Cost Reduction Strategy and Firm Profitability during Recession Period: Nigerian Banking Industry Experience

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Abstract: Nigeria banks faced financial crisis due to financial meltdown and government treasury single account policy. This has forced banks to employed strategic cost management techniques like downsizing of employee and reduction of staff salary to survive and sustain their competitiveness in banking industry. This study examines the influence of downsizing of staff and reduction of staff salary on bank profitability. The specific objective is to ascertain the influence of downsizing of employee and reduction of staff salary on return on asset. Survey design was used for the study. Purposive sampling technique was used to select the sample frame from first generation of banks that are licensed with international authorization in Nigeria This study obtained secondary data from the Nigerian Stock Exchange Fact-book and Annual Report and Accounts of the sample population for the period 2006 to 2016. A linear regression analysis was used in estimating the parameter of the model. The study finds out that there is negative relationship between downsizing of employee, reduction of staff salary and profitability. It was discovered that the period after banks downsize their employee, bank performance was at its low ebb. We strongly recommend that banks can reduce their employee salary instead of laying them off. Then, salary increment can be done when the financial performance is improving.

Keywords: cost reduction strategy; profitability; downsizing; salary reduction

JEL Classification: D24

1. Introduction

Strategic cost management improves competitive advantage that results in an efficient resources allocation, (Ellram & Stanley, 2008). One of the main strategic cost strategies is cost reduction. According to Groth and Kinnery (1994), cost reduction is an act of lowering current fixed costs and variable costs. It focuses on reducing total cost compared to income generated. This will directly or indirectly influence the financial performance of the organization.

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Richardson (2002) view financial performance as a factor in assessing growth potential and overall financial strength of the firm. The financial strength of an organization are measured in monetary terms and the result are reflected in firm's return on investment, return on asset, liquidity, solvency among others. Therefore, the main goal of every business is to make profit and sustain competitive advantage within the business environment.

Banking business was a lucrative business in Nigeria before the advent of financial meltdown that struck the economy in 2008. Year 2008 was the period when financial networks and markets suddenly become unpredictable to the point where it mere collapse. Though, Eichengreen and Portes (1987) notes in their study that any change in asset prices that leads to distress within financial markets operator constitute financial crisis of financial meltdown. The banking industry was trying to navigate through the financial meltdown when Federal government decided to introduce treasury single account. This policy leads to withdrawal of government funds from deposit money banks in Nigeria.

According to Nigeria Deposit Insurance Corporation (2016), the financial sector appears to be having its own fair share of the effect of economic recession, as a number of banks are experiencing poor asset quality and increase in non-performing loans. Banks shifted their priorities from growth and leveraging up profits to survival strategy. Cost management therefore became a tool to look unto as a competitive tool for business survival in the recessionary times (Berliner, 1998). Innes, John, Mitchell and Sinclair (2000) said that cost management has to be an ongoing and continuous improvement activity within the company so as to enhance profitability and survival.

For the bank to survive in competitive environment, cost reduction strategy like; downsizing of staff and reduction in staff salary. This strategy was employed to maintain bank level of profitability. Despite the measures taken by banking industry to reduce costs and sustain their level of profitability, banks are still finding it difficult to survive in this economic situation. Hence, the study will examine the influence of cost reduction strategies employed by banks on their financial performance.

1.1. Objective of the Study

The main objective of the study is to examine the influence of strategic cost reduction techniques used by banks on their financial performance. The specific objective is; to ascertain the influence of downsizing of staff and reduction of staff salary on bank profitability.

The study will be guided by this hypothesis:

Ho: downsizing of staff and reduction of staff salary does not significantly leads to increase in return on asset.

1.2. Scope of the Study

The study will focus on selected money deposit banks that are licensed with international authorization in Nigeria. Some of the banks selected for the study are: First Bank Plc, United Bank of Africa Plc and Union Bank Plc. These banks are selected because they are old generation banks. The study will cover the period of 2006 to 2016.

