is a positive relationship between real exchange rate and employment in Albania, meaning that undervaluation of RER increases employment in Albania, but this is not a statistically significant impact. Albanian economy has seen a very important growth rate in the period under study, but the growth is caused by the expansion of service sector and this sector is not labor-intensive. Hence, the macroeconomic channel doesn't have a significant effect on the employment, because it was affected only by the multiplier effect. Likewise, the labor-intensive industry channel doesn't affect employment level in Albania, because the increase in industrial exports is in raw materials, oil and minerals and these sectors are capital-intensive. In the same way, the development channel failed to generate new jobs in Albanian economy, even with the good performance of economy and this because the growth is caused by the capital-intensive use sectors instead by the labor-intensive sectors.

As a conclusion, real exchange rate doesn't significantly affect the employment level in Albania and can't be suggested as an instrument to improve it, so the Albanian government should implement other strategies to increase the level of employment.

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Reasons for and against the Early Adoption of the Euro in Romania

Alina Georgeta Ailincă[1], Camelia Milea[2]

Abstract: In the context of the current turmoil in the European Union and the euro area and taking into account the discussions on the remaining or the exit of Greece from the euro area, in our country there is a trend that supports the early (faster) euro adoption. Given that Romania can not opt out of joining the euro area, as is the case of the United Kingdom and Denmark, the problem which remains to be solved is when and how our country will enter in the euro area. Therefore, this article aims to analyze the indicators of the scoreboard for the surveillance of macroeconomic imbalances for our country, at the same time offering a number of reasons for and against a faster adoption of the euro in Romania. The paper argues its observations based on international and national documents and Eurostat database. The study may have a series of implications for the politicians, public policy administrators, academics and researchers, bringing its contribution to the euro adoption debates.

Keywords: euro adoption; surveillance of macroeconomic imbalances; real convergence;

JEL Classification: F15; F45; H12

1 Introduction

As it is known, the euro presently circulates in 18 of the 28 European Union (EU) member states, only Denmark and the United Kingdom having the opt out clause. Eight countries, among which is also Romania, will have to adopt euro sooner or later. The adoption of the euro is important for any economy, the most important consequence being that the national monetary policy is replaced by the single monetary policy of the European Central Bank. First of all, the adoption of the euro requires meeting the Maastricht nominal convergence criteria, as well as some real or structural criteria, a part of them being stipulated in the scoreboard for the

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identification and surveillance of macroeconomic imbalances. These real indicators (GDP per capita, the structure of the economy, the labour force cost, the level of economy's openness, the financing of the current account deficit, the level of financial intermediation, etc.) are used to evaluate the sustainability of the process of convergence, also being an important landmark in the evaluation and promotion of the national competitiveness.

In Romania, even from May 2011, the coordination of the process of preparation for the adoption of euro at the national level is done by the "Inter-ministry committee for the adoption of euro" [1], which is chaired by the Prime minister. At the National Bank of Romania (NBR) it was established in the spring of 2010 the "Committee for the preparation of euro adoption", an official framework of debates on this topic either regarding the experience of other countries which had already adopted the euro, or who are within the process of preparing the adoption of the euro, or regarding the stage of this process in Romania, and the theoretical and practical trends in Europe and worldwide.

The Program of Convergence 2011-2014, specifies 2015 as the year of adoption of the euro by Romania, while the Program of Convergence 2014-2017 stipulates that the commitment of Romania to adopt the euro will become achievable and necessary on January 1st, 2019. However, several thorough and reasoned debates on this subject, plus the economic development can push the adoption of the euro beyond 2019.

This calendar can be modified either due objective reasons, or due to subjective reasons, or due to Romania's decisions, or due to the European Union and its strategy of enlargement towards the east of the continent. It must be mentioned that no matter how prepared Romania will be at a particular moment in time, it cannot adopt unilaterally the euro; Romania can join the euro zone only when the European Union wants this and when Romania is ready for this process in all aspects. Any wrong or uninspired decision may generate negative effects for the entire euro zone, or even worse, for the entire European Union. The situation of Greece is relevant as example of this situation, both Greece and the European Union (the euro zone implicitly) being currently completely unprepared for the consequences of an unexpected and disorderly exit from the euro zone.

2. Methodology and Data Sources

This article uses the information presented in the Convergence Report of the European Central Bank (ECB) from June 2014, as well as other national documents (the Convergence Program 2011-2014 and the Convergence Program

[1] This team of specialists includes the NBR governor, the Minister of Public Finances, as well as other ministers and leaders of other institutions and associations.

2014-2017) and European Union documents, and documents from public institutions with international vocation. For updating and completions, we use the Eurostat database, as far as this is useful to our purpose.

3. Literature Review

About adoption of the euro references abound when concern international literature (e.g. Verdun, 2002, Schadler, 2005, Dyson, 2006, Greskovits, 2008), and domestically, many authors (Isărescu, 2004, Dumitru, 2009, Lupu, et. alli, 2010, Marinaş, Socol, & Socol, 2011, Pop, 2014, etc.) deals with the issue of euro adoption in Romania, bringing new meaning to the knowledge and understanding of the integration process of our country in the euro area.

Recently, according to Isărescu (2014), "not only in Romania, but also in the other four countries which joined the European Union in 2004 or 2007 and that have not adopted the euro - Bulgaria, Czech Republic, Poland and Hungary - the nominal convergence criteria are met or tangible. However, the authorities of these countries are not considering the entrance into the Euro zone, placing themselves on a waiting position, and Romania, having shared the same option for a year, has recently adopted the target date of January 1st 2019."

Regarding the Czech Republic, Hungary and Poland, according to Criste (2015), the euro adoption date was pushed towards an uncertain future, these countries adopting a "wait and see" type of policy, amid a more cautious attitude related the adoption of the euro, while Romania has set a target date for euro adoption.

4. Arguments for and against the Early Adoption of the Euro in Romania

4.1. Arguments Sustaining the Fast Adoption of the Euro

The adoption of the euro by Romania may anchor and motivate the domestic programs of economic reorganization and the proper administration of the public budget.

Regarding the macroeconomic imbalances, Romania is monitored within a preventive program of macroeconomic adjustment supported with EU-IMF financial assistance.

Analysing the scoreboard for Romania according to ECB data from the June 2014 Convergence report (reflecting the data for 2011-2013), we notice that 9 of the 11 indicators used to monitor the macroeconomic imbalances can allow us an easy access to the euro zone. Thus, in Romania, the real effective exchange rate has depreciated moderately, within the ±11% interval, the labour force cost, calculated

as rhythm cumulated on 3 years, was clearly lower than the +12% threshold, the market share of the exports as percent variation over five years scored positive values in 2011-2013, being over the -6% threshold, the flow of credits granted to the private sector, as proportion of the GDP, was practically insignificant during the period of analysis, being below +14%, the price of dwellings deflated with the consumption, calculated as annual percent variation, didn't exceed the level of +6%, continuing to have negative values, reflecting the corrections towards the levels registered in the period before the crisis. The debt of the private sector, the debt of the financial sector and the public debt were below the established thresholds (+133%, +16.5% and +60%). The proportion of the public debt within the GDP increased slightly due to the international economic-financial crisis. The values of these indicators apparently show a low level of external vulnerability of Romania to the contagion generated by the turbulences from the financial markets. However, the high proportion of credits in foreign currencies is a macroeconomic and financial risk because it exposes to the exchange rate risk the debtors who are not covered for this risk. In Romania, there is a significant risk due to the lack of correlation of the currency structure, particularly at the level of the population.

The unemployment rate was below the +10% threshold imposed as reference mark.

The adoption of the euro might speed up the accomplishment of the real convergence targets, but this was not demonstrated in practice (see the case of Greece).

At the same time, the adoption of the euro might support the restructuring of the state institutions by a diminishment of corruption, including at high levels. Presently, Romania struggles against corruption, and this might be beneficial for the acceleration of the process of euro adoption, but this is just one side of the sustainability demands of the process of economic, social and political convergence of any country that gets ready for the euro adoption.

The adoption of the euro means lower costs of transaction because a single currency is used, but the level of economic integration will certainly be offset by the low levels of the national incomes and gains compared to a strong currency like the euro.

The accession to the euro zone should contribute to the reduction of the regional disparities, but the post-crisis developments proved the contrary.

The adoption of the euro might theoretically establish an area of economic, political, social and cultural exchanges, and might relate the realities of our country to other values, but there is no common value and reality of the euro zone countries (for instance, there are important differences in terms of work and working time, leisure, nation and national values, traditions and culture, involvement in society, institutional relations and role, spiritual and material needs, etc.). This

heterogeneity might cause the adoption of the euro fail being a success for any European country wanting to join the euro zone, Romania included.

4.2. Arguments against the Fast Adoption of the Euro

The crediting process is still disconnected in Romania from the rhythm and trend of the economic growth and it still lacks the capacity of motivated support (both as proportion of the GDP, and as duration in time) for the national economy. In order to speed up the process of real convergence there must be a sustained contribution of the crediting activity to GDP increase. These credits must be directed not just towards consumption and volatile areas, like it was done until 2008-2009, but particularly to areas of sustainable development (health, transportation infrastructure, education, green businesses, IT, renewable energy, etc.). This phenomenon presumes resynchronization of the monetary-financial cycle to the business cycle, particularly since the revival of crediting will still be difficult because of the phenomenon of financial disintermediation which is rather strong in Romania and within the EU. Also, the excessive dependence of the financial intermediation on the banking sector must be reduced, while the faster development of the capital market must be supported.

According to Eurostat, the GDP per capita is extremely low in Romania, being in 2014 almost four times lower than the EU 28 average (just 6900 euro per capita, in real terms, compared to 25800 euro per capita, the EU 28 average), and more than 2 times lower than the real GDP per capita of Greece (17000 euro per capita).

According to Lazea, V. (2015) „At the end of 2014, GDP/capita in Romania (PPP adjusted) represent about 54% of the EU average. The Baltic countries, the poorest countries received so far in the euro area, had at those times the GDP/capita adjusted with PPP between 60 and 66 percent of the EU average. It is unlikely that eurozone to receive a candidate state with a GDP/capita below the mentioned levels. Romania's current growth differential of 2 percent faster than the EU average, requires a minimum of six years to achieve 60 percent".

The GDP per capita in Romania should be at the same level, or slightly below the EU 28 average, in order to ensure a sustainable accession to the ERM. Hence, GDP per capita growth might be stimulated only by a two-fold higher rate of growth of the real economy in Romania than the EU average for several years in a row, at least 10 years (the growth rate must not necessarily be the same every year, which is very hard to accomplish because of the economic cycles and because of the hardly predictable dynamics of the economic variables). This would take us to a compatible or comparable level with the EU 28 average GDP per capita.

The expansion of the public debt crisis in countries such as Greece, Ireland, Portugal or Spain, proved the lack of protection against adverse phenomena yielded by the affiliation to the euro zone. These countries are less competitive and they

still have very vulnerable structural economic elements. The euro area is no panacea.

The adoption of the euro by Romania in 2019 seems extremely optimistic, particularly since the Exchange Rate Mechanism II presumes at least 2 years of participation in this area. During this period, the exchange rate can no longer be regulated by the market and controlled administratively by NBR, which presumes that the economy will have to be managed only through fiscal instruments, because the response to the key interest rate of NBR and RMO does not always play an efficient role in "piloting" the monetary policy and the economy. Besides the fact that NBR will lose an extremely valuable instrument for the management of the monetary policy (by losing the exchange rate instrument), the automatic adjustments of a variable exchange rate mean even more important losses for the economy.

The loss of the exchange rate instrument, once we join the euro zone, will deprive the economy of an instrument of defence against the asymmetric shocks by regulating the exchange rate and ensuring the flexibility necessary for the restoration of the economic competitiveness in relation with the advanced euro zone economies.

Sustainability and durability are extremely important at the EU level, and the nominal criteria must not be fulfilled just at a particular moment in time (ECB, Convergence Report June 2014). Therefore, the fulfilment of the nominal convergence criteria is no guarantee that as the economy will have to cover the gaps from the real economy, the nominal convergence criteria will not slip, and the adopted euro will no longer be beneficial, but rather a "mill stone", like in the case of Greece.

The euro zone "exit" mechanism must be made clear, so that the departure from this zone, if strictly necessary, should be done in a safe way, with no serious turbulences for the particular economy, or for the entire euro zone and the entire European Union.

Some euro zone countries have structural vulnerabilities, such as: a high level of indebtedness and a high level of the foreign debt, gaps in the level of competitiveness compared to some international partners, insufficiently dynamic institutions, precarious stimulation of the innovation activity so as to support competitiveness, insufficient correlation of the workforce qualifications to labour market demands (which can be seen through the high level of unemployment among the young people), integration of immigrants, lack of demographic policy to make the population younger, speculative bubbles and volatile markets (such as the real estate market), lack of sufficiently strong and uniform mechanisms and procedures in the field of fiscal-budgetary policy monitoring and remediation of the macroeconomic imbalances, rapid contagion with turbulences and slow

contagion with positive phenomena from the markets of the member countries (such as the financial-banking markets of the EU member states), economic, politic, social and ideological fragmentation between the northern and southern, eastern and western member states, not just among the euro zone countries, but among the whole EU member states, or between the euro zone member states and the rest of EU member states, non-members of the euro zone. Given these structural deficiencies of the euro zone, we wonder whether it is recommended or not to join the euro zone before it solves much of these problems.

Furthermore, the European Union (the euro zone implicitly), didn't define clear its prospects, remaining in some kind of institutional inertia, with no hierarchy of priorities and policies, as it should have been normal. Should the observation of the nominal criteria be the most important, or should the countries target the sustainable development? Are EU policies and objectives harmonized with each other? Which is the final goal of the European Union? Which is the path to follow? Can there be a consensus in this matter?

Looking at the scoreboard for Romania, according to ECB calculations from the Convergence Report of June 2014, we may notice that not all the indicators grant the successful accession of our country into the euro zone. Thus, the investment position exceeded the threshold of -35% for all three years covered by the analysis (2011-2013), having larger negative values. These high values reflect the high previous deficits of the current account, the rather high level of the foreign direct investments in the economy and other more volatile investments (such as loans). It can thus be seen that the fiscal and structural policies didn't contribute significantly to the support of the foreign sustainability and of the competitiveness of the national economy.

The three-year average of the current account balance, expressed as percent of the GDP, has improved slightly (on the background of the turbulences caused by the international financial crisis). However, it can be seen from the ECB Convergence Report of June 2014, that this criterion has been met only in 2013, while it slipped in 2011 and 2012, showing that this indicator is not fulfilled in a sustainable manner.

The information supplied by the scoreboard must be read with caution and without reading them mechanically. Thus, it should be taken into account that the 3 or 5-year averages are influenced by the adjustments from the post-crisis period, which will not last long. Hence, the analysis should also take into consideration other factors, such as the whole macroeconomic context (economic, financial, social, etc.), as well as the macroeconomic perspectives.

Furthermore, the decrease in the price of real estate must not always be judged positively, because it may show a possible crash risk of this sector if it perpetuates and gets more serious. However, in Romania, after the pre-2009 boom, the

corrections to the price of dwellings are only natural. The price of houses should reflect the income of the inhabitants, having a fair relation with it, while in Romania the cost of the dwellings is according to the European levels.

Also, the flow of credits for the private sector is extremely low in Romania, much below the set threshold (+14%), which means that this sector is underfinanced. The threshold allows increase of financing, but both the banking sector and the businessmen display reticence. This situation might be improved if the stock of bad credits would decrease by over a half, and if it would approach the European average, while the banks balance sheets would get "cleared" of burdening costs and products with improper performance. At the same time, the business environment should be stimulated to collaborate with the banks, while the banking system should come with a correct and "friendly" offer, thus understanding the intrinsic mechanisms of running any business in order to facilitate the proper functioning of the companies, rather than making it difficult. The state should also have a contribution to the use of the business credit by granting fiscal facilities and/or guarantees if the bank and the company can prove that they can have fruitful cooperation for at least 3 years.

Regarding the labour market, although the unemployment rate is within the set limits by the scoreboard, there are forms of unemployment which are not covered by the statistics, and the situation of the unemployment is often accompanied by a lack of correlation between the existing competencies and the requirements of the employers. There also are territorial disparities regarding the employment rate, for instance higher demand for labour force in west and north-west of Romania, and a higher offer of labour force in north-east and south-west of Romania, the mobility of the work force being rather low in Romania. This will maintain the risk regarding the convergence of the real income of the Romanian population. According to Europe 2020 strategy, in 2014, the employment rate in Romania (people aged 20-64) was of just 65.7%, compared to the 70% national target, or 75% EU target. This situation must also be correlated with other social variables of the Europe 2020 Strategy such as school dropout, which is extremely high in Romania (18.1% in 2014, the national target being 11.3%, while the EU target being 10%); tertiary education (25% in 2014, the national target being 26.7%, while the EU target being 40%); gross domestic expenditure for research and development (just 0.39% of the GDP, compared to 2% national target and 3% European target); severe poverty. All these social, educational and labour market indicators from Europe 2020 Strategy show how unprepared Romania is. This is an argument not to force the accession without being prepared.

The indebtedness of the private sector doesn't always contribute to the revival of businesses and support of production, particularly under the conditions of a restrictive financial-banking environment, while the foreign currency loans, the euro included, may engender a high currency risk that may affect those particular

entities (the population included) and possible their branch of activity. Therefore, it would be then necessary an active protection against the currency risk, or granting credits mostly in lei.

Still talking about the scoreboard, the requirements for the countries members of the euro zone are more restrictive than for the non-euro zone countries, like it is for the real effective exchange rate and for the nominal unit labour cost, calculated as rate of growth over 3 years. Thus, for the real effective exchange rate, the threshold is ±5% for the euro zone countries and ±11% for the non-euro zone countries, while the threshold for the nominal unit labour cost is +9% for the euro zone countries and 12% for the non-euro zone countries (European Commission, 2012). Hence, a too early adoption of the euro might entail normative restrictions for which Romania is not yet ready**.**

Beyond the arguments of the scoreboard indicators, an extremely important aspect that doesn't yet qualify Romania for entry into the Euro zone is the competitiveness level. Thus, according to 2011 Romania's Competitiveness Report, our country is below the EU average on indicators on physical infrastructure and human resources (requiring an increase in fixed capital) and on the quality of fiscal and monetary policies. According to the report, Romania recorded a total of 25 advantages and 49 disadvantages and other 22 indicators were classified as neutral in terms of competitiveness. The overall performance of our country positions it in a slightly competitive disadvantage compared to countries such as: Austria, Bulgaria, Czech Republic, Hungary, Poland and Slovakia, which was compared with at the regional level.

5. Conclusion

Although Romania largely meets the requirements of the relevant EU indicators of the scoreboard of macroeconomic imbalances surveillance, they should not be read mechanically, but correlated with the economic and social reality, particularly since some indicators of the nominal convergence criteria imposed by the Maastricht Treaty are not met in a sustainable manner.

Furthermore, the global economic and financial crisis altered the natural evolution of some macroeconomic indicators, and their adjustments due to the crisis cannot be done on the long-term. It is therefore necessary to understand what and how much from the evolution of the indicators is cyclic or conjectural, and what and how much is structural, these elements becoming clearer in time. This is also valid for all scoreboard indicators.

Beyond the evolution of the scoreboard indicators for Romania, we must highlight that our country still displays a low quality of institutions and governance efficiency and efficacy (almost an institutional "autism"), an incapacity to draw

and absorb European funds, a vulnerable business environment and a high rate of corruption, which sent Romania to the bottom of the European institutions quality (ECB, 2014), after Greece. This requires correcting all these serious deficiencies before accession to the euro zone. A corrupt institutional environment disturbs the accomplishment of the criteria of nominal and real convergence, and of the Europe 2020 criteria, and the accomplishment of the sustainable development goals. Such institutional environment might undermine the sustainable development of the economy and might make more difficult some economic adjustments and the efficient implementation of economic policy measures.

Although the target for accession to the euro zone was set for 2019, in our opinion this target is not realistic due to the low level of economic and social integration of Romania. Hence, we consider that euro adoption in 2019 is too early. A reasonable time could be 2025 for ERM 2 accession and 2027-2028 for the adoption of euro.

The establishment of an environment which favours the sustainable convergence in Romania for the adoption of the euro also requires the implementation of economic policies which ensure the macroeconomic stability and the increase of national competitiveness.

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Mathematical and Quantitative Methods

Stackelberg Model for Linear Marginal Costs

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Abstract: The paper treats the Stackelberg where marginal costs corresponding to two companies are linear. It also examines the profitability of the merger of the two companies in order to maximize the profit.

Keywords: Stackelberg, marginal costs

JEL Classification: L20

1. Introduction

Let two companies A and B. Consider first that the company A is a leading quantity. If it will produce good Q_A units of a good, then the company B will adjust its production at $Q_B=f(Q_A)$units of the same good (f being called the reaction function).

The sale price is dependent on the total quantity of goods reached the market. Be so:

$p=p(Q_A+Q_B)$

the price per unit of good.

The A company must establish a level of production related to the reaction of B, because through its production realized will determine the selling price of the product. Similarly, firm B will adjust its production according to A, because at a higher or lower production, the price will change and therefore the profit of the company.

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2 The Analysis

Consider the function of price (the inverse demand function) of the form:

p(Q)=a-bQ, a,b>0

Also, consider that the marginal costs for A and B are linear:

$Cm_A(Q)=\alpha_A Q+\beta_A,\ Cm_B(Q)=\alpha_B Q+\beta_B,\ \alpha_A,\alpha_B\geq 0$

Let also the profit of the leader:

$$\Pi_A(Q_A)=p(Q_A+Q_B)Q_A-CT_A(Q_A)=aQ_A-b(Q_A+Q_B)Q_A-CT_A(Q_A)=$$

$$-bQ_A^2+(a-bQ_B)Q_A-CT_A(Q_A)$$

Because $Q_B=f(Q_A)$ we have:

$$\Pi_A(Q_A)=p(Q_A+f(Q_A))Q_A-CT_A(Q_A)=-bQ_A^2+aQ_A-bQ_Af(Q_A)-CT_A(Q_A)$$

Let consider now, also, the profit of the satellite:

$$\Pi_B(Q_B)=p(Q_A+Q_B)Q_B-CT_B(Q_B)=aQ_B-b(Q_A+Q_B)Q_B-CT_B(Q_B)=$$

$$-bQ_B^2+(a-bQ_A)Q_B-CT_B(Q_B)$$

The extreme condition for the profit of A is:

$$\frac{\partial\Pi_A(Q_A)}{\partial Q_A}=-2bQ_A+a-bf(Q_A)-bQ_Af'(Q_A)-Cm_A(Q_A)=0$$

or other, taking into account of the marginal cost expression:

$$-2bQ_A+a-bf(Q_A)-bQ_Af'(Q_A)-\alpha_AQ_A-\beta_A=0$$

and those for the satellite B:

$$\frac{\partial\Pi_B(Q_B)}{\partial Q_B}=-2bQ_B+a-bQ_A-Cm_B(Q_B)=0$$

or, taking into account of the marginal cost expression:

$$-2bQ_B+a-bQ_A-\alpha_BQ_B-\beta_B=0$$

Considering therefore the production of the leader Q_A being given, it follows that the production of the satellite satisfies the condition:

$$Q_B = \frac{a - \beta_B - bQ_A}{2b + \alpha_B}$$

Varying now the production Q_A we have that $Q_B=f(Q_A)=\frac{a - \beta_B - bQ_A}{2b + \alpha_B}$ from where, the question of leader's profit maximization is:

$$-2bQ_A + a - b\frac{a - \beta_B - bQ_A}{2b + \alpha_B} + \frac{b^2 Q_A}{2b + \alpha_B} - \alpha_A Q_A - \beta_A = 0$$

or other:

$$Q_A^* = \frac{ab + a\alpha_B - 2b\beta_A - \alpha_B\beta_A + b\beta_B}{2b^2 + 2b(\alpha_A + \alpha_B) + \alpha_A\alpha_B}$$

We obtain now for the satellite B:

$$Q_B^* = \frac{a - \beta_b - bQ_A}{2b + \alpha_B} =$$

$$\frac{\left(b^2 + (2\alpha_A + \alpha_B)b + \alpha_A\alpha_B\right)a + (2\beta_A - 3\beta_B)b^2 - (2\alpha_A\beta_b + 2\alpha_B\beta_B - \alpha_B\beta_A)b - \alpha_A\alpha_B\beta_B}{(2b + \alpha_B)(2b^2 + 2b(\alpha_A + \alpha_B) + \alpha_A\alpha_B)}$$

The condition for the leader to have a higher production than the satellite returns to $Q_A^* > Q_B^*$ which is equivalent to:

$$(a - 6\beta_A + 5\beta_B)b^2 + [(2a + 3\beta_B)(\alpha_B - \alpha_A) + 5(\alpha_A\beta_B - \alpha_B\beta_A)]b + a\alpha_B(\alpha_B - \alpha_A) + \alpha_B(\alpha_A\beta_B - \alpha_B\beta_A) > 0$$

From $Cm_A(Q) = \alpha_A Q + \beta_A$, $Cm_B(Q) = \alpha_B Q + \beta_B$ we obtain after a simple integration:

$$CT_A(Q) = \frac{\alpha_A}{2}Q^2 + \beta_A Q + \gamma_A,\ CT_B(Q) = \frac{\alpha_B}{2}Q^2 + \beta_B Q + \gamma_B \text{ with } \gamma_A, \gamma_B \geq 0$$

Returning to the profits of both firms A and B we have:

$$\Pi_A(Q_A^*) = p(Q_A^* + Q_B^*)Q_A^* - CT_A(Q_A^*) =$$

$$-bQ_A^{*2} + (a - bQ_B^*)Q_A^* - \frac{\alpha_A}{2}Q_A^{*2} - \beta_A Q_A^* - \gamma_A =$$

$$\frac{\left(-2b^2-2b(\alpha_A+\alpha_B)-\alpha_A\alpha_B\right)Q_A^{*2}+2(ab+a\alpha_B+b\beta_B-2b\beta_A-\alpha_B\beta_A)Q_A^*-4\gamma_A b-2\alpha_B\gamma_A}{2(2b+\alpha_B)}$$

$$\Pi_B(Q_B^*)=p(Q_A^*+Q_B^*)Q_B^*-CT_B(Q_B^*)=aQ_B^*-b(Q_A^*+Q_B^*)Q_B^*-\frac{\alpha_B}{2}Q_B^{*2}-\beta_B Q_B^*-\gamma_B$$

=

$$\frac{(a-\beta_B-bQ_A^*)^2}{2(2b+\alpha_B)}-\gamma_B$$

Suppose now that the two firms merge to form a monopoly with the same total production:

$$Q^*=Q_A^*+Q_B^*$$

the price $p=p(Q_A^*+Q_B^*)=p(Q^*)$ keeping also constant.

The profit of the monopoly is:

$$\Pi(Q^*)=(p\text{-}CTM(Q^*))\cdot Q^*$$

where $CTM(Q^*)=\frac{CT_A(Q_A^*)+CT_B(Q_B^*)}{Q_A^*+Q_B^*}$ is the average cost of the production of the monopoly.

We have therefore:

$$\Pi(Q^*)=\left(p-\frac{CT_A(Q_A^*)+CT_B(Q_B^*)}{Q_A^*+Q_B^*}\right)(Q_A^*+Q_B^*)=p(Q_A^*+Q_B^*)-CT_A(Q_A^*)-CT_B(Q_B^*)$$

=

$$a-b(Q_A^*+Q_B^*)-\frac{\alpha_A}{2}Q_A^{*2}-\beta_A Q_A^*-\gamma_A-\frac{\alpha_B}{2}Q_B^{*2}-\beta_B Q_B^*-\gamma_B=$$

$$-\frac{\alpha_A}{2}Q_A^{*2}-(b+\beta_A)Q_A^*+a-\frac{\alpha_B}{2}\frac{(a-\beta_b-bQ_A^*)^2}{(2b+\alpha_B)^2}-(b+\beta_B)\frac{a-\beta_b-bQ_A^*}{2b+\alpha_B}-\gamma_A-\gamma_B$$

But:

$$\Pi_A(Q_A^*)+\Pi_B(Q_B^*)=$$

$$\frac{\left(-b^2-2b(\alpha_A+\alpha_B)-\alpha_A\alpha_B\right)Q_A^{*2}+2(a\alpha_B+2b\beta_B-2b\beta_A-\alpha_B\beta_A)Q_A^{*}+a^2+\beta_B^2-2a\beta_B}{2(2b+\alpha_B)}-\gamma_A-\gamma_B$$

from where:

$$\Pi\left(Q_A^{*}+Q_B^{*}\right)-\Pi_A\left(Q_A^{*}\right)-\Pi_B\left(Q_A^{*}\right)=$$

$$\frac{b(b+\alpha_B)^2Q_A^{*2}-(b+\alpha_B)\left(2b^2+2b\beta_B+a\alpha_B+b\alpha_B\right)Q_A^{*}+\left(a\alpha_B+2ab+b\beta_B-a^2\right)(b+\alpha_B)+\beta_B\left(b\beta_B+b^2+a\alpha_B\right)}{(2b+\alpha_B)^2}$$

where:

$$Q_A^{*}=\frac{ab+a\alpha_B-2b\beta_A-\alpha_B\beta_A+b\beta_B}{2b^2+2b(\alpha_A+\alpha_B)+\alpha_A\alpha_B}$$

If $\Pi\left(Q_A^{*}+Q_B^{*}\right)-\Pi_A\left(Q_A^{*}\right)-\Pi_B\left(Q_A^{*}\right)>0$ then, when the two companies will merge, the profit will increase.

3 Conclusions

The assumptions made in the given hypothesis is plausible because in a reasonable time, the marginal cost can be assumed linear. Also, the terms of the merger of two companies in order to increase profitability are necessary to be known, because in a highly competitive market conditions and strong competing firms, an atomization of the production leading to low profits or even the disappearance of firms from the market.

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Multilevel Models: Conceptual Framework and Applicability

Roxana-Otilia-Sonia Hrițcu[1]

Abstract: Individuals and the social or organizational groups they belong to can be viewed as a hierarchical system situated on different levels. Individuals are situated on the first level of the hierarchy and they are nested together on the higher levels. Individuals interact with the social groups they belong to and are influenced by these groups. Traditional methods that study the relationships between data, like simple regression, do not take into account the hierarchical structure of the data and the effects of a group membership and, hence, results may be invalidated. Unlike standard regression modelling, the multilevel approach takes into account the individuals as well as the groups to which they belong. To take advantage of the multilevel analysis it is important that we recognize the multilevel characteristics of the data. In this article we introduce the outlines of multilevel data and we describe the models that work with such data. We introduce the basic multilevel model, the two-level model: students can be nested into classes, individuals into countries and the general two-level model can be extended very easily to several levels. Multilevel analysis has begun to be extensively used in many research areas. We present the most frequent study areas where multilevel models are used, such as sociological studies, education, psychological research, health studies, demography, epidemiology, biology, environmental studies and entrepreneurship. We support the idea that since hierarchies exist everywhere, multilevel data should be recognized and analyzed properly by using multilevel modelling.

Keywords: multilevel data; nested data structure; group correlations; multilevel analysis

JEL Classification: C19; C51

1. Introduction

Socio-economic phenomena may occur at many levels: persons, family, neighbourhood, city, society. Individuals and the social or organizational groups they belong to can be viewed as a hierarchical system situated on different levels. Individuals are situated on the first level of the hierarchy and they are nested together on the higher levels. Individuals may be nested in rural or urban areas, cities, states, regions, countries, or may be grouped within organizations, trade unions, political parties or some other type of social group.

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The nesting of individuals in social groups generates a mutual relationship between individuals within the same group, but also between individuals and the society as a whole; there can be observed a correlation between the characteristics of the individuals and the characteristics of the group to which they belong. Individuals interact with the social groups they belong to and are influenced by these groups (Hox, 2010, p. 1): the social context or the group may influence individuals' opinions, actions and behaviour. Social groups are themselves influenced by individuals in the group (Hox, 2010, p. 1).

The analysis of socio-economic phenomena implies therefore the analysis of complex data sets that have a hierarchical structure. Such analyses should consider each level of the hierarchy, together with their interactions.

Reality can be described through conceptual models of data. Traditional linear models such as analysis of variance and linear regression offer a simple view of a complex world by generally assuming the same effects across groups. Hierarchical data no longer satisfy the independence hypothesis. Clustered data structures are defined by the dependence of observations within groups or units. Hence, in the case of hierarchical data, when effects differ across groups, multilevel models should be used to analyse and explain these differences. By applying multilevel analysis we can investigate the variables measured at different levels of the multilevel data structure and the relations between them. Ignoring the effects of nested data may lead to biased estimates in the case of traditional single level models. Multilevel modelling corrects the bias of the estimates, the bias of the standard errors and leads to more accurate test results and conclusions.

Multilevel analysis is quite common in sociological studies, education, psychological research, health studies; the multilevel approach is also used in demography, epidemiology, biology, environmental studies, as well as in entrepreneurship research. Educational studies were among the first to use multilevel models and such examples are introduced in many papers (Aitkin, Longford, 1986; Raudenbush and Bryk, 1986, Goldstein, 2003; Gelman and Hill, 2007; De Leeuw and Meijer, 2008; Snijders and Bosker, 2012; Hox, 2010). In addition to these research papers and manuals, statistical analysis software such as MLwiN, HLM, S-Plus, GLAMM, GenStat were also developed to analyse multilevel data. The new IT technologies offered statistical researchers a greater accessibility and faster tools for the implementation of multilevel analyses.

2. Multilevel Data

The term "multilevel" is associated with a nested data structure, but the nesting may also consist of repeated measures within subjects or longitudinal data.

A hierarchy is a structure of units or individuals grouped in two or more different levels. The classic example of a simple data hierarchy with two levels, often addressed in educational studies, is that of students nested in schools. Other examples of two level data are individuals nested within countries or households, patients nested under hospitals, employees nested within organizations, families nested in neighbourhoods.

Crossed data, that is individuals belonging to several higher levels, are also multilevel data. An example of a crossed data structure is that of students nested within the same school, but belonging to different regions. In this case both schools and regions are on the second level of the hierarchy.

Multiple membership data are also multilevel data. Multiple membership data assume that individuals belong to several groups, such as students that can move from one school to another and from one region to another during the same study period; they belong, therefore, to several regions and to several schools. The three types of multilevel data structures – hierarchical data, crossed data, multiple membership data - are shown in the diagrams from Figure 1.

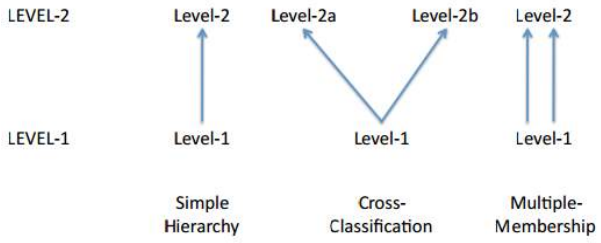

Figure 1. Multilevel data structures

Source: Centre for multilevel modelling, University of Bristol - Multilevel structures and classifications

Repeated measurements on units or individuals are also two level data: the measurements are situated on the first level of the hierarchy and the individuals on the second level. Multivariate responses of individuals can be considered two level data as well: responses of an individual are the first level and the individual represents the second level of the hierarchy.

Longitudinal data consists of repeated observations of the same variables over long periods of time: time is the first level of the hierarchy and the individual is the second level. Time is thus nested within individuals.

3. Multilevel Analysis and Multilevel Models

Data modelling is the process that translates a real phenomenon into a conceptual model. The model is a simplified representation of reality that captures the essential aspects of the phenomenon or the research process. In statistical analysis, a model involves dependent and independent variables and the relationships or the links between them. The relationships between variables and their characteristics are expressed through the equation or through the system of equations that defines the model.

The term "multilevel model" is a general term used for all models that work with nested data. The multilevel model is a generalized single level regression that takes into account the grouping of data at a higher level. The multilevel model is known as the mixed model, the variable coefficients model (De Leeuw and Kreft, 1986), the variance component model (Longford, 1987) or the hierarchical linear model (Raudenbush and Bryk, 1986).

There are several categories of multilevel models according to the data type of the response variable: data with three or more levels, crossed data, multiple membership data, multivariate response models, multilevel models for repeated measures, discrete response models, time series models, factor analysis models. Also, according to the type of distribution for the response variable, multilevel models can be classified as: multilevel models for normally distributed response variables or multilevel models for binary, binomial, ordinal, nominal or Poisson response variable. If the response variable has any distribution other than the normal distribution, the models are called generalized multilevel models.

Multilevel models are designed to simultaneously analyse variables at different levels, properly including various dependencies (Hox, 2010: 6). Multilevel analysis applies to multilevel data structures and models the group's influence on the individual response. Individuals of the same group are similarly influenced by the same factors and hence the response data is not independent anymore, as in ungrouped data. By using multilevel analysis we can investigate the level 1 characteristics that affect the outcome, the level 2 characteristics that influence the outcome and also the level 2 characteristics that influence the level 1 intercepts and slopes. We perform multilevel data analysis to assess the amount of variability due to each level, to model the level 1 outcome in terms of effects at both levels or to assess interaction between level effects.

There is no "adequate" level where data should be analysed, but all levels are important in their own way (Hox, 2010: 4). As a generalization of regression, multilevel modelling can be used in forecasting, data reduction or for causal inference. Forecasting is perhaps the most obvious advantage of multilevel

modelling (Gelman, 2006: 432). Using single level methods of analysis for multilevel data leads to some adverse consequences (Maas, Hox, 2004: 128): parameter estimators are unbiased but inefficient (de Leeuw, J. and Kreft, 1986; Snijders and Bosker, 2012; Hox, 2010) and contextual information cannot be properly modelled and ends up in the error term.

A nested structure leads to the correlation of data within a group. The single level traditional statistical methods of analysis disregard these correlations and they result in biased estimates and large standard errors and may consequently lead to incorrect tests and conclusions. Obtaining small standard errors is one of the reasons for using multilevel modelling (Steele, 2008).

3.1. The General Two-Level Model

A multilevel model applies to grouped data with two or more hierarchical levels. The variables in the model can be found at any level of the hierarchy. Multilevel models allow simultaneous assessment of the effects of individual and group variables on the response variable.

All multilevel models assume a hierarchical data set, with one single outcome or response variable that is measured at the lowest level, and explanatory variables at all existing levels. The basic multilevel model is the two-level model. The simplest multilevel model is the null model, a model with no predictors.

The equations for the two-level null model are as follows:

Level 1 equation: $Y_{ij} = \beta_{0j} + e_{ij}$ (1)

Level 2 equation: $\beta_{0j} = \beta_0 + u_{oj}$, (2)

By substitution of equation (2) in equation (1) we get the final equation:

$$Y_{ij} = \beta_0 + u_{oj} + e_{ij} \quad (3)$$

where i=1,…., I level 1 units,

j=1,…, J level 2 units,

Y – dependent variable, X – independent variable,

e – level 1 error, $e_{ij} \sim N(0, \sigma_e^2)$, $var(e_{ij}) = \sigma_e^2$,

u – level 2 error, $u_{oj} \sim N(0, \sigma_{u0}^2)$, $E(u_{oj}) = 0$; $var(u_{oj}) = \sigma_{u0}^2$.

Equation (3) has a fixed component (β_0) and a variable component ($u_{oj} + e_{ij}$).

When adding one or more independent variables into the null model we get the general equations (5), (6), (7) for the two-level model.

Level 1 equation: $Y_{ij} = \beta_{0j} + \sum_{h=1}^{n} \beta_{h,j} x_{h,ij} + e_{ij}$(5)

Level 2 equations: $\beta_{0j} = \beta_0 + u_{oj}$, (6)

$$\beta_{hj} = \beta_h + u_{hj}, \quad (7)$$

where: i=1,…., I level 1 units,

j=1,…, J level 2 units,

h=1,…, H number of independent variables,

Y – the dependent variable, X – the independent variable

e – level 1 error, $e_{ij} \sim N(0, \sigma_e^2)$, $var(e_{ij}) = \sigma_e^2$

u – level 2 error, $u_{hj} \sim N(0, \sigma_{u0}^2)$, $E(u_{oj}) = E(u_{1j}) = 0$;

$var(u_{oj}) = \sigma_{u0}^2$; $var(u_{1j}) = \sigma_{u1}^2$; $cov(u_{oj}, u_{1j}) = \sigma_{u01}$;

If we substitute equation (6) and (7) into equation (5), we get the final equation (8):

$Y_{ij} = (\beta_0 + u_{oj}) + \sum_{h=1}^{n}(\beta_h + u_{hj}) + e_{ij}$ (8)

By grouping the fixed effects and the random effects terms we get (8):

$Y_{ij} = (\beta_0 + \sum_{h=1}^{n} \beta_h X_{h,ij}) + (u_{oj} + \sum_{h=1}^{n} u_{h,j} X_{h,ij} + e_{ij})$ (9)

fixed effects variable effects

The two-level model can be further extended by adding more levels and more independent variables that can vary at the higher levels.

4. The Applicability of Multilevel Models

Multilevel modelling is intensively applied to real problems from social and human sciences, health sciences, agriculture and medicine. Educational research is where multilevel analysis started to develop: the classic multilevel examples refer to students grouped in classes, classes grouped in schools, schools grouped in school districts. School effectiveness research can be done most effectively using a multilevel model (Goldstein and Spiegelhalter, 1996).

The sociological theories of psychiatric illness and delinquency arising out of the Chicago School introduced the idea that individual actions are shaped by the influences of macro-level forces (Faris, Dunham, 1939; Shaw, McKay, 1969). These theories suggest that both individual as well as social context factors can affect individual health and criminal behaviour (Moineddin et al, 2007).

Biological, psychological and social processes that influence health occur at

several levels: cell, organ, individual, family, neighbourhood, city, company level. An analysis of risk factors should consider each of these levels as well as their interactions. The health system has a hierarchical structure: patients are grouped within doctors, the doctors are nested within hospitals or by practice. Multilevel models have also been intensively used in epidemiology in the last decade, being suitable for analysing the influence of context on individual health (O'Campo, 2003).

In environmental and ecological research assumes interactions between different measurement scales: ecosystem processes involve interactions at multiple scales and hence the multilevel approach is justified for predictive modelling as well as for the flexibility of defining the model (Qian et al, 2010).

Multilevel modelling is also used in team organization research. Team performance can be understood and more effectively managed by considering the complex relationships between organizational practices and technological tools, and between individual and team characteristics (Griffith and Sawyer, 2010). Training and learning processes can also be modelled by using multilevel modelling (Chen et al, 2005; Kozlowski et al, 2000; Lapointe and Rivard, 2005), as well as expertise recognition and usage (Bunderson, 2003), as well as examination and support of team members (Van der Vegt et al, 2006).

In the case of entrepreneurship, the multilevel tools that take into account both the individual level characteristics, as well as the entire context where these characteristics influence the actions and the behaviour of the entrepreneur. Multilevel models can provide a more robust and vast understanding of why and by what conditions some people are interested in developing the entrepreneurial activity (Klein et al, 1999). Individuals and organizations affect and are affected by their social context. The role of informal institutions on entrepreneurship is discussed by Autio and Wennberg (2010); they develop and test a multilevel model for entrepreneurial behaviour that takes into account the attitudes of the social group as well as behavioural norms that influence the individual.

Many research topics in political science can be studied on several levels. Political science theories rely on the assumption that the variables measured at one level can influence or link to variables from other levels. The political science unit can be defined in geographical terms (country, region, state), in temporal terms, such as election periods or in social terms, such as political or social groups. Multilevel data structures especially exist in comparative analyses in the political science area (Jones et al, 1997).

Ignoring the variation of the response variable between countries when analysing the relationship between the independent variables and the economic conditions, such as unemployment, may lead to incorrect or inaccurate inferences. Since the "contextual factors" highly vary between countries (Przeworski et al, 2000), there

will be different influences on the surveyed countries.

Election results can be modelled by considering individuals as nested in campaigns or election periods. If individuals respond or react differently to different national contexts (Kramer, 1983; Haller and Norpoth, 1994) or to different political campaigns (Kahn and Kenney, 1999), then regional or national political factors may lead to variation of individual level variables. Hence, the comparative analysis of election periods or of more national campaigns calls for multilevel data analysis.

The analysis regarding the influence of religion or the social class on the voting decision shows that these factors reduced their intensity (Goldberg, 2014). To analyse the impact of religion on the decision to vote for the Swiss Christian democrat party, Goldberg uses a hierarchical linear model, a model that takes into consideration the individual variables, as well as the contextual effects. The voting data corresponds to the 2007 and 2011 elections and the results confirm the influence of the individual variables on the voting decisions, as well as a considerable contextual effect

A very popular topic in the UK is the influence of local context on political reaction and voting behaviour. Multilevel modelling assesses both the importance of the voter's characteristics and the environmental characteristics, independently of attitudes and behaviour. Using the 1987 national election data, Jones et al (1992) shows that the place is important as part of the mechanism that influences individual's vote. Multilevel modelling is necessary to study the electoral behaviour. Least squares regressions do not take into consideration date correlation and cannot divide the variation of the response variables between hierarchy levels. Through regression one cannot separate the influence of the individual characteristics and the background influence on the choice of voting. Multilevel analysis can show that the individual effects are not the only influencers of votes. The voter has his own choice but this is made in a certain context that influences therefore the voter's choice (Jones et al, 1992).