2. Empirical Review

Siyanbola and Raji (2013) conducted study on impact of cost control on manufacturing industries profitability. The study focus on West African Portland Cement Plc (WAPCO) using budget as a tool for cost control. The study discovered that cost control has positive impact on business profitability. Kathleen (1999) study the effects of financial conditions and managerial ideologies on corporate downsizing in Electric Utilities Industry at United State of America. The study discovered that downsizing, as a strategic cost reduction tool, are no longer closely tied to the financial performance of the firm as they once were.

Huber and Glick, (1993) discovered that when downsizing is not well managed, it leads to reduction in firms performance. It was discovered by Bennett and Durkin (2000) in their study that downsizing has great influence on firm performance. Most downsizing strategy employed by firms leads to poor performance of the organization because the moral and job satisfaction of the surviving employee are greatly reduced Noer (1993). Hamed, Bowra, Aleem, and Hussain (2013) did an empirical investigation of downsizing within banking sector at Pakistan. The study discovered that reducing of the total number of employee does not lead to increase in banks profitability which is their main objective of cutting jobs. Guthrie and Datta (2008) opines that majority of the firms that reduced their employee have not been able to improve their level of profitability.

Edward et al., (2004) discovered that downsizing as a tool used to improve firm profitability by enhancing firm efficiency and reducing cost. While Sadri (1996) in his study agreed with the above finding. However, many studies proved that downsizing reduce the performance of firms Ozkanli and Bumin (2006); Cascio (1995); and Forsyth, (2002). Downsizing does not induce better corporate performance Mentzer (1996), and De Meuse et al. (2004). Oyewo (2013) studied Strategic cost management as a recession survival tool in the Nigerian Manufacturing sector. He discovered that cost management is good to maintain profits in the face of softening sales and shrinking margin.

Robert, Nixon, Michael, Hitt, Ho-Uk Lee and Eui Jeong (2004) examine the effect of downsizing strategy on market performance. The study discovered that management downsize their work force to reduce cost but it have negative impact on market reaction because of losses in valuable human capital that exceed the benefits derived from the strategy. Clint, Larry and Stephen (2004) discovered in their study that downsizing does not generally leads to improved organizational performance.

Many scholars research on influence of downsizing on employee performance, while some research was based on impact of downsizing, as a strategic cost reduction, on firm performance in manufacturing industry. Some literature that considered cost reduction strategy employed by banks to improve firm performance used one or two banks as a case study. However, the researcher is not aware of any study that examines the influence of downsizing of staff and reduction in staff salary, among old generation banks in Nigeria, on the level of banks profitability. Therefore, this study stands to fill the gap.

3. Design and Methodology

The population of the study consists of ten (10) money deposit banks that are licensed with international authorization in Nigeria. Purposive sampling technique was used to select the sample frame. The sample population is: First Bank Plc, Union Bank Plc and United Bank of Africa Plc. This bank was selected because they belong to first generation of banks in Nigeria.

Survey design was employed for the study. This study obtained secondary data from the Nigerian Stock Exchange Fact-book and Annual Report and Accounts of the sample population for the period 2006 to 2016.

A linear regression analysis was used in estimating the parameter of the model. In the regression model, profitability is the dependent variable while downsizing of staff and reduction of staff salary are the independent variables. Profitability is measured by return on asset while cost reduction. Return on asset was calculated by dividing net income by total asset, multiply by100%. We used downsizing of staff and reduction of staff salary as proxies for cost reduction strategy. Content analysis was used to derive data for downsizing of staff. Where it is reported in the annual report, we measure it with dummy score (1). When it is not reported in the annual report, we score it (0). Reduction in staff salary was measured by the difference in staff strength and salary paid to the staff. We compared the years for each sample population.

The linear regression models in its functional form were specified as follows:

(PrF = f (CoRSt)).

(PrF = f (DoZi, ReSal))…………eq. 1

$(PrFij = \beta 0 + \beta 1\ DoZi + \beta 2\ ReSalj + Uij)$ eq.2

Bi > 0; R2 > 0.