Other studies that make use of multilevel models are studies on the European integration. These studies involve either aggregated data with emphasis on cross-national variation and time trends regarding the support for integration (Eichenberg and Dalton, 1993) or individual data with emphasis on factors that may influence individuals to support the European Union integration (Deflem and Pampel, 1996; Janssen, 1991). Studies show that the effect of political ideology (left or right ideology) towards EU support is weak (Wessels, 1995; Deflem and Pampel, 1996). Political ideology may have an important positive or negative influence only in some countries. If the variance component corresponding to the ideology is statistically significant there is contextual variation and hence the country level factors causing this variation may be assessed.

The performance of the Romanian ICT companies is evaluated by using multilevel

models so as to analyse the micro and macro level interactions that exist in this field (Mazurencu, Pele, 2012; Mazurencu, 2013). The integrated performance of the metropolitan areas is analysed by using advanced growth models which are also multilevel models (Kourtit, Mazurencu, Nijkamp, 2014). This research takes into consideration 35 cities all over the world: the data collected from the GPCI database is analysed by using the R statistical program.

5. Conclusions

Many types of data have a hierarchical or nested structure. This hierarchical structure of the society generates a correlation between individuals within the same group. Individuals are influenced by the group they belong to and, in turn, social groups are themselves influenced by the individuals in the group (Hox, 2010, p. 1).

Multilevel models capture the dependence of observations within groups by using higher level variables and also analyse the influence of higher level variables on the response variable. These models can also estimate the interaction between levels which means a joint effect of an individual variable and of a higher level variable on the response variable. With multilevel models, variables may be defined and may vary at any level, each level being a potential source of variability.

For grouped data, multilevel analysis is considered more reliable than a single-level analysis; the accuracy of results with multilevel analysis can be higher (Goldstein, 2003). This feature is especially important in social studies that are vast in scope and cannot be assessed with single-level models.

The existence of data hierarchies is neither accidental nor can be ignored (Goldstein, 2003) and the bottom line is that multilevel models are a necessity in many research areas. As such, multilevel models are used to model real problems from education, social and human sciences, health sciences, agriculture and medicine. Health can be influenced by factors existing at several levels: cell, organ, individual, family, neighbourhood, city, company level. Ecological research relies as well on the multilevel modelling framework, as the ecosystem processes involve interactions at multiple scales. Team performance, training and learning processes can also be modelled by using multilevel modelling. Individuals and organizations affect and are affected by their social context. Multilevel models can hence provide a more robust and vast understanding of why and by what conditions some people are interested in developing the entrepreneurial activity (Klein et al, 1999).

Many research topics in political science can be studied on several levels, such as electoral studies or the voting behaviour of the individual. Political science theories rely on the assumption that the variables measured at one level can influence or link to variables from other levels. Multilevel analysis can show that the individual

effects are not the only influencers of votes. The voter has his own choice but this is made in a certain context that influences therefore the voter's choice (Jones et al, 1992). Economic research can as well be developed on nested data, as individuals are naturally grouped within administrative or geographical units and the "contextual factors" highly vary between countries (Przeworski et al, 2000).

Since hierarchies exist everywhere, this makes it possible for multilevel theory to continuously extend for research purposes. Researchers need to acknowledge that if so many research topics are of multilevel nature, multilevel theories and methods of analysis should be used (Luke, 2004: 4).

6. Acknowledgements

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Economic Development, Technological Change, and Growth

Econometrics Applying to the Interdisciplinary Studies

Romeo-Victor Ionescu[1]

Abstract: The paper deals with the idea that econometrics represents a useful instrument for thye economic analysis, even at regional level. According to the labor market conditions, econometrics allows several techniques in order to estimate the structural parameters of an a priori specified system of simultaneous stochastic equations. Moreover, the econometric approach highlights the labor system function as to maximize the employees' number and labor demand, or to minimize the unemployment rate. A distinct part of the analysis covers the regional econometric approach in connection to regional location and optimum models. The main conclusion of the analysis is that econometrics is able to force the knowledge limits not only in regional economics. The analysis and the conclusions are supported by pertinent diagrams and mathematical relations.

Keywords: econometric approach; regional labour market; regional location models; regional optimal solution.

JEL Classification: C10; C21; R12; R59

1. General Approach

It seems to be easy to connect econometrics to the interdisciplinary studies. According to its historical definition, econometrics covers principles, methods and techniques from statistics, economics and mathematics, which are able to support the understanding of the quantitative realities from the economy (Frisch, 1933).

Practically, under the econometrics approach, the economic phenomena can be analysed using statistical data and mathematic models.

The importance of the econometrics was supported by the first Nobel Prize in Economics, which was awarded by Ragnar Frisch, in 1969.

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The restrictive definition of econometrics supports the use of the stochastic random models (Rottier G., 1961). As a result, econometrics supposes the existence of an economic theory related to the researched phenomenon which is able to build an economic model. Moreover, it implies the ability to apply the statistical induction methods in order to verify the economic theory assumptions, to build and to resolve the econometric model.

An interesting approach is that which considers that econometrics as "the art and science of using statistical methods for measurement of economic relations" (Chow, 1983).

On the other hand, econometrics is more than simply regression. It covers all methods of statistical inference used to produce quantitative economic statements (Christ, 1966).

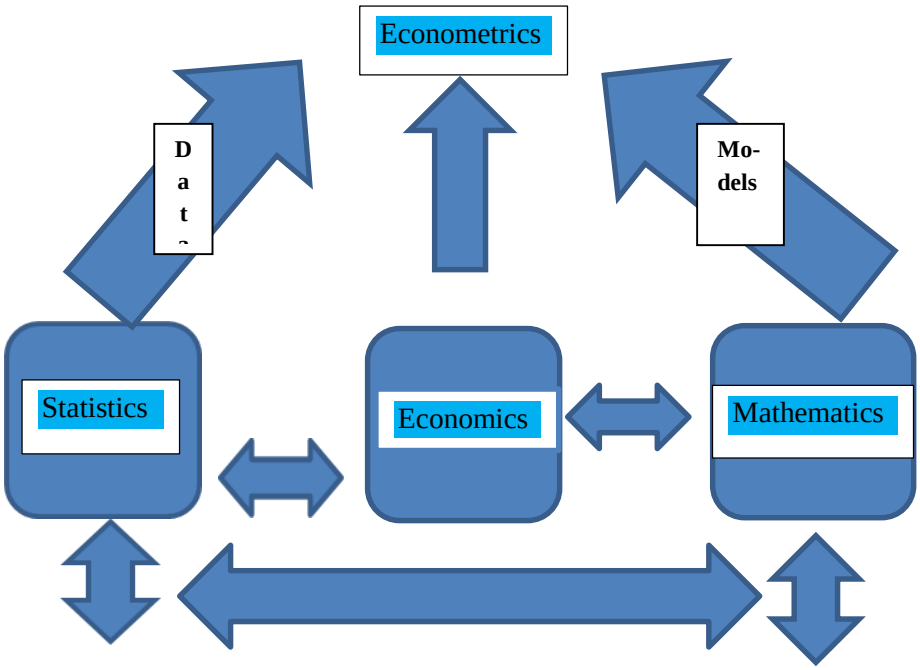

Figure 1. Historical approach of econometrics

Source: Personal Contribution

In defining their field, many econometricians would emphasize those techniques - typically extensions or adaptations of regression analysis - created to cope with the special problems that often arise in estimating economic relations. Those that particularly come to mind are techniques to measure and eliminate autocorrelation

among residuals and to model lagged relationships among variables in regressions on time series data.

For many practitioners, however, the term "econometrics" when coupled with "modelling" tends to have an even more specialized meaning. It applies especially to the body of techniques utilized to estimate the parameters of economic systems (WPI, 2006).

2 Labor Market and the Econometrics' Approach

The labor market is a sum of many interdependent variables and the relationships among them. It can be analyzed as a cybernetic system, starting to the problem identification (see Figure 2).

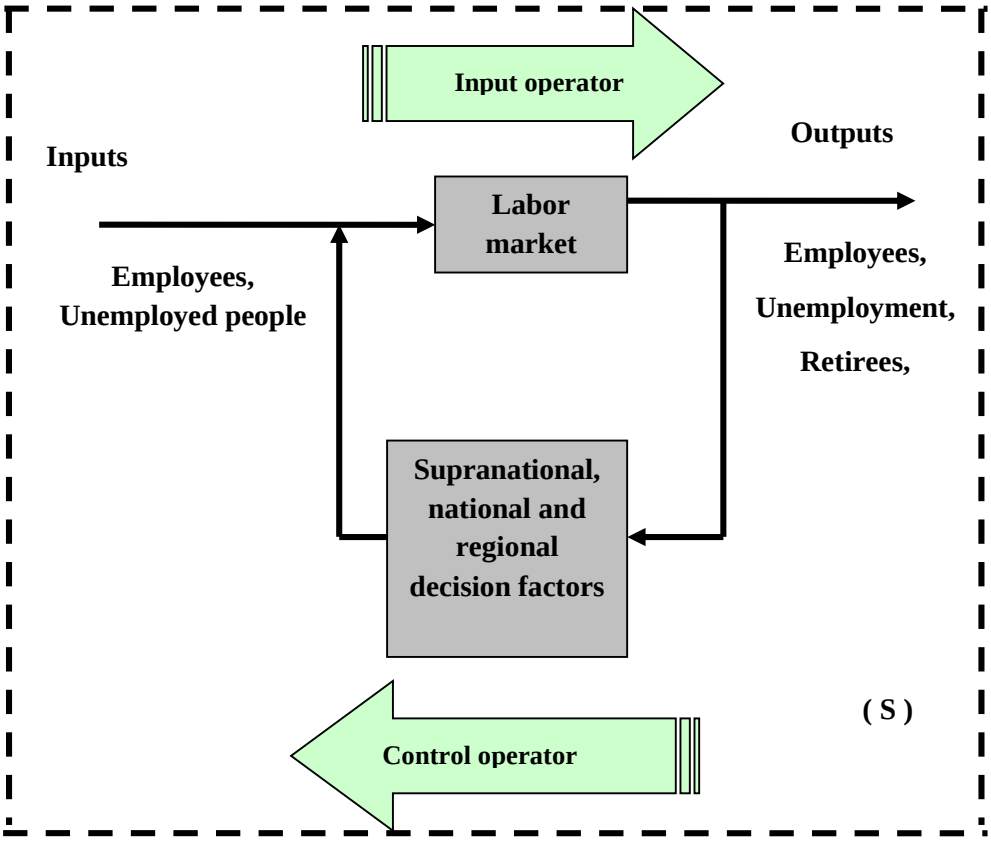

Figure 2. Labor market as cybernetic system

Source: Personal Contribution

Under the cybernetic system approach, the labor market's inputs and outputs can be observable and controllable. As a result, the labor market has: structure, status, transformation, inputs, outputs, behavior and function.

The system (S) structure (SS) depends on elements lot (E) and its connections (C), as in the following equation:

$$SS^{(S)} = (E^{(S)}, C^{(S)}) \quad (1)$$

The system behavior depends on its structure. The system status expresses quantities which characterize the structure of the system at a moment in time. For the labor market, we talk about statistical data connected to unemployment, employees, labor skills, labor cost, etc.

The transformation (T) represents the system crossing from a status to another and from one structure to another.

$$T^{(S)} = (SS_1^{(S)} \rightarrow SS_i^{(S)}) \quad (2)$$

The input represents the effect of the system-environment connection and covers the environment action on the system.

The output is the effect of the same connection, but it covers the system action on the environment.

The system behavior means the full range of actions made by the system, which support the outputs change as a reaction to the inputs change, in order to achieve its function.

The labor system function is to maximize the employees' number and labor demand, or to minimize the unemployment rate.

According to Figure 2, the control element covers the supranational, national and regional decisional factors. The control operator represents the financial and economic interventionist instruments. The input operator represents the inputs change as a result of the economic policy.

From the operational point of view, the variable output is compared to the wanted level. The optimal criterion is obtained when the difference between the two indicators' values is minimal.

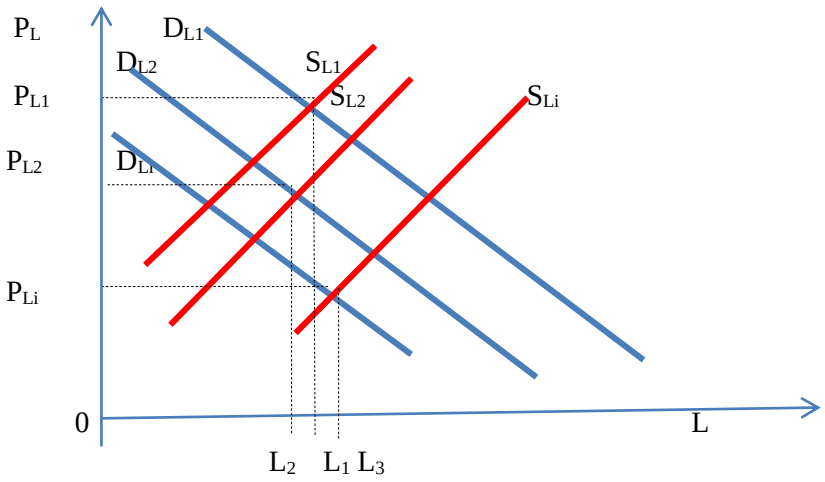

Figure 3. Labour market under the econometrics approach

Source: Personal Contribution

On the labor market, the relative equilibrium is found at the intersection of the labor demand (D_L) and supply (S_L) curves. According to the equilibrium point, is established a specific labor price (P_L). Econometrics has to estimate both the labor demand and supply functions using the empirical observations.

The most likely outcome is the movement of both curves (D_L and S_L) yielding a pattern of the labor price (P_L), the quantity intersection points from which econometrics will be unable, without further information, to distinguish the labor demand curve from the labor supply curve or estimate the parameters of either. This is the identification problem in econometrics.

Every individual observed demand and supply leads to a unique labor price and a unique labor level on the market, as in Figure 3.

In Figure 3, the labor price (PL) and the labor level (L) are determined by the solution of two simultaneous equations. As a result, the labor price and the labor level are jointly determined.

There are several techniques used to estimate the structural parameters of an a priori specified system of simultaneous stochastic equations. These include indirect least squares, two stage least squares, instrumental variables, three stage least squares, full information maximum likelihood, limited information maximum likelihood, etc.

Under the indirect least squares approach, the labor market evolution can be forecasted using the hypothesized labor demand function as:

$$D_L = a + b_1 P_L + b_2(\Delta Inv) + b_3 Inv + u_d, \quad (3)$$

where: D_L – labor demand; P_L – labor prices; ΔInv – change in direct investment in the economic activity; Inv – total direct investment in the economic activity.

If we suppose further that the labor prices depend linearly to the labor demand, as well as an index of the investment costs (C) and the investment efficiency (E).

As a result, there are two simultaneous relationships between the labor demand and the labor prices. In order to determine simultaneously the variables, we can use the above labor demand function and the labor prices equation:

$$P_L = e + d_1 C + d_2 E + d_3 D_L + u_s \quad (4)$$

By introducing the equation (4) in the equation (3), the new equation becomes:

$$D_L = a + b_1(e + d_1 C + d_2 E + d_3 D_L) + b_2(\Delta Inv) + b_3 Inv \quad (5)$$

Under the multiple regression procedure, D_L may be regressed on C, E, ΔInv and Inv. The result will be an equation with quantitative estimates of the parameters:

$$D_L = \frac{a+b_1 e}{1-b_1 d_3} + \frac{b_1 d_1}{1-b_1 d_3} C + \frac{b_1 d_2}{1-b_1 d_3} E + \frac{b_2}{1-b_1 d_3}(\Delta Inv) + \frac{b}{1-b_1 d_3} Inv \quad (6)$$

An alternative econometrics approach is two stage least squares regression. It consist in estimating an equation for labor prices by regressing P_L on all independent variables in the demand function for D_L, plus other determinants as C and E, which do not appear in the demand function. The result of the first stage regression is the equation:

$$\widehat{P_L} = \hat{\imath} + \widehat{\jmath_1} C + \widehat{\jmath_2} E + \widehat{\jmath_3}(\Delta Inv) + \widehat{\jmath_4} Inv \quad (7)$$

In the second stage, D_L is regressed on Inv, ΔInv and P_L:

$$D_L = \hat{a} + \widehat{b_1}\hat{P} + \widehat{b_2}(\Delta Inv) + \widehat{b_3} Inv \quad (8)$$

The regression coefficients obtained from the equation (8) are unbiased, consistent estimators of the parameters of the original labor demand function.

3 Econ-physics Models under the Econometric Approach

The need to find better economic models led to the idea of using concepts, methods and models from other sciences and to adapt them, in order to model the economic reality.

Under the common elements from economics and physics, the next model is based on the potential energy of the factors' connection and was built as a new location model used by the regional economics (Ionescu R., 2008).

Nowadays, the problem connected to the firm's regional location is very important. This implies the maximum profit criterion, which corresponds to the minimum costs criterion.

Under the pure economic approach, the location decision implies a simple averages' calculation for the average total cost (connected to the used inputs) and the transport costs (as Weber's model). The transport cost covers the expenditures with the final goods until they arrive on the markets.

Weber realized a simultaneous analysis under the profit maximization and the transport costs minimization. The model was developed by Richardson, who considered the transport costs dependent to the Euclidian distance. As a result, he was focused on the transport costs' minimization (Richardson H., 1986).

In order to simplify the problem, Richardson considered a company which combines the m_1 and m_2 inputs from the M_1 and M_2 regions to produce the output m_3 which is sold in the M_3 region.

Using the statistical observations, the average transport cost function can be defined as that from the equation (9). Moreover, this objective function has to be minimized:

$$[min]T = tm_1d_1 + tm_2d_2 + tm_3d_3, \quad (9)$$

where: t – average transport cost, d_i – the Euclidian distance between the optimal location point K and the rare materials sources and the market location, as well.

Perreur tried to define a three points' problem in order to solve it using the geometric problem of the three points (two rare materials sources and one market) (Perreur F., 1988). These points form a triangle. Inside of it, is the optimal location for the analyzed company.

In order to estimate this location point, Weber proposed a material index calculated as a ratio between the rare materials' value and the final good's value.

If the index's value is greater than 1, the location point has been near the rare materials' sources. On the other hand, if the index's value is less than 1, the location point has been neat the market, as in Figure 4.

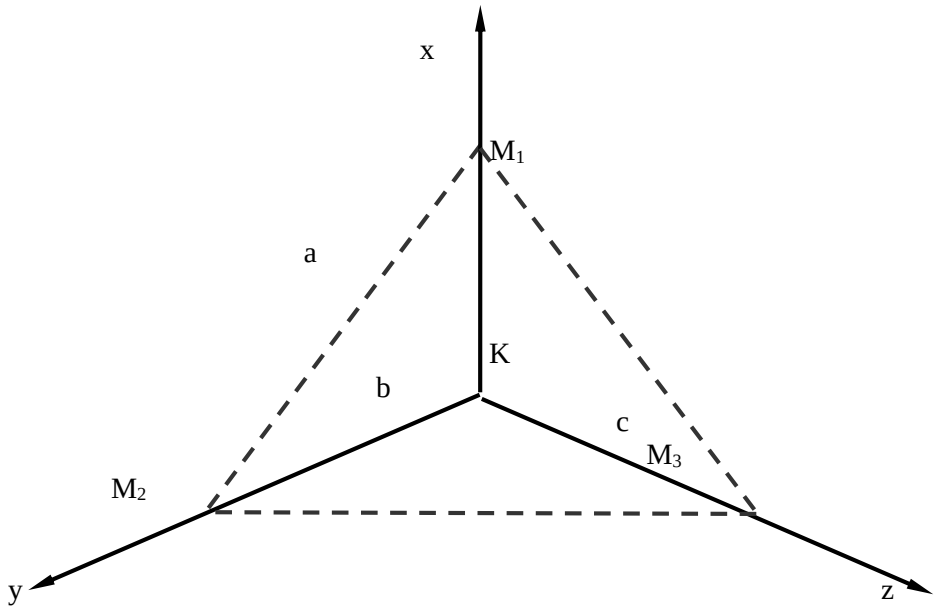

Figure 4. The triangle solution

Palander developed Weber's model by defining the concepts of isocosts mass and isoplan curves given by the points of the identical total transport costs.

We consider that we found a better solution to this problem. Our model is based on the idea that there are A_i points which can define the goods' input sources in a specific region, B_j points as the rare materials' input sources for the same region and C_k points as destinations of the final goods in that region.

These A_i, B_j and C_k points form alternatively the vertexes of a triangle. As a result, a first progress of the analysis is to generalize the number of the location sources and markets as unlimited (Ionescu R., 2009, 2014).

Under this new approach, the objective function connected to the optimal regional location company is:

$$[min]T = P_i q_i d_i + P_j q_j d_j + P_k q_k d_k, \quad (10)$$

where: $i = \overline{(1,u)}, j = \overline{(1,w)}, k = \overline{(1,p)}$

We used the same notations in the new objective function:

P_i, P_j, P_k – the average transport costs of the goods or rare materials;

q_i, q_j, q_k – the transported final goods or rare materials quantities;

d_i, d_j, d_k – the transport distances for the rare materials and final goods connected to the company's location in the region.

This equations system defines a forces field which is able to direct the company's localization in the region. There is a force for every point from the internal triangles ABC, like in Figure 5.

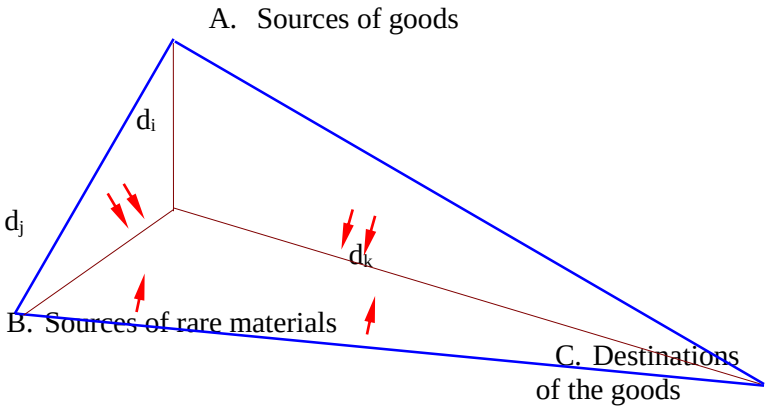

Figure 5. T transport cost surface

Source: Personal Contribution

The intensity of this force is given by the transport cost surface's slope T in the same point. This slope is zero in that point in which the cost is minim.

The Figure 5 represents a simplification of the problem to a three-dimensional space. On the other hand, this framework allows adding new elements for the analysis.

Using the potential models, we can affirm that there is a regional mass m_x where the companies have to locate. This mass m_x is connected to all other masses m_y from the location forces' field.

The next step is to use Newton's potential gravitational formula: $\frac{Gm_xm_y}{d_y}$. As a result, the initial equations system has to be complete with new terms, like the following: $\frac{Gm_xm_i}{d_i}; \frac{Gm_xm_j}{d_j}; \frac{Gm_xm_k}{d_k}$.

Every new term supports the appearance of a supplementary force. On the other hand, it is necessary to spotlight the effects of the feedback connections, as well. The potential energy of the connections, together with the $\frac{Gm_xm_y}{d_y}$ term, action like a mass and seem to be a supplementary mass which is able to form a supplementary potential energy and a supplementary connection, as well. Let's name these feedback terms as:

$$Fa^{(1)}, Fb^{(1)}, Fc^{(1)}.$$

But these feedback effects represent potential energies or connections which have their own masses. As a result, we can create a succession of feedback effects which are adding one after other:

$$Fa^{(2)}, Fb^{(2)}, Fc^{(2)}$$
$$Fa^{(3)}, Fb^{(3)}, Fc^{(3)}$$
$$\vdots$$
$$Fa^{(n)}, Fb^{(n)}, Fc^{(n)}.$$

The next step is to consider all supplementary terms for the objective function, which becomes:

$$[min]T = \sum_i P_i q_i d_i + \sum_i \frac{Gm_x m_i}{d_i} + \sum_i F_i^{(1)} + \cdots \sum_i F_i^{(n)} \quad (11)$$

The positive terms represent the costs and the negative terms represent the revenues, as in Figure 6.

At least, the location enterprises' decision needs a supplementary analysis of the regional socio-demographical and political conditions. These aspects are not included into this model. But they can be synthesized under a quantitative analysis using a well-balanced system which is able to establish specific regional priorities.

We propose to analyze more locations which can cover not only the optimal solution, but some suboptimal solutions, as well. One of these suboptimal solutions should become more favorable under new socio-demographical and political criteria and transform into a global optimal solution.

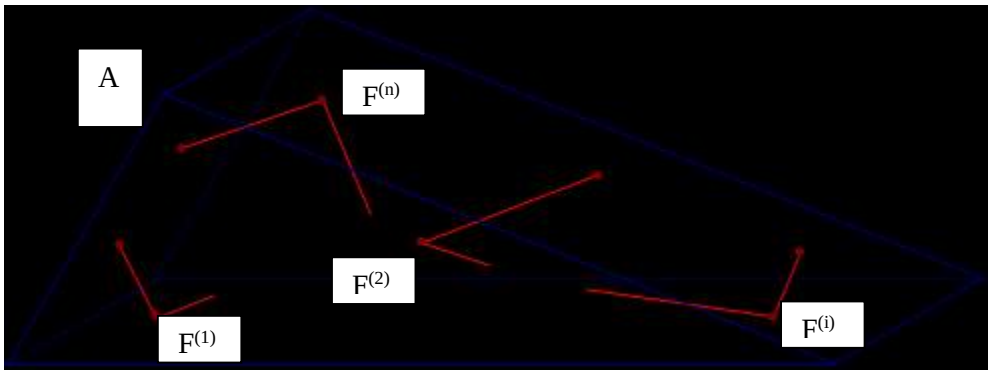

Figure 6. The location forces field
Source: Personal Contribution

The main advantage for this model is that it is able to quantify an unlimited number of variables. Moreover, it can develop the location theory for an unlimited number of rare materials sources and markets, as well.

4 Conclusion

As method of knowledge, econometrics has its limits. But the knowledge has to go up to those limits, in order to force them. Often, the exceeding of these limits cannot be made with quantitative methods, but only with purely rational methods or even just intuitive methods. As a result, the econometrical knowledge of the phenomena represents a stage or a step of the knowledge process.

In many cases, this method does not resolve, but on the contrary, it creates or better discovers contradictions and cracks in our knowledge.

On the other hand, the reality unfolds researcher in contradictory issues.

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Sulina and Danube-Black Sea Channels: Competitors or Allies on Cargo Transport in South-Eastern Europe?

Ionica Soare[1], Iulian Adrian Şorcaru[2]

Abstract: The two river channels which connect the Black Sea to the inland Romanian area, have constituted since the beginning of their building two very important transport routes for the cargo and passenger traffic (Sulina) that have connected Black Sea to the internal ports of Romania, thus representing ”transport highways” of the Romanian economy. The present study tries to present the chronological evolution of these two shipping routes, regarding their importance to the cargo traffic, as well as the financial policy imposed by the administration of these channels. We will present and analyze retrospectively the major elements regarding the administration of these channels, a comparative analysis of the role of these two channels in the river cargo transport, consequently trying to predict a future evolution of these two river communication routes.

Keywords: river channels; draught; cargo transport; river traffic; merchandise

JEL Classification: R41; R42

1. Methodology

This article presents the results of a research on past and future economic potential of the two maritime traffic channels. The research was conducted throughout the spring of 2015 and included field and bibliographic research from different sources of information. We identified specific and particular conditions of the two channels: geographical, economic and transport of both maritime and communication routes. On this basis, we analyzed the transport activity and economic implications arising after 1989. We also focused on comparing and analyzing the output of transport of the two channels, and the income resulted from the freight traffic depending on the draught of the cargo ships crossing the two channels.

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An important element in the economic development of the two channels was the fiscal policy adopted after 1989, which artificially conditioned freight traffic, acting as a restrictive element. The conclusions presented in the end offer a way of the future development of these two maritime channels and it also support the need for integration in the European inland waterway axis Rhine-Main-Danube.

2. Introduction

After different local and foreign initiatives have been circulating more than a century ago, regarding the building of a channel that will cross Dobrogea from Cernavoda to Constanta, as well as adapting Danube's branch Sulina to the river traffic, studies drawn up between 1972-1973 have emphasized the necessity of developing new harbor facilities, as well as the opportunity of developing "The Danube-Black Sea navigation system" that will contribute to the connection of the harbor facilities with the river traffic system (Sobaru et al., 1998, pp. 129-130). The work on the Danube-Black Sea channel in a new and modern conception, mainly on a different route (crossing the Dobrogean Plateau, en route to Basarabi-Straja-Cumpăna-Agigea), has begun in 1973 at The Institute of Auto, Naval, Aerial Transports, Projecting department (I.P.A.N.A.T) from the Ministry of Transport, the main designer of the channel, the institute benefitting at the same time from the collaboration of other 38 institutes and companies of such profile from the country (Diana et al., 1998, p. 71). Danube-Black Sea Channel and its connecting developments have been completed between 1976-1984, being assigned to a building company, especially designed for this purpose, named Station Channel Danube-Black Sea (Sobaru et al. 1998, 130).

For its building, projecting and optimal route, was taken into account the geographical characteristics and also the economic and strategic implications, of the presence of this channel in the South-Eastern part of the country. In order to understand the main particularities of these two channels we have reunited in Table 1 the defining elements of these two constructions. First of all, these elements are important for a series of aspects concerning the traffic of merchandise reported to their gauge. At first glance we can observe the geographical and economical uniqueness of these two channels, which have marked their functionality in time.

3. The Merchandise Traffic -Vector of Economic Evolution for Both Channels

By comparing the statistical data regarding the cargo traffic on the Danube-Black Sea Channel during 1985-2001, which was way below the level of maximum traffic capacity (almost 100 million tones/year) for which it was designed; the

channel is placed in the league of the most performing constructions of this kind (sixth class according to the norms adopted by the European Conference of the Transport Ministers). The statistics mentioned above indicates a more accentuated development of the river traffic until 1989 on both, Danube-Black Sea Channel, and Sulina Channel, an increase of the capacity of transport with seagoing vessels, caused by the economic development of the country.

After 1990, the decrease of the national economic production, the embargo imposed to Yugoslavia by UN (lifted much later), the stranding of the Rostock vessel on Sulina channel, have led to the decrease of the river traffic, according to the total cargo traffic on the two channels, between 1985-2000 mentioned in the above graph, not exceeding the previous values of the year 1989.

The advantages of the river traffic regarding the national and foreign traffic on Sulina channel haven't been lost once the Danube-Black Sea Channel was built. In order to understand the breach produced in 1988 regarding the river traffic, by changing the balance towards the Danube-Black Sea channel, in the detriment to the other one, it is necessary to start the analysis by presenting the situation of the cargo traffic on Sulina channel, (entries and exits) previous to 1984 until 2000, as well as the one regarding the Danube-Black Sea Channel with reference to import, export and international coasting.

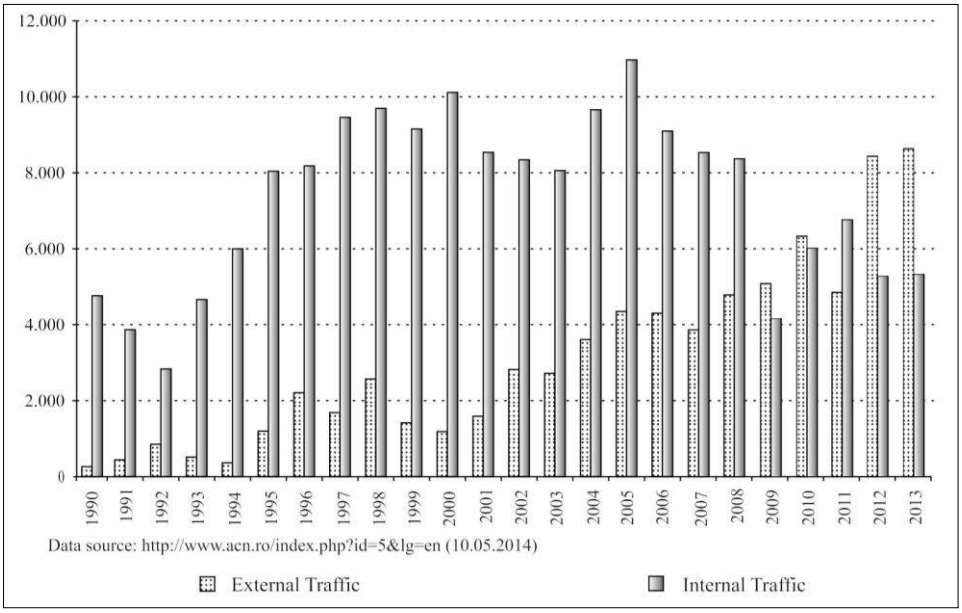


Figure 1. Merchandise Traffic (thousands tons) On Danube-Black Sea Channel During 1990-2013

Table 1. Technical and Geographical Characteristics of Sulina and Black Sea Channels

Technical-geographical characteristics	Danube-Black Sea Channel	Sulina Channel
Length of the shipping area	64.4km	Km 62.97-0.00
Width of the shipping channel	Minimum – 90m in range; 120m in curbs	Minimum - 60m
Capacity of the vessel	Convoy – 6 barges X3000 tons; length - 296m ; width-22.80 Vessel with maximum draught of 6.0m	Convoy - 2 barges X3000 tons- length 150m; width-22m Vessel with maximum draught of 7m
Water depth	7.0m – at normal level of exploitation	7.32m at the entry of Sulina
Mininal bending compass	3,000 m	1,000 m

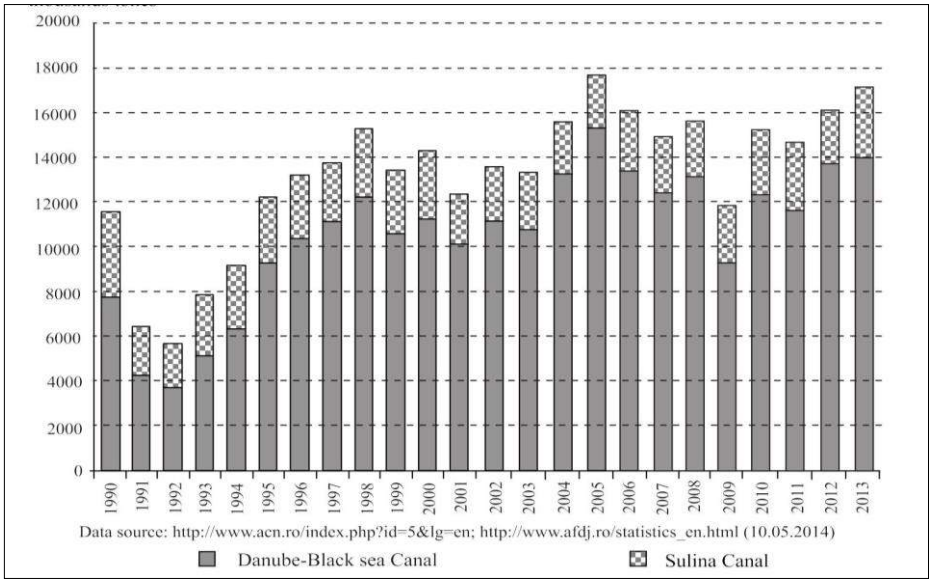
Source: The Statistic YearBook of Romania

After 1988, analyzing the traffic on Danube, we observe that Sulina Channel was surpassed by Danube-Black Sea Channel, the amount of the merchandise being double for the last one: almost 12 thousand tons of merchandise have been transported on Danube-Black Sea Channel and only 6 thousand tons on Sulina Channel. A sudden decrease of the import on Sulina Channel is registered, thus maintaining the export at the same parameters, as in 1977-1988, and an increase of the import on Danube-Black Sea Channel, presenting values double than the export. How can this be explained? The highest values of the cargo traffic on Sulina channel (between 3,000 and 11,000 tons) registered between 1975-1989 from the time when the economy was planned, and the export was double than the import. The largest share belonged to the upstream traffic due to the transportation of raw materials, while downstream, was the transportation of lower volume industrial products. The increase recorded in 1975 corresponded, by the information offered by Grigor P. Pop in "Romania – The Geography of Traffic" (Pop, 1984, pp. 120-121), to the first stage of commissioning, in June 1974, the new ore port of Galaţi (located at 156 km) for the supply with iron ore and coke of the Steel Plant, to the commissioning of many basins around the harbor of Tulcea, especially for berthing ships that would bring bauxite ore and ferro-alloys for the local industry. Moreover, Grigor P. Pop mentioned that the prevailing exports consisted in oil products, non-ferrous metallurgy and wood.

4. The Import-Export Dynamics on the Two Channels and the Economic Implications

Following the structure of the goods transported on the Danube-Black Sea Channel, we noticed that the export is mainly based on cement, rolled products and grain while the import consisted in iron ore, coal and non-ferrous ores (mainly bauxite). The commodities imported via the Danube-Black Sea Channel, having

the highest value, are in fact those constituting the raw materials for the plants in Galati and Tulcea. Thus, one can easily deduce a freight traffic on the Danube-Black Sea Channel, sustained by SIDEX Galați (60-80% of the domestic traffic) and the alumina plant in Tulcea (10-15% from 1994). An additional proof, regarding the conveyance of freight traffic on the Danube-Black Sea Channel towards the metallurgical plants of Galati and Tulcea, is the amount of merchandise entered on Sulina Channel, the one unloaded in the ports of Galati and Tulcea, the one imported on the Danube-Black Sea Channel, as well as the identification of the countries providing raw materials by counting those countries whose vessels have entered the Sulina Channel. The year 1998 is the most pertinent for analysis considering that, in this period, was the largest freight traffic on both channels until 1990; the total freight traffic on Sulina channel was of 2,983.8 thousand tons, batched on 182 ships under the flag of more than 40 countries, while on the Danube-Black Sea Channel, were transported 12.265 million tons. The countries whose vessels entered the Sulina channel are grouped according to the traffic of goods: Malta (15.0%), Portugal (5.2%), Azerbaijan (35.2%), Syria (18%), Russia (8.5%), Turkey (3.2%) etc. The countries having traffic of less than 3% were reunited in the group "other countries". Romania recorded a traffic of less than 0.3% (14,200 tons) (Annuaire statistique de la Commission du Danube pour



1998/Statistical Yearbook of the Danube Commission for 1998)

Figure 2. Traffic of Goods (thousands tons) On the Danube-Black Sea Channel and Sulina Channel during 1990 – 2013

Out of the group of countries enlisted above, are missing those considered the largest suppliers of raw materials for the plants of Galaţi and Tulcea. On Sulina Channel entered ships carrying 571,000 tons of cargo, while in Galati Harbor, 8.29 million tons of freight have been unloaded, and in Tulcea Harbor 584,000 tons arrived. Consequently, the quantity of the cargo discharged in the two ports exceeds considerably the one entered on the Sulina Channel and slightly the import via the Danube-Black Sea Channel (7,867 thousand tons).

It is obvious that the characteristics of Danube-Black Sea Channel offers, compared to Sulina channel, obvious advantages for operational traffic, given the stability of the route, the bed depth and the reduced speed of the water flow, the reason why the thrust is much lower compared to other methods of propulsion on the Danube. For the domestic traffic, the transportation of bulk goods is made especially, in convoys of barges of 10-12 thousand tons each, between Constanta harbor and the industrial companies, especially Galati steel plant and the Tulcea alumina plant.

We can explain the reduction in freight traffic through Sulina channel especially after 1990, due to the navigation conditions at the mouth of Sulina and to the reduced radius bends upstream the channel (in Tulcea and Pisica). In the mid-twentieth century, it seemed that there were no problems regarding the ships which navigated the Sulina channel or docking in the Constanţa harbor due to their size. Semenescu M., in his work "Danube - River of Economic Importance", specifies that Constanta port was used during 1953-1955 at a rate of 66% by vessels with a draught up to 7m (Semenescu 1956, pp. 50-51). Most of the ships that regularly frequented the Mediterranean ports had a draught of about 7 m and about 70% of the global fleet are vessels with a draught up to 7 m. It is true that when the depths over the Sulina bar were lower than the draught of the ships about to enter the Danube, the operation was done in the basin (water surface outside the mouth of Sulina, to the north, where transshipment operations are done or ships are in hold). But still there were doubts about explaining the reduced traffic even from the planned national economy period, and since that time were proposals in order to increase the depth of the Sulina branch mouth up to 7.50 and even to 8m as compared to 7.32 as it was initially calibrated (Semenescu, 1956, p. 52). Large-scale works were thus necessary on the entire maritime Danube route by providing a waterway with a 10 m depth.

It is possible that opening the Danube-Black Sea Channel and South Constanţa port should not be a response to the technical progress in shipbuilding, which is fully consistent with the requirements of the global economy. High capacity modern ships from the entire maritime fleet world can come alongside with no particular difficulty to the new port in Constanţa.

5. Taxation – A "Conditioning" Element for Both Channels Evolution

It seems that the policy of the customs duties is not appropriate for the Sulina channel traffic, the charges for the small capacity vessels are very high and therefore Constanţa port is preferred. Also, lightening navigation on the Sulina Channel is prohibited. This should be added to those reported by Chiriac Avădanei, that connecting the Danube river to the Constanta port not only shortens the route by about 400 km, but can also continue the river transport directly by sea, with specialized ships, of a very high capacity that unlike the small and medium ships, have a much lower cost of transport. (Sobaru et al., 1998, p. 143).

Table 2. Cargo traffic (thousand tons) on Danube, Sulina Channel, Danube-Black Sea Channel in 1998

Danube (exits, entries, coasting, transit) In Romanian Section			**Danube and Black Sea Channel (National and International)**	**Sulina Channel (Entries and Exits)**
15,391 of which:			**12,265**	**2,983.8**
At The Board Of Inland Vessels	At The Board Of Seagoing Vessels	Completely In Transit		
12,366	1,231	1,794		

Source: The statistic Year Book of Romania

The author points out that the total cost of transport, especially for mass goods, the component with the most important share is charged for sea freight; this freight can even double for vessels of small or medium capacity, as compared to the specialized high capacity vessels.

Following these considerations, since 2001, a growth of the total freight traffic was foreseen on the Danube-Black Sea Channel to 24 million tons/year, including the international one. Since the planned economy period, there was a forecast, that in 1990, the transport volume on the channel would reach almost 55 million tons, while in 2000 it was expected to reach 75 million tons (Berziris, 1988, p. 58). Unfortunately, in 2001, it went up to only 10 million tons. Currently, this channel also takes over a part of the freight transported on the Sulina Channel and on the Cernavoda - Constanţa railway. Before opening the Danube-Black Sea Channel, it was expected that savings will be made, as compared to the rail transport, of 1.1 billion (Cojocaru 1983, p. 148).

Table 3. Sea Routes Distances

Sea line	Normal sea route (km)	Rhine-Main-Danube Route (km)	Danube-Elba Route (km)	Danube-Odra Route (km)
Constanţa - Rotterdam	6,163	3,748	-	-
Constanţa - Hamburg	6,673	-	3,148	-
Constanţa - Szczezecin	7,167	-	-	2,848
Odessa - Rotterdam	6,482	3,785	-	-
Odessa - Hamburg	6,991	-	3,185	-
Odessa - Szczezecin	7,486	-	-	2,885
Alexandria - Rotterdam	5,887	5,470	-	-
Alexandria - Hamburg	6,356	-	4,870	-
Alexandria - Szczezecin	6,891	-	-	4,570

Source: The statistic YearBook of Romania

6. Conclusions

Being a link to the unitary navigation system, The Danube-Black Sea channel offered a new orientation to the economy of transports from our country, completing the Trans-European Through fare of Danube-Rhine Navigation and transforming Constanţa harbor from Romania's main harbor into one of Central Europe's most important harbors, mainly concerning the economic relations with Asian countries.

The two channels connect the European network of inland waterway with other extra-European systems of waterways. Rhine-Main-Danube channel ensures a direct navigable link from east to west along Europe, connecting the main harbors from Rhine with the ones from Danube, and the cargo brought through the river inlets of Danube and Black Sea channel, can reach all the way to Rotterdam and other harbors from the North Sea. Through this channel the distance between Galati and Rotterdam has reduced from 6,500 km on the sea route to only 3,600 km.

If Danube, Elba and Odra would have been linked through a system of channels, as it was designed by the Czech and Slovak engineers, a direct communication between Black Sea with Hamburg and Szczezecin would have been achieved; the distance between Galaţi-Hamburg would have reduced from 7,000 km on sea route to 3,000 km on Danube-Elba route and the distance between Galati- Szczezecin from 7,500 km on sea route to 2,700 km on Danube-Elba route (Semenescu, 1956, p. 39).

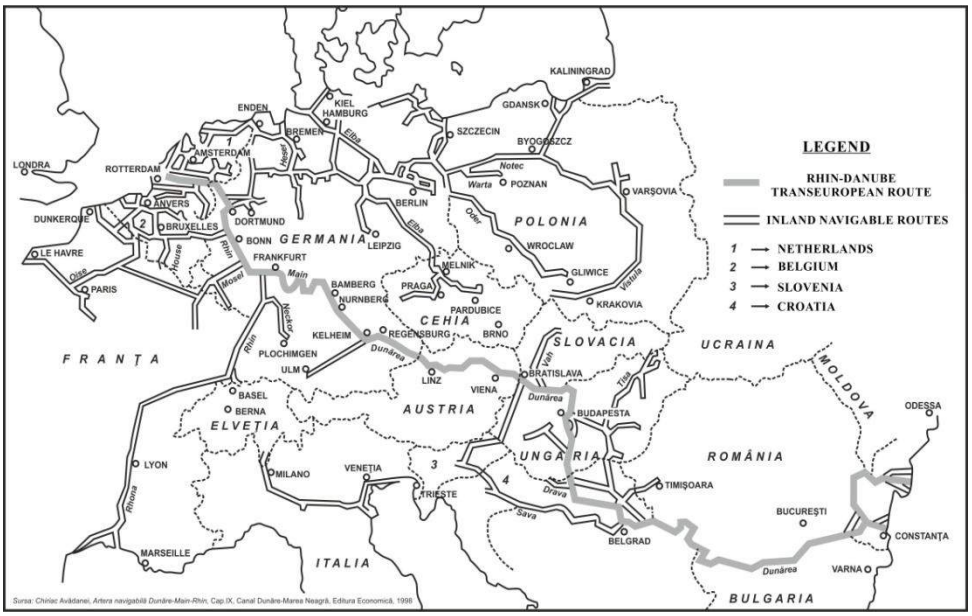


Figure 3. The navigation system North Sea – Rhine – Danube – Black Sea

Source: Adapted after (Avădanei, 1998)

Respecting all the projects drawn up till now, would have led to the connection of the Danube harbors with the river and sea harbors from all Europe, connections that would have reduced the distance of cargo transport from Eastern Europe and Orient to Western Europe. From the facts presented up to now anyone can wonder if the Danube-Black Sea Channel will only overtake or will replace the cargo traffic from Sulina channel. We should not forget that during the inter-war period, when the interest for improving the communication ways was increasing significantly, the Ministry of Public Works and Communication began some preliminary studies en route to Carasu Valley, in order to build a channel and drew the attention that this constitutes "*a solution for sea side exit, that will double the one from rivers mouth, not replacing it"* (Diana et al., 1998, p. 73). It is very difficult to pronounce upon this matter, only time and history will decide. For the moment it remains an open story.

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Sustainable Exploitation of Natural Resources and National Security

Maria Constantinescu[1]

Abstract: Although the presence of natural resources on a country's territory does not by itself lead to conflict, in specific situations this may constitute an aggravating factor for the risks pertaining to a country's national security and long term development. The aim of this article is to outline the links and interactions between the availability of natural resources, their sustainable exploitation and a country's national security and stability. The topic of the economics of conflict has generated a growing interest in the last 20 years, given the changing nature of the modern conflicts and their underlying economic factors. Some of these conflicts have been shown to be sustained, if not generated, by the availability of lucrative natural resources, leading to their classification as "resource wars". Following the analysis of the influencing factors, a conclusion can be drawn regarding the need for the countries relying for their economic development solely on the exploitation of natural resources to implement sustainable development measures, not only to promote long term economic growth, but also in order to avoid this type of conflict.

Keywords: conflicts; natural resources; development; national security

JEL Classification: F52

1. Introduction

The fact that economic factors, and especially the availability of natural resources, play an important role in conflicts is not a new concept, as throughout history there have been numerous examples on how the desire to control natural resources has led to inter-state or civil war. Though the importance of the economic factors in sustaining a war effort has been the focus of economists and scholars for a long time (from Sun Tzu to Clausewitz), the study of the economic causes of the civil wars has become of interest only since the middle of the last decade of the 20th century. This was due to a change in the geopolitical and military environment, to the occurrence of a series of highly destructive conflicts (Angola, Liberia, Rwanda, Sierra Leone, Afghanistan, Republic of Congo, Sudan, Somalia, Cambodia), which raised the question of how much economic factors have led to conflict, on top of

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more familiar and long-lasting causes, such as the colonial legacy.

The phenomenon of the "resource curse", known also under the name of "paradox of plenty", has been acknowledged by economists since the last decades of the 20th century. It refers to the apparent paradox that countries endowed with an abundance of natural resources (especially non-renewable resources, such as oil, minerals, fuels, gems etc) have had lower economic development rates compared to countries with fewer resources, since the early 1970's.

Even though there are some exceptions to this paradox, a number of studies (Auty, 2001, Sachs and Warner, 1997, Gylfason, 2001) have shown that the "resource curse" is real, but its causes and effects differ from country to country. Among the causes identified for this paradox are the revenues fluctuations due to primary commodities prices volatility on the international markets; weak and inefficient governments; political instability and weak rule of law; corruption, a decline in competitiveness of the other economic sectors due to increased wages and appreciation of the real exchange rates. Although the negative economic effects of a country's dependence on primary commodities production and exports have been extensively studied in terms of their economic impact, various more recent studies have also focused on other negative effects, with potential security implications. Thus, countries highly dependent on the export of minerals, fuels and gems have the tendency to encounter high poverty rates (Ross, 2003), accompanied by the rule of authoritarian governments (Ross, 2001, de Soysa, 2002) and high corruption levels (Sachs&Warner, 1999, Marshall, 2001). This type of patterns has been historically accompanied by high illiteracy rates, and political instability, which, in combination with other factors such as the geographical location, ethnic and religious background of the population etc, has lead to civil unrest, civil wars and even full inter-state wars.

This paper aims at outlining the links and interactions between the availability of natural resources, their sustainable exploitation and a country's national security and stability. Although the existence of just one or more of the factors outlined in this paper is not going to pose a direct threat to a country's national security, the complex interactions between them may lead to security issues, ranging from chronic economic underdevelopment to full-scale conflict.

2. Economic Over-Reliance on the Extraction and Export of Primary Commodities

A country's dependence on the exploitation of its natural resources does not cause security problems in itself, but long term reliance can be considered a security vulnerability. The depletion of the non-renewable resources, in the lack of a

sustainable economic alternative, may generate serious implications on a country's long term economic and social development.

The way in which natural resources may be linked to a country's economic development and national security varies, depending on a series of specific conditions. According to some studies (Collier&Hoeffler, 1998, 2002; Collier, 2006), reliance on primary commodities exports has a significant influence on the likelihood of the emergence of a civil war. According to them, the threshold of 32% of resource exports to GDP is significant, as up to that level the probability of a conflict increases. For instance, countries with a primary commodity dependence of 26% have a risk of conflict of 23%. The type of the commodity and the way in which they are extracted also influence the probability of generating conflict, together with the response of the international community in encouraging trade with "legitimate" commodities and the policy of the foreign corporations located in those countries. Other authors (Doyle & Sambanis, 2000) found that primary commodity exports tend to increase the war duration.

Since the primary commodities include a broad category of goods, the type of natural resources appears to be relevant, as some studies described below have shown that the dependence on agricultural commodities is not correlated with conflicts and civil wars, while the dependence on oil is strongly linked with conflict. This may explain why, from the countries highly dependent on the export of a single commodity, not all have experienced national security problems in terms of civil conflicts and wars. Some developing countries have been able to benefit from their abundant natural resources (such as Brazil, Argentina and other Latin American countries), while others have experienced devastating conflict. Thus, some studies (Fearon & Laitin, 2003), found that countries reliant mainly on oil exports for their revenues have a higher probability to experience the onset of a civil war. If a country derives at least one-third of its export revenues from fossil fuels, its odds to experience civil war more than double. Other authors (Ross, 2004), found that oil and other mineral resources contribute to the propensity of factions from outside the exporting country to initiate conflict or support civil war.

Another factor of influence in the issue of avoiding negative effects on national security generated by the exploitation of natural resources is the capacity of the government to formulate viable and sustainable strategies and policies. Many of the world's developing countries, due to bureaucracy, corruption, autocratic regimes and external pressures from other countries, are only focusing on the short term returns from the natural resources exploitation, with destabilizing economic and security effects. Even if the direct causes of civil wars may not rest in the foreign interests of large resource importing countries, their heavy involvement in the economy of the resource rich, but unstable, developing countries may negatively affect their economic growth, by imposing a heavy competition on the local

businesses and promoting the export of cheaper raw commodities instead of higher value manufactured goods.

Many times, the natural resources are perceived as an easier and convenient way to extract monetary gains, which leads to a political approach often separated from the interests of the general public, oriented on competition for the control of resources. The more the state revenues derive from the exploitation of natural resources, the bigger the temptation of corrupt government officials to adopt political and legal measures to appropriate them for their own benefit, leading to rent seeking behavior and negatively affecting the savings and investment policies. This behavior may result in political instability, lack of proper management in developing the country in a sustainable way, a short term, profit oriented strategy, with negative implications on budgetary revenues. The results are reduced or non-existent efforts to invest in areas such as education, health care, infrastructure development, support of other economic areas and industries which do not rely on the exploitation of natural resources and other measures to promote long term, sustainable growth.

Countries with economies build around the production and export of just a few commodities are more vulnerable to commodities price fluctuations, demand fluctuations and weather and climate phenomenon affecting certain crops (such as coffee, cocoa), all of them increasing the risks to national security. Prices for raw materials are highly volatile, causing unpredictable economic boom and downturn periods, with a heavy impact on the affected countries and communities. Studies on the implications of the instability in terms of trade on the economic growth in developing countries have indicated that a large part of the GDP increases and decreases has been caused by external shocks (Easterly & Kremer & Pritchett & Summers L.H. 1993). In this respect, drops in the commodity prices may push many farmers under the poverty line, cause the bankruptcy of smaller and medium producers and have negative effects on a country's export revenues and implicitly on the economic growth. Even in the event of positive terms of trade shocks, according to some researchers (Hadaas & Williamson 2003, p. 629–656), the positive effects on the economic growth will be limited to short term. The effects are not limited to the economic area, as an increase in poverty has been identified as one of the factors linked to a higher probability of emergence of a civil war (Fearon & Laitin, 2003). According to their study of former colonies in Africa, the Middle East, and Asia, a $1,000 less in income corresponds to 34% greater annual odds of a civil war outbreak.

3. Unsustainable Exploitation of Natural Resources

Another crucial factor of influence in the complex relationship between natural resources endowment and national security risks is related to the unreasonable and

unsustainable exploitation of the natural resources. This may be the result of external pressures or internal factors and may negatively affect in terms of security not only the local communities or one particular country, but also neighboring countries.

The competition for the access to strategic mineral resources is considered to be one of the main economic and security issues for developed countries, and a factor of instability for the resource-exporting countries. The availability of strategic natural resources (especially oil and minerals) is clearly stipulated as a priority for the United States, the European Union, Japan or China. United States are presently more than 40% dependent on commodities and rare metals imports (Perry 2012), which are critical for high tech consumer products, or military technology and equipment. Many import-dependent countries realize the need to maintain stockpiles of such minerals, for economic and strategic purposes, while others (the European Union) have tried to identify additional solutions, in line with sustainable development goals (European Technology Platform on Sustainable Mineral Resources, 2007). The build up of stockpiles may have the effect of distorting the international markets, by pushing up the demand and creating large fluctuations in commodity prices, encouraging a short term, unreasonable exploitation in resource rich countries with corrupt and weak governments, lacking a long term strategy.

The attempt to secure access to strategic resources leads also to an aggressive policy of lobbying and influence. For example, China's fast growing economy needs to be fueled by a large amount on natural resources, prompting the country to become one of the most important players in the global competition for natural resources. China has used a variety of methods in order to secure its access to natural resources, ranging from accepting the higher risks associated with doing business in volatile countries, such as Sudan, Congo, Ethiopia or Zimbabwe, to granting Chinese companies cheap state credits, in order to win the competition to secure exploitation rights. Other methods used were related to conditioning its programs of foreign aid and assistance, in exchange for the aforementioned rights, or heavy investments in resource rich countries.

Negative effects on national security are also the effect of internal pressures towards the unsustainable exploitation of natural resources. As confirmed by some studies (Keen, 1998, Le Billon, 2003) the increased number of conflicts and civil wars in many resource-producing countries has been the result of a combination of external factors with internal factors. Before 1990, many of these groups and actions were supported financially and with military equipment and armament by one of the opposing blocks or a certain government. The collapse of the Soviet Union and the subsequent loss of a financing source by rebel groups and authoritarian governments alike have led to the need of present rebel and terrorist groups to rely on self-financing, from sources such as kidnapping and ransom requests and controlling the access and exploitation of natural resources. This is

achieved in a variety of ways, from direct exploitation (sometimes with the use of slave work from the local population), selling concession to natural resources rights to other companies (including foreign companies) or offering protection rackets to the companies involved in the exploitation of resources. In all these cases, the results are often an unsustainable resource over-exploitation, especially of the so called "lootable resources", such as timber, gems, and drugs. Le Billon, 2005, argues that over-reliance on natural resources creates a political, social and economic context that increases the probability of an armed conflict, but also the accessibility, type and geographical location of a resource to a government or armed group is going is influence the course and duration of a conflict. In this sense, dependence on natural resources also tends to influence the state's capacity to use these resources wisely, through weak rule of law, corruption and low government accountability.

4. The Unequal Allocation among the Members of the Society of the Wealth Generated by the Exploitation of the Natural Resources

An economic development model based on natural resources does not automatically increase the risk of conflict, but, when combined with other factors such as high poverty rates (Collier & Hoeffler, 2002), the presence of authoritarian regimes, low literacy rates (Hegre et al, 2001), and high corruption levels (Fearon&Laitin, 2003, Le Billon, 2005), the likelihood of conflict increases.

Although the production and export of natural resources may generate substantial amounts of money, the unequal allocation of this wealth in the society is a source of instability and conflict (Elbadawi & Sambanis, 2002).

In many developing countries, large part of the population is living in rural areas, which are dependent on the environment for their living and directly affected by deforestation, mining, overfishing, building of hydropower dams etc. A weak rule of law and corrupt officials lead to the emergence of powerful groups (local warlords, government agencies, multinational companies etc) aiming to gain control over these resources, leading to the creation of legal and institutional frameworks that allow the unequal distribution of the revenues from the exploitation of the resources and negative externalities. Without investments and governments support, the local communities in developed countries lack the capital and technology needed to exploit the resources on their own, and the outsourcing of revenues from the resource exploitation by large companies generates resentments and tensions, exacerbated by the poverty, unemployment and lack of education.

The case of Sierra Leone is representative for this situation. The civil war over the control of diamonds exploitation and trade lead to an estimated 75 000 people

being killed, half a million refugees to other countries, half of the population displaced (Johnson 2002) and severe economic consequences. The country's GDP (largely dependent on natural resource – diamonds, cocoa, coffee, fish and agriculture) dropped in the conflict period with almost 30% compared to the pre-war period, or 350 million USD, in a country whose GDP only reached 1.2 billion USD in 2013 (Kushnirs 2013).

Another situation in which the struggle to control natural resources may lead to conflict is when a minority (usually ethnical, religious) is perceived as being wealthier than the impoverished majority, due to the exploitation of natural resources. When the natural resources are situated in only one part of the country, especially near the borders, the problems may be compounded by secessionist movements fueled by the desire for personal gains from their leaders – Cote D'Ivoire, Congo, Liberia, Sierra Leone are just a few examples in this respect.

According to Ross, 2003, there are a few common factors in the countries or regions affected by civil conflicts over resources: distinct religious, ethnic or linguistic identity, high costs resulting from the externalities generated by resource exploitation imposed on the local population, and the perception that the wealth resulting from the resource exploitation is unfairly appropriated by the central authorities.

5. Conclusion

The connection between the sustainable exploitation of natural resources and a country's national security is still subject to debate and further research. A major difficulty derives from the fact that it is never easy to clearly separate the mix of social ethnical, religious, economical and environmental factors that may lead to conflict, but we can draw one conclusion: the presence of natural resources on a country's territory does not by itself lead to conflict (there are examples of countries that manage to exploit their natural resources in a way beneficial for the entire society). In order for a conflict to emerge, a complex mix of factors is required: poverty, social inequality, religious or ethnic tensions (Rwanda, Democratic Republic of Congo), political instability, weak governments, unfair appropriations by authorities of resources revenues, corruption, low literacy rates, lack of employment opportunities, especially for young men. Still, in specific situations, the dependence on natural resources may increase the risk of a conflict and may contribute to the spread of conflict over a longer period of time, through the effects on the economy, their implications for the governments, local populations and the armed factions.

The complex interaction between these factors leads to a self-reinforcing vicious circle, as poverty may favor the emergence of a conflict, but a civil war may also

contribute to the increase in poverty. Natural resources may be one of the many factors causing a civil conflict, and at the same time, a civil conflict may be prolonged and fueled by the warring factions seizing access to natural resources to finance their activities.

In order to better understand the complex interactions between natural resources, their sustainable exploitation and national security, a more comprehensive model is needed, encompassing economic, social and political factors, using more reliable data sources and correlating the rather different results of various studies already done on the topic.

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A Reducing Resistance to Change Model

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Abstract: The aim of this scientific paper is to present an original reducing resistance to change model. After analyzing the existent literature, I have concluded that the resistance to change subject has gained popularity over the years, but there are not too many models that could help managers implement more smoothly an organizational change process and at the same time, reduce effectively employees' resistance. The proposed model is very helpful for managers and change agents who are confronted with a high degree of resistance when trying to implement a new change, as well as for researches. The key contribution of this paper is that resistance is not necessarily bad and if used appropriately, it can actually represent an asset. Managers must use employees' resistance.

Keywords: resistance to change; change model; change agent; communication; behavior.

JEL Classification: O30; O39

I. Introduction

Analyzing several organizational change models, I've found that the reducing resistance to change stage is either present, either can be inferred or totally lacking (Braduțanu, 2012, p. 21). To successfully implement a new change, I consider that any manager or change agent, must pay a close attention to this stage. Of course, initially, a change can be implemented without employees' support, but it does not mean that the new change will last. Being accustomed to a certain routine, people can always go back to the old habits, especially in those conditions when they do not perceive the necessity and importance of the new changes. The role of the change agents is essential if the new change is desired to persist. They must communicate constantly with employees', answering all their questions and when necessary, to involve the key members in the process.

Most methods of reducing resistance to change originate from Kotter and Schlesinger's (1979) proposed six methods, resistance to change being generally considered a negative phenomenon.

Many authors (Lawrence, 1954; Maurer, 1996; Strebel, 1996; Waddell and Sohal, 1998; and others) point out that the reasons for the failure of many change

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initiatives can be located in resistance to change. Indeed, in some cases, resistance to change represents a negative phenomenon with adverse effects on organizational performance, a phenomenon that must be overcome. This view was presented in the first published works on resistance to change, but over the years, after more debates on the subject, a positive side of the phenomenon was highlighted. In "Reframing resistance to organizational change" by Thomas Robyn and Cynthia Hardy, I have identified two distinct approaches of resistance to change: a negative and a positive one. The term resistance is complex and very often misinterpreted (Ford et al., 2008). Change leaders should change their perspectives on this subject and try to "see" resistance from a positive angle too. Just changing the prospect of analyzing it, managers could record a greater success in implementing new changes and attract more efficiently employees on their side.

II. A Reducing Resistance to Change Model

Further, I propose a reducing resistance to change model (Figure 1), stressing that an effective manager must use employees' resistance, in order to improve and refine the change process.

The proposed model is recommended to be applied when the manager or the change agent reaches the reducing resistance to change stage within an organizational change model. Depending on the place of the reducing resistance to change stage, which is determined by the type of change that follows to be implemented, the application of the model may occur before, during or after the actual change implementation.

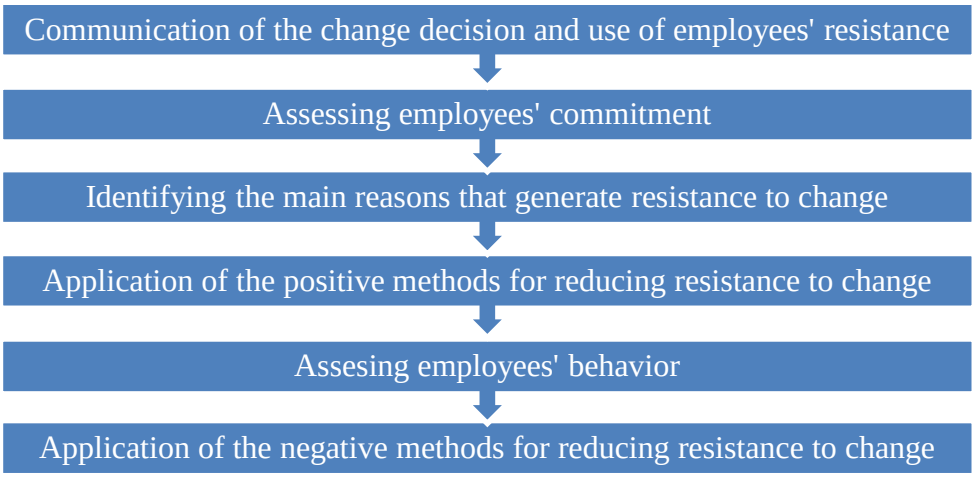

Figure 1. A reducing resistance to change model

1. Communication of the change decision and use of employees' resistance

Communication of the change decision and use of employees' resistance is the first phase of the model and requires an open communication between the change initiators and the affected members, so that the first would be able to announce openly the change decisions, and the last, to manifest their ideas regarding the change in question.

Although many authors recommend communicating the change decision at a propitious time, the reality indicates that this is not always possible. In order to perceive more easily the new initiatives, I suggest the communication of the change decision in such a way, that employees' would be able to openly express their views on the new process and have the opportunity to contribute with their own ideas. I emphasize on the two-way communication because often, employees can contribute with great ideas which can be useful at improving the change process.

Manifestation of resistance to change from some employees is inevitable at this stage, reason for which, the change agent must use it to his advantage. Since the resistance phenomenon assumes certain strengths, using them, he can gain employees' support, diminishing their resistance. The most common way through which change agents respond to employees reactions is "resisting their resistance, one force meeting the other" (Maurer, 1996). I believe that most often this approach is wrong, especially since the change agent can benefit from the use of their resistance (Ford et al., 2008, Ford & Ford, 2010). And Fiorelli and Margolis (1993) state that a certain level of resistance may be beneficial for an organization.

In the present context, "the use of employees' resistance" means: hearing, considering and implementing some ideas of those employees who are against change, because very often, "the resistant people can provide valuable insights about how the proposed change may be amended in order to increase its chances of success" (Michelman, 2007, p. 3). Employees who agree with the new change rarely will propose creative ideas to improve the process, these ideas being much more easily and quickly obtained from those who resist.

In case of a planned change, the change agent may reserve some time for talks with key employees, finding out their views. The concern of the senior managers is to maintain or increase organization's performance, all the taken decisions being directed towards a positive end. However, there are multiple cases where employees from the middle and lower levels, exercising their daily activities and facing certain problems, may perceive the new change from a different perspective. They may detect certain aspects that need remodeling, the result of which, could have positive effects both on their work and organization's performance.

We recommend for managers and change agents not to ignore the views of the employees against change, but on the contrary, to use the valuable ones, because sometimes the resistant employees can come up with creative ideas that will contribute to a more rapid and effective implementation of the change. Further, after communicating the change decision, finding out employees views and considering the best of them, follows the second stage of the model.

2. Assessing employees' commitment

Assessing employees' commitment represents the second phase of the proposed model and involves analyzing employees' degree of commitment towards the organization where they work.

Before deciding which reducing resistance to change method must be applied, an effective change agent must assess the commitment of the members involved in the process and depending on the identified attitudes, to propose a number of solutions. The change management consultant, Daryl Conner, says that "resistance and commitment are two sides of the same coin". "Even if employees' resistance may not initially manifest, their lack of commitment could result in the appearance of a strong resistance to change throughout the process" (Davidson, 2002, p. 23).

To achieve a full assessment is it recommended to analyze separately each type of organizational commitment, namely: affective, continuous and normative commitment, as each type has its own results and implications on employee's behavior (Meyer & Allen, 1991).

Another important aspect that should not be overlooked is the need to assess the level of commitment in those circumstances when organization's management wishes to retain the most talented professionals. If they are not sufficiently attached towards the organization or satisfied, the management should take the necessary measures, otherwise, the loss of the best specialists may have negative effects on organization's performance. The organizations that face difficulties in retaining and replacing key employees, will also encounter difficulties in optimizing company's performance (Sarwar and Khalid, 2011, p. 671). As stated by the previously mentioned authors, "in addition to the immediate recruitment costs, there will be other hidden costs related to time management and low productivity, as the new employees will require some time before becoming effective at the new tasks".

3. Identifying the main reasons that generate resistance to change

Simultaneously or immediately after assessing employees' commitment, the change agent must identify the main reasons generating resistance to change, specific to each employee. The stage of identifying the main reasons of resistance

to change is very important, because depending on the identified reason, a certain method for reducing resistance to change is proposed. Of course, the reasons for opposition will be different from one individual to another, depending on their own perception of the change process.

4. Application of the positive methods for reducing resistance to change

After assessing employees' commitment and determining the main reasons that generate resistance, the change agent has already formed an opinion regarding the existent degree of resistance within the organization and can apply a series of positive methods to reduce it. I focus on applying the positive methods first because, the change agent has to do his best to attract the affected members on his side. Only after they'll understand the need for new implementations, they will be willing to contribute to the process. In order to effectively reduce employees' resistance, I propose applying the following positive methods, with the condition that, they will be applied in accordance with the identified reasons. The positive methods for reducing resistance to change are: *a continuous communication, involvement, training, empowerment, financial and non-financial motivation, counseling and support, negotiation.*

The change agent must assume the task of choosing carefully the method or methods that respond better to the situation of the affected members and of course, to organization's culture and management style. Regarding the management style, I consider that the application of the positive methods are more characteristic for the participative style, while the negative methods are mainly practiced by managers who adopt an authoritarian style.

5. Assessing employees' behavior

Later after applying the positive reducing resistance to change methods, the change agent must evaluate employees' new behavior. He must determine if the application of the methods had the desired effect and whether the support of the affected members was gained or not. If the application of the positive methods was a success and resistance to change was diminished, the change agent can continue with the implementation of the new change. Otherwise, I emphasize on the necessity of the completion of the sixth stage of the proposed model, namely, application of the negative methods for reducing resistance to change.

6. Application of the negative methods for reducing resistance to change

In order to effectively reduce employees' resistance, I first proposed to apply a set of positive methods, but if they do not have the desired effect, the manager will have no alternative but to apply the negative methods. Since implementing the new change represents a priority for the company, its management will not hesitate to apply the coercive methods where employees do not want to subordinate to the new procedures. They either adapt to new conditions, either are penalized. It is believed that the management always has organization's interests in the limelight (Predişcan, 2004) and if employees do not change their behavior in a timely manner or, if their values do not correspond with those of the organization, the management will have no alternative but to take the necessary actions. After conducting a study in the banking sector, I found that employees emphasis more on their own interests than those of the organization (Braduţanu, 2012). It makes sense that an employee will cherish more his every day routine and job security, than to be exposed to some new changes that might cause potential disruptions. Here intervenes the role of the top managers, who as top priority will put organization's success and interests, and any incompatibility with them, will be considered a negative factor that must be eliminated. For this reason, when the application of the positive methods fails or when the position of the change initiator towards the opposing members is very strong, the application of the negative methods represents the ideal solution.

III. Conclusions

In order to improve a change process and gain employees' support, the manager or change agent must use employees' resistance. Resistance is not necessarily bad and if used appropriately, it can actually represent an asset. The proposed reducing resistance to change model consists of six phases and emphasizes on the importance of using employees' resistance. Also, in order to have pro change personnel, the change agents must first focus on applying the positive methods for reducing resistance to change, in this way gaining employees trust and support. If they are attached towards the organization and are explained clearly what is going to happen and how the new changes will affect them, being presented both the advantages and disadvantages, employees will get on board and do their best to contribute to a successful implementation. Of course, not always the application of the positive methods will have the desired results. Depending on employees' level of commitment and trust in the change agent, they might refuse to get involved in the process and try to sabotage the new implementation. Since top management focuses first on organization's interests, the application of the negative methods might represent the only option.

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Financial Economics

The Impact of International Financial Institutions Investments in the Countries of the Region, with Particular Emphasis on Kosovo

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Abstract: The purpose of this study is that has to do with giving a mirror effect of the international financial institutions in investments in the country and the region. Almost all countries in the region, as well as international financial institutions in the country play an important role in investment within the country. Institutions in the country play an important role in investment within the country. Also it is important to examine the impact of these institutions on the development of the country's economic progress as well as in the region, as well as these institutions have an impact in terms of advancing the process of production, optimum utilization of production capacities, as well as end as have an impact on employment.

Keywords: development; investments; economic growth; Kosovo; remittances

JEL Classification: E22; F21; F27; F33

1. Introduction

Paper scientific title "Impact of International Financial Institutions in countries in the region investments with particular emphasis Kosovo", aims research and analysis of events, the impact of the IMF, World Bank, EBRD and the WTO in economic integration of Kosovo. With this work we aim to understand the positive achievements in terms of economic development in the country also in the region, trying to uniquely identify the negative aspects that have had and continue to have these institutions in this field. We will concentrate especially on the development of recent years.

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As well as countries in the region, Kosovo is part in these institutions in order to realize their economic goals.But, after so many years of their membership cannot be said that we have many improvements, especially in economic terms. It can be said considering the regional economic crisis.

In the first part of this paper our aim is to present the history of the creation of these institutions, which were circumstances that were created these institutions as well as the need to create them. Continuing then with the importance of these financial institutions in the economic development of Kosovo and the region like Albania, Macedonia etc. In this paper we will pay special attention to the case of Kosovo as a new state that has not yet passed the transition.By, not mentioning, the impact of remittances, which play an important role in the economy of Kosovo.

1.1. The Impact of International Financial Institutions in Investments in the Countries of the Region with Particular Emphasis on Kosovo

Kosovo's membership in international financial institutions is seen as the best opportunity for economic development and has the aim of increasing confidence among investors that Kosovo is a safe place to invest. Kosovo since 2009 is a member of the International Monetary Fund and World Bank and in 2012 became a member of the Bank for Reconstruction and Development. While the terms of WTO membership is still making efforts in this direction, but must fulfill certain criteria. What is worth mentioning in this paper is that Kosovo's membership in this institution has strengths and its benefits not forgetting that there is also its shortcomings.

International financial institutions have a significant impact in the region as in Macedonia, Albania, Montenegro, Serbia etc. Kosovo and these countries have seen the positive and negative sides of the membership in these institutions. Given that these institutions play an important role especially in the economy of the Member States, it is important to talk and because of their establishment.

1.2 The influence of the International Monetary Fund in the Economy of the Region as well as Kosovo

The International Monetary Fund is an international organization headquartered in Washington DC H1: *The primary purpose of establishing the Fund was to create a monetary cooperation to speed growth, to raise the level of employment, reduce unemployment and create temporary assistance to poor countries to offset the payment level*.

The work of the IMF is of three types. Supervision includes monitoring of financial and economic developments, in giving advice on the policies pursued that aim to avoid economic crises.

H2: The IMF also lends money to countries that have difficulties with balance of payments, provide temporary funding and support to correct the economy problems, loans for countries with low incomes are given to reduce poverty.

H3: Thirdly, the IMF provides technical assistance and training in its areas of expertise (International Monetary Fund).

Countries in the region as well as Kosovo have a new and dynamic economy, so it is welcome that these countries are affiliated with the IMF, because the IMF surveillance provides specialized assessment of economic developments and regional financial that has a great importance for the economy of these countries.

According to Joseph E. Stiglitz, the IMF's primary purpose is to obstruct the presentation of a global economic depression. The basic task of the IMF since its establishment was that giving loans provide liquidity in those countries that had economic decline and there were no economic skills and sufficient means to stimulate aggregate demand. In a crisis, the IMF is committed to applying a restrictive monetary and fiscal policy, particularly through increased interest rates (interest), sometimes up to 20%, sometimes 50% and sometimes up to 100%, these rates (Stiglitz, 2009).

While author Salman S, stresses that the IMF is a public institution, which is funded under the taxpayers' money around the world. This has a special importance, because the steps undertaken by the institution in its SCOPE not inform either the citizens who finance it or those citizens, whose lives depend on the steps and decisions of this institution. Instead, the IMF informs primarily finance ministries and central banks of the state. Therefore, all the time of its existence the Fund has changed diametrically original ideas and goals of its operation, giving absolute priority market. Here we see the lack of transparency of this institution. IMF in most cases took steps wrong due to the lack of transparency in terms of economic development, both in terms of overcoming the recession special economies, as well as overcoming the global recession (Selman, 2009).

First we treated the role of the International Monetary Fund in general, to carry on what we care more, so the impact that the IMF on the economic development of Kosovo.

Given that Kosovo as a new country and small in almost all aspects including economy, its long-term objectives intended to be done with the help of international financial institutions like the IMF and the WB, EBRD the etc. Kosovo became members immediately after independence in the IMF and WB, bringing optimism for economic development. But even after several years of membership in the Fund, it is hard to say that something has changed positively in the economy of Kosovo, taking into account the regional economic crisis, European and global.

Kosovo as a member of the Fund as well as the other Member States shall have the rights and obligations. It pays membership quota as any other member country, while in relation to this quota, there is the percentage of the vote. It pays 00:03% of the Fund and 0.05% of the votes in the Fund.

Given Kosovo as a new state, the importance of the IMF for financial and economic stability, trade balance Kosovo, shortcomings or criticisms of the IMF, in Kosovo during these years that is a member of the IMF is difficult to make a proper analysis, but it can be said that the IMF loan contributed to the macroeconomic stability of Kosovo, regarding this period, however, should be viewed with caution and experiences of other countries.

2. Literature Review and Hypotheses

It is difficult to predict how it will help in the long term to reduce unemployment and poverty and thus overall economic growth of the country, after returning back credits received from quotas paid by Kosovo to be part of the Fund and country They should strictly implement the Fund's policy to prevent the repetition of the situation that happened several years ago (*International Monetary Fund*). Kosovo is a member of this fund in order to receive credit. These loans should be used for serious purposes, not for other purposes as are being used.

Thus not helping our country's economy Kosovo is a member of this fund in order to receive credit. These loans should be used for serious purposes, not for other purposes as are being used.

2.1 World Bank Role in the Economic Development of the Region and Kosovo

Another important institution which also has a great impact, especially in the economic development of Kosovo and the region is the World Bank. The World Bank is one of the world's leading institutions in the fight against poverty and improving standards of people in developing countries. This is a development bank that provides loans, supports and advises regarding political assistance, technical services related to the exchange of knowledge. World Bank develops and finances projects at the request of the government in the country concerned (*wordbank.org).*

Therefore, based on their function and purpose of granting loans, the World Bank insists to control and govern the economy of these countries.

World Bank and International Monetary Fund are interrelated responsibilities of the IMF have changed from those that were from the watchdog guardian of 188 of its members. When we say supervising we means help, which is mentioned above for member countries. IMF also has gold which means that the holder remains the third largest in the world, with a total amount of 3,217 tons of gold.

3. Research Goal

From everything that was said, it is worth noting the assistance of the World Bank's first budget on Kosovo which has been in the amount of 24.3 million euros, as a result of this has been positive assessment of the situation in Kosovo macro, also had the support of other. However, Kosovo remains the poorest economies in the region and face higher levels of poverty, massive unemployment (which on average is estimated to be 45% in contrast to the example of Macedonia with 37% and Albania 14%) heavy dependence on imports and with very small sector of export, and lack of energy. Gross national income (GNI) per capita estimated at $ 3,520 and so Kosovo is ranked 93 in the world, behind Macedonia, Albania, Serbia and Bosnia and Herzegovina (World Bank - World Development Indicators 2012).

The World Bank estimates that Kosovo will have to at least double the growth rate and achieve at least 12% growth per year for a decade to reach the current level of Gross Domestic Product (GDP) of Montenegro to head resident. In short, the gap in income between Kosovo and other countries of Eastern Europe are likely to remain deeply opposed to greater growth (World Bank, Department for Poverty Reduction and Economic Management).

3.1. EBRD - the Economy of the Countries in the Region and Kosovo

Besides significant influence IMF and World Bank for economic development in the region and our country is the European Bank for Reconstruction and Development.

European Bank for Reconstruction and Development (EBRD) is the financial institution that supports projects in countries of Europe and Central Asia. Agreement on the establishment of the EBRD was signed in Paris on 29 May 1990, and has started to operate on 15 January 1991. Pursuant to Article 1 of the agreement on establishment, the purpose of the Bank is to contribute to the development and reconstruction, encourages countries. (Dumi, 2015)

The transition to a market economy and promote private sector in the countries of Central and Eastern Europe. The aim is to promote a functioning market economy, where businesses compete with each other, which encourages innovation and revenues reflect the increased employment and productivity. Bank financed from 64 countries from around the world including two intergovernmental institutions, the European Union and the European Investment Bank.

The EBRD is the largest investor in the region. By decision of the Board of Governors dated 16 November 2012, Kosovo became a member of the 66 th recipient of EBRD funds. The decision entered into force on 17 December 2012

and the EBRD is expected to help the private sector as well as the public in Kosovo (European Development Bank).

European Bank for Reconstruction and Development has already signed about 37 projects in Kosovo, the amount reached up to 89 million euros. Also, small and medium enterprises have benefited from EBRD advisory services, to create new work places and to development the businesses.

It is important to note the report of the EBRD, which according to the report, Kosovo and Macedonia are for 2014 and 2015 have the highest economic growth in the region. While Serbia and Cyprus, have had economic downturn in 2014 and is forecast to have a slight increase for 2015. Regarding Albania's economic growth for 2014 was 1.5% while for 2015 is projected to be 2.5%. *This is the rating for our country by the EBRD, which is reflected in a report on economic growth in the countries of Europe (the European Bank for Reconstruction and Development).*

Given that businesses in Kosovo are mostly small, EBRD finances projects ranging from the amount of 1 million euros. EBRD makes efforts to help small businesses, especially those for expansion.

From everything that has been said we can come to the conclusion that membership in these financial institutions is very important for our country, and Kosovo can benefit too. But it will also have positive and negative side. Kosovo's membership in the IMF, World Bank and EBRD remains to be seen in the coming years, because until now we have not any benefit and so great. All this may be due to bad governance by our institutions, because it is very important that these institutions have made in the legal protection of investments. If there is legal protection of investment we will definitely have investor in our country.

4. Remittances and their Role in the Economy of Kosovo

Remittances play an important role in the economy of Kosovo, contributing to economic growth and being extra income for people who are in need. So they have a very significant impact in improving the lives of people considering that the average salary in Kosovo is very low.

Poverty through remittances in Kosovo has significantly eased, which have contributed to increased income of poor families.

Remittances in Kosovo are an important element in fighting poverty.

Despite the improved economic situation during the last decade, Kosovo still faces very difficult economic conditions. This situation is being faced with a high rate of unemployment and low level of domestic production compared with other countries in the Western Balkans. By this we mean that remittances from abroad

have been and continue to be a major contributor to the welfare of Kosovar families.

The contribution of Diaspora in Kosovo is very important and significant, considering that approximately 70% of immigrants send remittances to their families in Kosovo. This means that less than a fifth of all Kosovar households receive remittances from abroad. Families that have received remittances were mainly in textile, automobiles, electronic equipment. We have made efforts to investigate approximately a percentage of revenues as discussed above. So these families have received 48% of clothing and textiles, approximately 13% of them have received cars, and 13% of various electronic equipment. The number of migrants who visit Kosovo is quite large which amounts to seventy percent, affecting the overall consumption growth through spending during the visit.

Despite all the problems that the economy of Kosovo had, and still has, also it has several significant achievements thanks to the contribution of the diaspora who have helped quite a lot in stability that has in Kosovo, contributed to a form in place economic development.

5. Conclusion

International financial institutions have a significant impact on the economic development of member countries in these institutions. The reason to explore in this paper has been exactly that, how will this affect the international financial institutions in the economy, of the countries in the region Albania and Kosovo. What are the positive sides and will also have a negative effect on membership in these institutions. It should be noted that membership in these financial institutions both Kosovo and the region expect to benefit from a greater economic development. The main purpose of membership is to have a stable economy with a secure European future.

In this paper we have tried to present the tasks and goals of these institutions, as these affect the financial systems of countries, especially those who have not yet passed the transition, i.e. the case of Kosovo. Kosovo cases have made efforts to treat more in this paper as a new state and a new member of the IMF, WB and EBRD.

During this theme, we have come to the conclusion that international financial institutions with the benefits and disadvantages of them are still trying to achieve macroeconomic stability and financial system. Finally we can say that this document does not pretend to reach the solution of economic problems in the region and Kosovo, but the important thing is the appearance of a real view what is happening with the economies of these countries and their need for financial support by these institutions.

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Capital Market and Unemployment in Nigeria

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Abstract: This paper examines how the Nigerian capital market affects unemployment in Nigeria with a view to identifying how the market has been able to curtail unemployment over the years or otherwise. It employes annual series data from 1986 to 2012 on unemployment, market capitalization and other data obtained from the Central Bank of Nigeria, Statistical Bulletin. The study adopts the Johansson cointegration vector error correction technique for data analysis. The result shows that unemployment has risen unabatedly since the adoption of Structural Adjustment Programme (SAP) with an average unemployment rate of 8.12 per cent for the period while market capitalization relative to the size the economy is 14.42 per cent. The analysis also shows that while, economic growth significantly curtails unemployment capital market development fails to limit unemployment. The stock market thus has grown over the years at the expense job creation in Nigeria. It is expected that efforts are geared towards efficient capital market development to enhance mobilization of funds for long term investments by firms and propel job creation along the value chain. The government should also focus on developing those labour intensive sectors of the economy while pursuing its economic growth policy.

Keywords: capital market; unemployment; economic growth

JEL Classification: G1; G2

1. Introduction

The current high rates of unemployment and underemployment in Nigeria have generated a lot concern from Nigerians especially amidst positive macroeconomic indicators. Oladeji (2014) reported based on the submission of Anyanwu (1996) that taken alone none of the monetary variables (money supply, lending rate, domestic credit) significantly reduces unemployment and conversely, taken alone, all the fiscal variables (except recurrent expenditure) are highly significant in reducing unemployment in Nigeria. Oladeji (2014), therefore advocates an appropriate mix between monetary and fiscal policy instruments in order to reduce unemployment. While this is acceptable on the part of the government and monetary authority, the private sector input especially through the capital market

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for medium and long term financing which was not considered in Anyawu (1996) is also very crucial in curtailing unemployment. The capital market dimension for curtailing unemployment and improving the citizens' welfare through the capital market wealth effect becomes more apt especially in an economy that is moving towards being fully private sector-led.

Unemployment according to Everyman's Dictionary of Economics is defined as "involuntary idleness of a person willing to work at the prevailing rate of pay but unable to find it (Jhingan, 2008). The unemployment rate has continued to take an upward surge in the last three decades in Nigeria. In fact Oladeji (2014) notes that the deregulation of the economy according to the Structural Adjustment Programme (SAP) philosophy was not employment-focused but only pre-occupied with attainment of non-inflationary growth. For instance, evidence from the CBN (2011) report indicates that the unemployment rate was 3.5% and 4.7 % in 1990 and 2000 respectively and surged to 11.9 per cent in 2005 and the rise has continued unabated since then closing at 25.7 per cent in 2012. This has had major implications on the economy as the unemployed labour force contributes nothing to the growth of the economy. Available evidences are pointers to consequences of unemployment in the country including unimpressive economic growth rate, social vices and poverty. The Nigerian economy has grown at unimpressive rates over the years relative to its potentials given its abundant natural and human resources. The CBN (2011) report indicates that the economy grew at the rate of 6.4%, 7.0% and 7.4% in 2007, 2009 and 2011 respectively.

The poverty line has remained unabated with 54.7% on the absolute poverty line and 62.8% of Nigerians leaving on less than US$1.0 per day (CBN, 2011). Social vices and armed-struggles have also continued to assume upward trend most of which are attributable to unemployment while the nation struggles to contend with the consequences.

The poor state of infrastructure especially the epileptic power supply, roads and other important facilities to facilitate employment in rural agriculture and industrial employment in the cities has not helped matters. Limited access to credit and its attendant cost have continued to militate against expansion of industries and agricultural productions with grave consequences on job creation. Despite many government efforts at job creation through various programmes and interventions like the establishment of National Directorate of Employment (NDE), Graduate Agricultural Schemes and collaborations with the private sector for Commercial Agriculture Credit Scheme (CACS), Small and Medium Enterprises/Manufacturing Refinancing and Restructuring Fund (SME/MRRF) and a host of others, unemployment is still on the rise. Usman & Adeyemi (2012) asserts that in Nigeria, employment problems transcend beyond mere mismatch between available jobs and the scale or scope of prospective job seeker to cut across all known frontiers and sectors (the skilled, the unskilled and semi-skilled).

One of the most critical problems militating against business expansion is access to finance for both large and small scale enterprises. It is argued by Fehn and Fuchs (2003) that while the often-blamed labor-market rigidity alone is important, it does not provide a satisfactory explanation for the differences across countries and over time. Financial constraints are potentially important obstacles against creating new firms and jobs and thus against coping well with structural changes and against moving successfully toward the new economy. The large firms that are quoted on the exchange have can access large amount of formal financing from banks and the capital market. The financial market especially the banks and capital markets has been identified as being more efficient in the mobilization of surplus funds from households, firms and government and channeling them to the deficit units for more productive uses within the economy. While the banks concentrate on short and medium term credits the capital market is more dependable for long term debt and equity financing. Anyawu (1999) asserts that lack of funds affects the ability of firms to embrace viable investment opportunities especially in modern machineries and human resources development. Banks however are reluctant at lending funds to manufactures due to its perceived high risk and mismatch between the short term funds from banks and long term funds needed by industries despite its potential high long-run returns.

The capital market may be relied on for long term investment and expanding industrial capacity in order to create more jobs and tackle the problem of unemployment in Nigeria. For instance the Nigerian capital market created the platform for the banks and insurance companies recapitalization between 2004 and 2006 while the likes of Dangote Group and Honeywell Group plc raised their initial public offers (IPOs) on the Nigerian Stock Exchange (NSE) to become public firms. These companies today have expanded their operations and created many new jobs directly and indirectly along their value chains. It has been argued that resources especially finance is a major factor that limits investment and consequently the inability to create jobs or expand existing capacity and consequently unemployment. Surprisingly, while the Nigerian capital market has grown significantly over the years unemployment continues to rise, reflecting the same situation in South Africa, the largest stock exchange in African. Contrarily, the other two leading exchanges in African namely, Egypt and Morocco have unemployment rates between 9 and 13 percent barely half of the situations in Nigeria and South Africa as further indicated in figure 1 as computed from the data contained in the African Securities and Exchange Association (ASEA) 2013 and CBN (2013) Annual Reports. This study therefore, examines the role of capital market in curtailing unemployment in Nigeria.

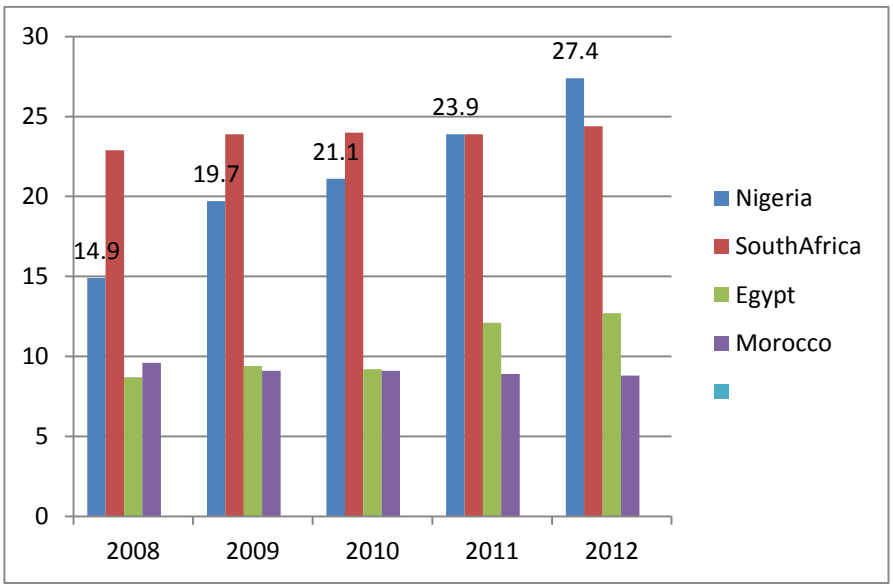

Figure 1. Unemployment Rates in Selected Leading African Stock Markets

Source: Computed from ASEA 2013 Annual Reports and CBN(2013) Annual Reports

2. Literature Review

2.1. Empirical Review

Fehn & Fuchs (2003) made a cross-country panel analysis of capital market institutions and venture capital and how they affect labour demand. Fehn & Fuchs (2003) analyzed whether differences in institutional structures on capital markets contribute to explaining why some OECD-countries, in particular the Anglo-Saxon countries (Britain and U.S), have been much more successful over the last two decades in producing employment growth and in reducing unemployment than most continental-European OECD-countries. Highly developed venture capital markets should help to alleviate such financial constraints. This view that labor-market institutions should be supplemented by capital market imperfections for explaining differences in employment performances is supported by the analysis, in which venture capital turns out to be a significant institutional variable. The study finds that venture capital investment has different influences on sectoral-educational- and occupational-specific unemployment.

Epstein & Heintz (2006) notes that only effective financial sector reforms capable of removing market imperfections would improve the financial sector's capacity in Ghana to move it to an employment intensive growth path.

Aryeetey & Baah-Boateng (2007) argue that in spite of the fairly decent growth performance that made Ghana the model of economic reform in sub-Saharan Africa it has somewhat been dented by the increasing rate of unemployment and underemployment. The paper argued that the Ghanaian policies narrowly focused on achieving macroeconomic stability and accelerated growth without adequate employment consideration. Growth appears to have emanated from mining at the expense of labour intensive and employment generation sectors like manufacturing, tourism, agriculture and exports which would have further boosted growth and employment.

Gatti & Vaubourg (2009) using data for 18 OECD countries over the period 1980-2004, investigat how labour and financial factors interact to determine unemployment. The mean unemployment rate was 7. 45%. They found that the impact of financial variables depends strongly on the labour market context. Increased market capitalization as well as decreased banking concentration reduce unemployment if the level of labour market regulation, union density and coordination in wage bargaining is low. The above financial variables have no effect otherwise. Increasing intermediated credit worsens unemployment when the labour market is weakly regulated and coordinated, whereas it reduces unemployment otherwise. These results suggest that the respective virtues of bank-based and market-based finance are crucially tied to the strength of labour regulation.

Gatti & Vaubourg (2009) further assert that labour and product market institutions are not the only factors determining unemployment given the conclusion of previous studies. Citing for instance that the empirical literature on 'growth and finance' shows that investment and growth are strongly related to financial development. It is also well known that the size of financial markets, the role of financial intermediation, the degree of banking concentration etc. differ dramatically among countries (Allen & Gale 1995, 2000). This has given rise to an abundant literature on the opposition between bank-based and marked-based financial systems.

Lefort (2011) analysed the impact of capital accumulation on unemployment in Chile from 1987 to 2005. The study found a negative relationship between capital investment and unemployment. However, the author remarked that the lack of research does not still allow them to define precisely which is the channel underlying the impacts on labor demand although the lower elasticity of substitution between capital and labor has been widely demonstrated by empirical evidence. Thus, the classical assumption arguing that a high elasticity of

substitution determines the presence of a Cobb-Douglass production function, which gives more importance to labor market institutions as unemployment determinants, has been almost rejected. The paper concludes that empirical evidence permits them to argue for a relevant impact from fiscal and monetary policy on unemployment through both interest rate and capital accumulation.

George & Oseni (2012) examined the relationship between unemployment and electric power supply in Nigeria between 1970 and 2005. The study found that the average unemployment rate is 6.56% with a minimum and maximum of 1.9% and 18.1% respectively. The paper finds that power supply to the industrial sector was lower than the supply for residential consumption. It also establishes that the major cause of unemployment in Nigeria is traceable to inadequate and unstable power supply to the industrial sector.

Kadiri (2012) found that finance is the most significant factor constraining SME's ability to create employment in Nigeria. The study covering about 1,600 SMEs in Nigeria also reveals the major source of financing of SMEs is through informal financing while 100 per cent of start-up capital come from informal sources (personal savings, family, friends and cooperative societies). The entrepreneurs also indicate that the services provided by financial institutions are grossly inadequate while government support for SMEs growth has been far below expectation.

Usman & Adeyemi (2012) investigates the effects of the supply price of capital on industrial production and the ability to generate employment in Nigeria. From the 2-stage least squares results, it is revealed that real interest rate has a negative influence on growth of the industrial production in the country as well as employment generation. This implies that, since the supply price of capital is high, investment will be low and this will amount to low industrial production because of low capacity utilization arising from low financial and human resources.

Oloni (2013) investigated the impact of economic growth on employment generation in Nigeria employment using the Johansen vector- Error correction model. The study revealed that economic growth had positive but insignificant impact on employment. Foreign private investment has negative impact while public expenditure has positive and significant impact on employment. It concluded that growth in Nigeria does not strongly support employment creation. The paper recommended that, growth in the economy can support employment if the government gears expenditure towards areas like labour intensive industries that can create more employment. However, his finding may be a pointer to crowding out effect of high government expenditure that tend to increase income but crowds out investments due to the resultant rise in interest rate as theorised by Keynes. This has the effect of curtailing job creation and employment.

Oladeji (2014) remarked that to accept the current reported consistent "*robust growth"* in Nigeria uncritically is to fall victim of what Teriba (1980) described as "*development illusion"* Oladeji (2014) remarked that evidently, what obtains so far is a case of " *jobless growth",* namely a growth that comes along with rising unemployment. And with the rising poverty incidence, the country is said to be experiencing as well "*immiserizing growth".*

2.2 Theoretical Underpinning

Theoretically, there exists three major markets – product, labour and financial markets. There are interactions between and among these markets. It is therefore possible to examine the relationships between the markets from the following three perspectives. (i) Labour and financial market (examining financial determinants of labour demand) (ii) labour and product market and; (iii) interaction between financial and product market institutions. This study relies primarily on examining the interaction between the financial market with specific reference to the capital market and the labour market. This is with a view to establishing whether the ability of the Nigerian capital market to mobilize long term funds has been able to improve on employment generation and thus curtailing unemployment or otherwise.

3. Methodology

In order to empirically examine the impact of the Nigerian capital market in curtailing unemployment in Nigeria the paper makes use of annual data series obtained from the Central Bank of Nigerian Statistical Bulletin, from the period of liberalization of Nigerian economy in 1986 to 2012.

The Model for Estimation

The empirical model is specified as presented in equation 1. This model has been adapted from Gatti and Vaubourg (2009).

$$U_t = \beta_0 + \beta_1 U_{t-1} + \beta_2 CAP_t + \beta_3 LnCapCash_t + \beta_4 BANK_t + \beta_5 EXG_t + \beta_6 GDP_t \quad \ldots 1$$

Where, U = Unemployment, U_{t-1} is the level of initial unemployment. *CAP* measures the ratio of stock market capitalization to *Gross Domestic Product (GDP), CapCash,* is the value of new equity issues raised by firms through the capital market in a given year, *BANK* is the ratio of credit to the private sector to the *GDP* and EXG is the exchange rate of Naira to the U.S dollar.

The *CAP* and *CapCash*, are the capital market reference variables while *BANK*, EXG and GDP are control variables. The EXG measures the international competitiveness of the product market while the GDP measures the overall productivity of the economy.

The CAP, BANK variables are the set of financial indicators currently in use in the finance literature as suggested by Demirguc-Kunt and Levine (2001) for measuring financial sector development. The new issues funds are meant for either setting up new plants or expand the existing ones. This has the potential for creating new jobs. These variables are a measure of capital constraints on unemployment.

4. Results And Discussion

The result indicates that average unemployment rate was 8.12 percent while stock market development as indicated by the ratio of stock market capitalization to the GDP was 14.42 per cent. The unemployment problem has worsened over the years especially since 2008 coinciding with the commencement of that global financial crisis while the economy has grown at an average of 4.71 per cent over the same period. Specifically, the economy has grown steadily between 6 and 7.89 per cent between 2003 and 2012, while market capitalization relative to the GDP ranged between 15.61 per cent to 49.83 per cent, but unemployment quite to the contrary has maintained an upward surge from 5.10 per cent to 25.70 per cent within the same period. This is further shown in figure 2. The econometric analysis shows that there is a long run cointergating relationship between unemployment and the capital market and the other determinants based on the Johansen Vector error correction model. This is confirmed by the Trace statistics and maximum eigen value tests as shown in Table 1. The normalized cointegrating equation (equation 2) shows that the size of the capital market, new issues and banking sector credit to the economy have positive and significant impact on unemployment. This is quite contrary to expectation. A plausible reason might be that the capital market crowds out funds from the other sectors of the economy without necessarily simultaneously translating that to business expansion and job creation within and outside the capital market. While the market grows and expands it fails to create a commensurate expansion of the industrial sector and investment for employment growth. This is similar to the observation of Aryeetey and Baab-Boateng (2007) of growth in Ghana at the expense of labour intensive sectors that would have boosted employment generation. It is however contrary to the finding of Lefort (2011) of a negative relationship between unemployment and investment in Chile. This suggests that the financial sector development rather than curtailing unemployment in Nigeria in line with Gatti and Vaubourg (2009), Lefort (2011) and Kadiri (2012) it has continued to aggravate the unemployment phenomenon.

However, economic growth in line with Oloni (2013) and exchange rate and have negative and significant impact on unemployment. Expectedly, economic growth significantly promotes employment creation in Nigeria contrary to the remark of Oladeji (2014) who described the Nigerian situation as "*jobless growth"*.

Impliedly, capital market and banking sectors development in Nigeria has failed to curtail unemployment in Nigeria.

Table 1. Trace and Eigen Value Cointegration Test for UNEMP, LnCAPcash, BANK, EXG, GDP in Nigeria, 1986-2012.

	Trace Statistics			***Eigen Value Test***		
Hypothesized Value	Trace Statistics	Critical Value	Prob*	Max Statistics	Critical Value	Prob*
None*	186.4113	95.7537	0.0000	77.6565	40.0776	0.0000
At most 1*	108.7549	69.8189	0.0000	52.6325	33.8768	0.0001
At most 2*	56.1223	47.8561	0.0069	27.9471	27.5843	0.0449
At most 3	28.1752	29.7971	0.0760	22.1881	21.1316	0.0354

Trace statistics indicates 3 cointegrating eqn(s) at the 5% level; Max-eigenvalue test indicates 4 cointegrating eqn (s) at the 5% level. * denotes rejection of the hypothesis at the 5% level

Cointegrating Equation() : Log likelihood: -344.5386

Normalised cointegrating coefficients (standard error in parentheses)

UNEMP	***CAP***	***LnCapCash***	***BANK***	***EXG***	***GDP***	***C***
1.0000	*-0.4365*	*-0.7477*	*-0.5252*	*0.0217*	*0.7270*	*10.0106 …2*
	(0.0316)	(0.2242)*	(0.0272)*	(0.0072)*	(0.0704)*	

Note: "" indicates significant at the 1 per cent level*

The vector error model as indicated by the *ecm* term (Table 2) suggests that about 20 per cent of misalignment between unemployment and capital market is corrected within one year, although it is not significant.

Table 2. The Vector Error Correction Models (VECM)

	D(UNEMP)	D(CAP)	D(LN NEWISSUES)	D(BANK)	D(EXG)	D(GDP)
Ecm	-0.204008	1.047602	0.008607	-0.326658	-3.489117	-0.837126
	(0.19378)	(0.54806)	(0.07939)	(0.46037)	(0.94637)	(0.29104)
	[-1.05277]	[1.91146]	[0.10842]	[-0.70956]	[-3.68685]	[-2.87634]
D(UNEMP(-1))	0.250860	0.890588	0.003320	0.359748	0.214134	0.609132
	(0.25684)	(0.72640)	(0.10522)	(0.61016)	(1.25431)	(0.38574)
	[0.97673]	[1.22604]	[0.03155]	[0.58959]	[0.17072]	[1.57913]
D(CAP(-1))	-0.079241	0.110687	-0.033283	-0.062301	-1.044815	-0.174888

	(0.08104)	(0.22919)	(0.03320)	(0.19252)	(0.39576)	(0.12171)
	[-0.97784]	[0.48294]	[-1.00252]	[-0.32361]	[-2.64003]	[-1.43694]
D(LNNEW ISSUES(-1))	0.539155	-0.810031	-0.185404	3.037898	1.328651	-0.671436
	(0.78119)	(2.20940)	(0.32004)	(1.85587)	(3.81509)	(1.17326)
	[0.69017]	[-0.36663]	[-0.57932]	[1.63691]	[0.34826]	[-0.57228]
D(BANK(-1))	-0.067735	0.065400	-0.107045	-0.102604	-2.461560	-0.765089
	(0.17229)	(0.48729)	(0.07058)	(0.40931)	(0.84142)	(0.25876)
	[-0.39314]	[0.13421]	[-1.51656]	[-0.25067]	[-2.92548]	[-2.95670]
D(EXG(-1))	0.000546	0.077287	-0.011578	-0.043250	-0.386638	-0.007487
	(0.03990)	(0.11285)	(0.01635)	(0.09479)	(0.19487)	(0.05993)
	[0.01368]	[0.68485]	[-0.70826]	[-0.45625]	[-1.98410]	[-0.12493]
D(GDP(-1))	-0.072703	-0.384723	-0.012827	-0.073682	0.874705	-0.148759
	(0.13822)	(0.39091)	(0.05662)	(0.32836)	(0.67500)	(0.20759)
	[-0.52601]	[-0.98417]	[-0.22653]	[-0.22440]	[1.29585]	[-0.71661]
C	0.427250	-0.273040	0.647032	-0.351944	8.532394	0.326701
	(0.56740)	(1.60475)	(0.23245)	(1.34797)	(2.77100)	(0.85217)
	[0.75300]	[-0.17015]	[2.78353]	[-0.26109]	[3.07917]	[0.38337]
R-squared	0.190670	0.469887	0.333028	0.169464	0.520521	0.555456
Adj. R-squared	-0.142583	0.251605	0.058392	-0.172522	0.323088	0.372408
F-statistic	0.572147	2.152664	1.212616	0.495529	2.636445	3.034486
Log likelihood	-49.96399	-75.95540	-27.65431	-71.59620	-89.61146	-60.13208
Akaike AIC	4.637119	6.716432	2.852345	6.367696	7.808917	5.450566
Schwarz SC	5.027160	7.106473	3.242385	6.757736	8.198957	5.840606

N.B: standard errors are in brackets with the t-values are in parentheses

5. Conclusion

This study examines the impact of the Nigerian capital market in curtailing unemployment in Nigeria. The study analysed the data from 1986 to 2012 obtained from the Central Bank of Nigerian (CBN) statistical bulletin. The study found that the average unemployment rate for the 27 –year period was 15.67 percent. The paper employed the Johansson Cointegration technique to anaylse the existence or otherwise of any long-run relationship between unemployment and the capital market and concludes that a long-run relationship exists. It can also be concluded that capital market development significantly fails to curtail unemployment as expected. The capital market has perhaps been expanding at the expense of job creation and employment generating investments. However, economic growth in

Nigeria is consistent with employment generation as economic growth has a negative and significant impact on unemployment.

It is however, curious to find that capital market development fails to curtail unemployment in Nigeria. Further, studies may need to examine the implications of the strength of labour market regulations and unionism, labour market structure, capital market imperfection as probable factors that can modify the exact relationship between capital market development and employment. These issues have been raised by Fehn & Fuchs (2003) and Gatti & Vanbourg (2009) as capable of influencing the extent to which capital market development can promote employment or exacerbate unemployment.

It is therefore important to properly channel capital market growth in a manner that is supportive of job creation through the expansion of the quoted firms and admission of new firms into the market. Young promising enterprises especially those in manufacturing, agriculture and other labour intensive firms should also be encouraged to seek quotation on the NSE to enhance their rapid growth and consequently job creation.

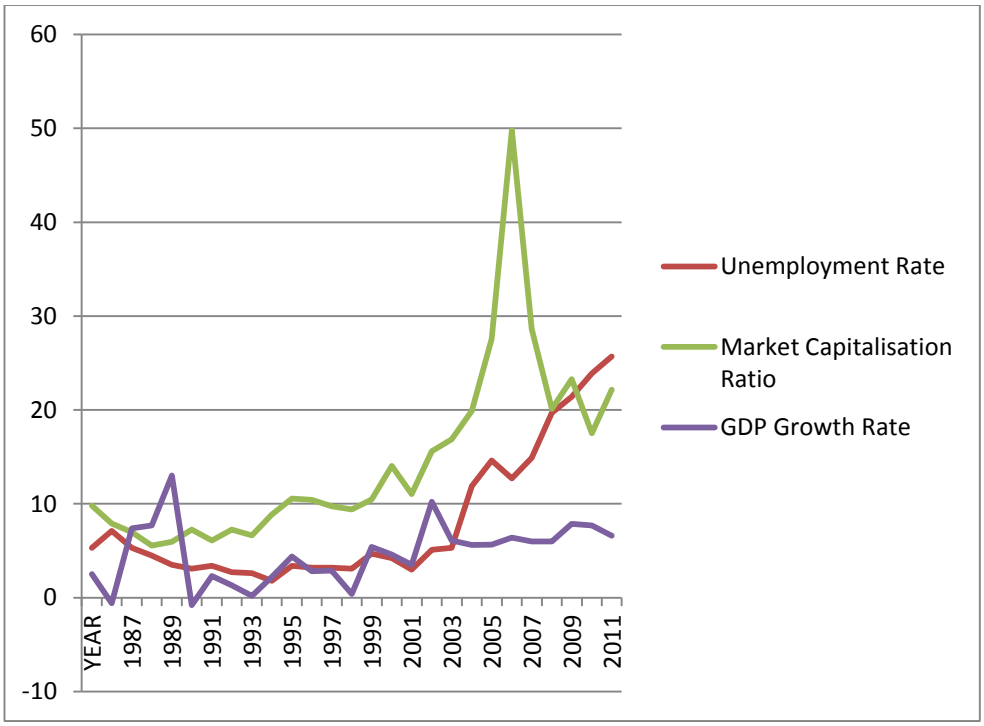

Figure 2. Trends in Unemployment, stock market development and economic growth in Nigeria

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The Current State of Tourism Traffic along the Danube on the Romanian Territory

Anca Gabriela Turtureanu[1]

Abstract: The author aims at highlighting the evolution of tourism activity lately. The economic crisis has affected the whole world and it has made its mark also on the tourism activities. The tourism resources have a special importance in the Danube area. The diversity of the relief, the multitude of species of flora and fauna create possibilities for development as a niche type of tourism. The analysis of the main indicators of the tourism traffic has found significant changes in terms of tourism activity along the Danube valley. In this article it is considered the area strongly influenced by the river, consisting of the 12 counties bordering the Danube Caras-Severin, Mehedinti, Dolj, Olt, Teleorman, Giurgiu, Calarasi, Constanta, Ialomita, Braila, Galati, Tulcea.

Keywords: tourism traffic; Danube; tourism

1. Introduction

The Danube is the second longest river in Europe, with a total of 2880 km. The Danube river basin is the home to over 80 million people, which means that it has the highest international openness in the world.

The Danube has been since antiquity an artery of communication between Central Europe and the Balkan Peninsula. The river is bordered by four major European capitals Vienna, Budapest, Bratislava and Belgrade, as many other beautiful cities, which makes the Danube waterway to be important and it is a popular destination for cruise tourism. Tourism offers many ways to discover this area of natural and cultural patrimony, being outside major cities. The Danube creates landscapes, ideal for spending active holidays. The river's route has configured several national parks and nature reserves, important wetlands and beautiful islands, and few sites inscribed on UNESCO world heritage. There are less known hiking trails along river or around it, revealing breathtaking views inside the country. The Danube

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Delta is the home to many species of birds and fish, and today it holds an important fishing industry.

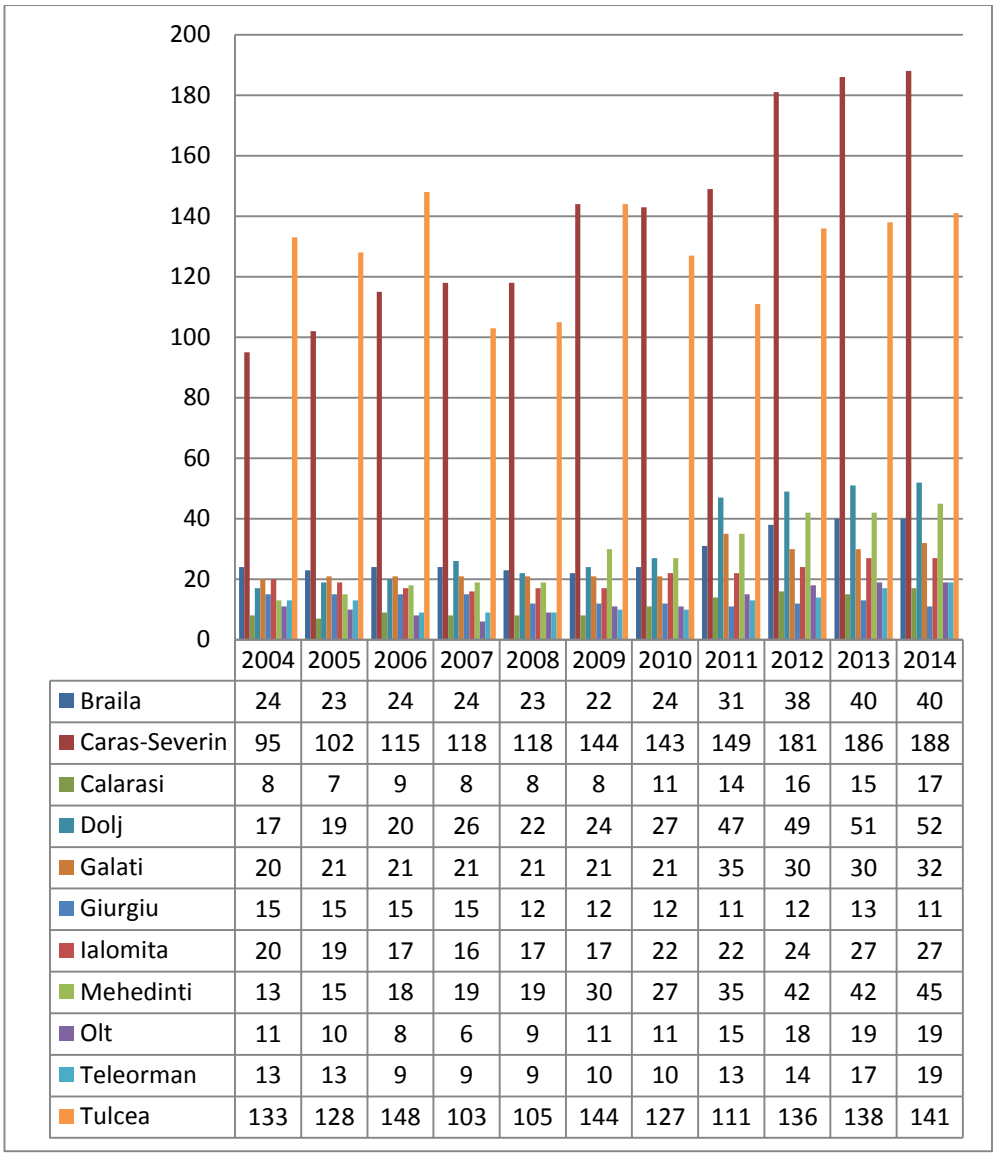
2. Tourism Traffic on the Danube's Route in Romania

The most popular areas are Defileul Dunarii/Danube Defile and the Danube Delta, but tourists are interested also in the mountain areas or the rural traditions.

The most spectacular section of Danube is the defile cut into limestone, with wild and tall walls. The Cazane which contain Cazanele Mari, which have a length of 4 km and where there are two interesting caves (Veterani and Gura Ponicovei) and Cazanele Mici, which stretch over a distance of 3 km.

The Danube's Cazane, along with massive Ciucarul Mare/Ciucarul Mic are included in the Iron Gates National Park. The main sights which can be seen at Cazane are Tabula Traiana and the bust of Decebal. Tabula Traiana memorial plaque is a testament for having crossed through in this region the Roman Emperor, Traian. The plaque is on the Serbian side of the Danube and it is often partially covered by water. The monument is of 4 meters long and 1.75 meters high. There is also the Orsova city dating since the Roman period, being called then Dierna. The giant bust of the Dacian king, Decebal, is carved into the rock by the Mraconia bay. The monument has been achieved in the period 1994-2004 and it is the tallest rock sculpture in Europe. It has 55 meters high and 25 meters width. Still at Cazane there is, near Coronini (previously called Pescari), in the midst of the waters, a spur of rock, called Babacai.

Eighty percent of the Danube Delta, more than 5,000 square kilometers, is located in Romania. The Danube Delta is the largest wetland in Europe and is the home to 5,400 species of animals and plants, including rare migratory birds such as the Dalmatian pelican - the Delta's emblematic bird. It appears as a huge surface covered in reed from which arise water lilies, carnivorous plants and amphibians, weeping willows and poplar forests. The Danube Delta is also the richest fauna park in Europe, with over 300 species of birds, 60 species of fish of great economic value.

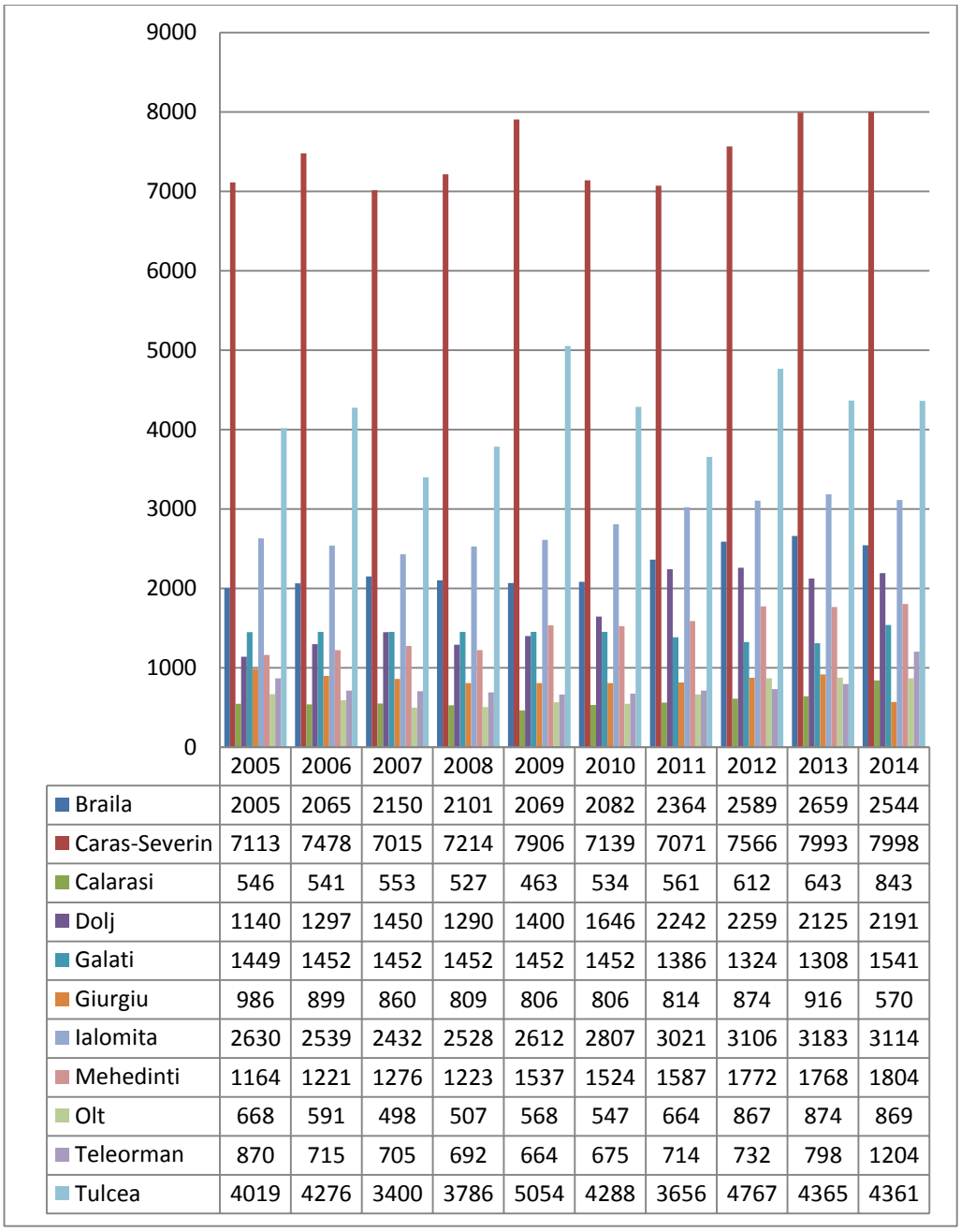


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Braila	24	23	24	24	23	22	24	31	38	40	40
Caras-Severin	95	102	115	118	118	144	143	149	181	186	188
Calarasi	8	7	9	8	8	8	11	14	16	15	17
Dolj	17	19	20	26	22	24	27	47	49	51	52
Galati	20	21	21	21	21	21	21	35	30	30	32
Giurgiu	15	15	15	15	12	12	12	11	12	13	11
Ialomita	20	19	17	16	17	17	22	22	24	27	27
Mehedinti	13	15	18	19	19	30	27	35	42	42	45
Olt	11	10	8	6	9	11	11	15	18	19	19
Teleorman	13	13	9	9	9	10	10	13	14	17	19
Tulcea	133	128	148	103	105	144	127	111	136	138	141

Figure 1. Establishments of tourist reception with functions of tourists' accommodation in counties bordering the Danube / MU: Number

Source: © 1998 - 2015 National Institute of Statistics

From the analysis "**Establishments of tourist reception with functions of tourists' accommodation"** for a period of 11 years it can be noticed a significant change during the economic crisis period and immediately after it. The indicator values recover in most cases, sometimes doubling or even more the value.

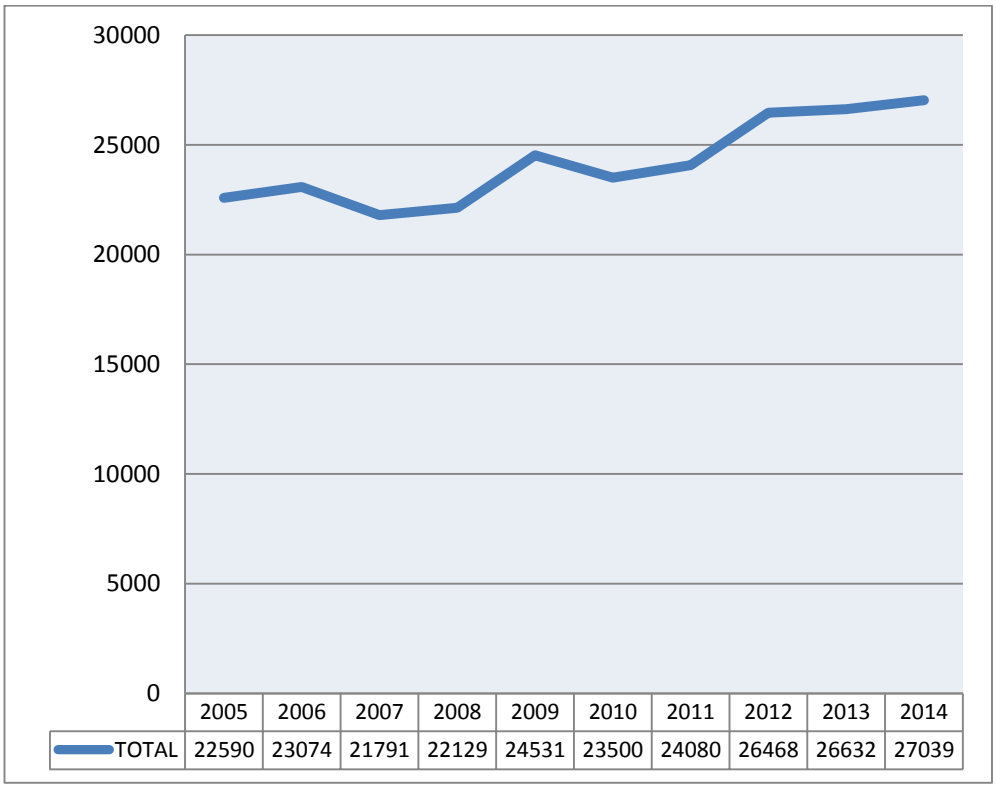


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Braila	2005	2065	2150	2101	2069	2082	2364	2589	2659	2544
Caras-Severin	7113	7478	7015	7214	7906	7139	7071	7566	7993	7998
Calarasi	546	541	553	527	463	534	561	612	643	843
Dolj	1140	1297	1450	1290	1400	1646	2242	2259	2125	2191
Galati	1449	1452	1452	1452	1452	1452	1386	1324	1308	1541
Giurgiu	986	899	860	809	806	806	814	874	916	570
Ialomita	2630	2539	2432	2528	2612	2807	3021	3106	3183	3114
Mehedinti	1164	1221	1276	1223	1537	1524	1587	1772	1768	1804
Olt	668	591	498	507	568	547	664	867	874	869
Teleorman	870	715	705	692	664	675	714	732	798	1204
Tulcea	4019	4276	3400	3786	5054	4288	3656	4767	4365	4361

Figure 2. The tourist accommodation capacity in counties bordering the Danube / UM: seats

Source: © 1998 - 2015 National Institute of Statistics

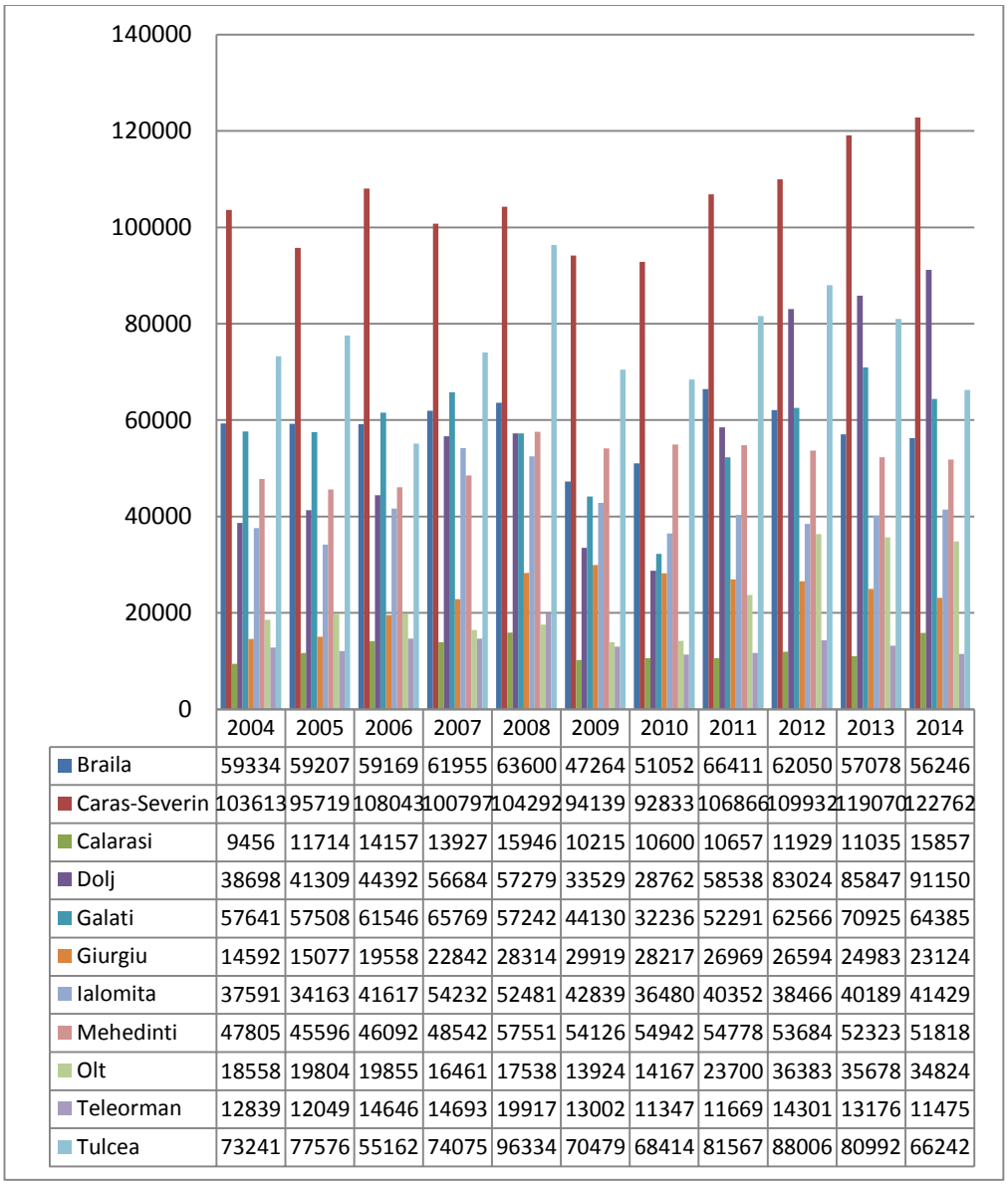
For the period 2004-2014 "the tourists' accommodation capacity" in counties bordering the Danube highlights a drop in the period 2008-2010 for most analyzed areas. Also we notice that it maintains the hierarchy, the greater capacity is in Cars-Severin County which recorded with 7998 seats in 2014 followed by Tulcea County with 4361 seats in 2014 and Ialomita is ranked three with 3114 seats in 2014.



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
TOTAL	22590	23074	21791	22129	24531	23500	24080	26468	26632	27039

Figure 3. Tourist accommodation capacity in counties bordering the Danube Tourism / UM: seats

Source: © 1998 - 2015 National Institute of Statistics



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Braila	59334	59207	59169	61955	63600	47264	51052	66411	62050	57078	56246
Caras-Severin	103613	95719	108043	100797	104292	94139	92833	106866	109932	119070	122762
Calarasi	9456	11714	14157	13927	15946	10215	10600	10657	11929	11035	15857
Dolj	38698	41309	44392	56684	57279	33529	28762	58538	83024	85847	91150
Galati	57641	57508	61546	65769	57242	44130	32236	52291	62566	70925	64385
Giurgiu	14592	15077	19558	22842	28314	29919	28217	26969	26594	24983	23124
Ialomita	37591	34163	41617	54232	52481	42839	36480	40352	38466	40189	41429
Mehedinti	47805	45596	46092	48542	57551	54126	54942	54778	53684	52323	51818
Olt	18558	19804	19855	16461	17538	13924	14167	23700	36383	35678	34824
Teleorman	12839	12049	14646	14693	19917	13002	11347	11669	14301	13176	11475
Tulcea	73241	77576	55162	74075	96334	70479	68414	81567	88006	80992	66242

Figure 4. Tourist arrivals in tourist accommodation structures / MU: Persons

Source: © 1998 - 2015 National Institute of Statistics

Regarding the analysis of indicator "Tourist arrivals in tourist accommodation structures" we have observed a significant decrease in the period 2010-2012, but there are regions bordering the Danube which recorded decreases in years 2013 and 2014, in this case we speak of Braila, Galati, Giurgiu, Mehedinti, Olt, Teleorman,

Tulcea. Caras Severin area, the Danube Defile, a dramatic drop in the 2009 and until 2014 it recorded an uptrend.

3. Conclusion

The tourism zone of the Danube River is destined for cruises and hiking. The cultural and natural attractions continue along the Danube to its lower extreme point, located in the Delta, already starting to assert itself as niche tourism. There is therefore a high potential for connecting all the existing tourism areas. Encouraging tourism for hiking along the Danube would bring multiple benefits in terms of promoting tourism values in the area, interconnection of the existing offers along the Danube, and the cross-border offers.

The cooperation between various Romanian Danube riparian areas would increase the employability in the tourism infrastructure. There are already programs to promote tourism in the Danube area where they focus on hiking tourism such as:

"Ideas for promoting hiking tourism destinations:

- Choose the most beautiful hiking trails;
- Connecting the most attractive points of interest;
- Ensuring access to main route (municipalities, landowners, etc.)
- Planning to mark the milestones of the routes;
- Establish a plan in terms of costs;
- Provide financial support (from the EU, regions, etc.)
- Promoting and developing products for hikers."

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