Where:

β0 = intercept;

β1-2 = Regression Coefficients;

Ut = Error term not represented in the model;

ij = Time period of the study;

PrF = Profitability (return on asset);

DoZi = Downsizing of staff;

ReSal = Reduction of staff salary.

4. Data Analysis, Results and Discussion

Ho: Downsizing of staff and reduction of staff salary does not significantly leads to increase in bank profit level.

Table 1.Descriptive Statistics for downsizing of staff and salary reduction of staff on profitability

	N	Minimum	Maximum	Mean		Std. Deviation	Skewness
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Profitability	10	1.12	1.92	1.6200	.07701	.24354	.868
Downsizing	10	1.00	3.00	2.5000	.22361	.70711	1.179
Reduction in salary	10	2.00	3.00	2.9000	.10000	.31623	3.162
Valid N (listwise)	10						

Source: Authors own study 2017

From the above table, profitability (PrF) has a mean score value of (1.6200). The maximum value is (1.92), while the minimum value is (1.12) and standard deviation is (0.24354). The profitability was negatively skewed with a value of (.868). This suggests a low degree of variability of the data between profitability behaviour and independent variables. Reduction in staff salary had the highest mean with a value of (2.9000), maximum value of (3.00), and minimum value of (2.00) and standard deviation of (0.31623). Downsizing of staff had the mean value of (2.5000), maximum value of (3.00) and minimum value of (1.00). Therefore, reduction in salary has the highest skewness of (3.162).

Table 2. Regression coefficient for downsizing of staff and salary reduction of staff on profitability

Model Summary[b]						
Model						
	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change	Durbin-Watson
1	.769[a]	.591	.474	.17663	.044[b]	1.995
a. Predictors: (Constant), Reduction in salary, Downsizing						
b. Dependent Variable: Profitability						

Source: Authors own study 2017

Downsizing of staff and reduction in staff salary explains (47.4) per cent of variation experienced in profitability level of the selected banks. This result shows that there is no significant relationship between profitability and reduction in salary with downsizing of staff.

Table 3. ANOVA RESULT: downsizing of staff and salary reduction of staff on profitability

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.315	2	.158	5.055	.044[b]
	Residual	.218	7	.031		
	Total	.534	9			
a. Dependent Variable: Profitability						
b. Predictors: (Constant), Reduction in salary, Downsizing						

Source: Authors own study, 2017

Downsizing of staff and reduction in staff salary explains (47.4) per cent of variation experienced in profitability level of the selected banks. The *f*-ratio (5.055) shows that the independent variables (DoZi and ReSal) are not the major determinants in explaining profitability (return on asset).

The independent variables are statistically insignificant because its significance value is (0.044), that is (P>0.05). So the null hypothesis is rejected while alternative hypothesis is accepted. Therefore, there is no significant relationship between downsizing of employee population, reduction of staff salary and bank profitability.

Based on the analysis above, the alternate hypothesis (Hi) is rejected while the null hypothesis (Ho) is accepted; which state that downsizing of staff and reduction of staff salary does not significantly leads to increase in bank profit level.

5. Conclusion and Recommendation

Nigeria banks faced financial crisis due to financial meltdown and government treasury single account policy. This has forced banks to employed strategic cost management in order to survive and sustain their competitiveness in banking industry. Many banks employed downsizing of employee and reduction of staff salary as cost reduction technique. This study examines the influence of downsizing of staff and reduction of staff salary on bank profitability.

The study finds out that there is negative relationship between downsizing of employee, reduction of staff salary and profitability. The implication of the study is that, laying off of staff and reducing staff salary will help to cut banks cost but did not significantly boost the profit level of the bank. It shows that there are other factors that are responsible for low profit recorded by banks in Nigeria.

It was discovered that the period after banks downsize their employee, bank performance was at its low ebb. We strongly recommend that banks can reduce their employee salary instead of laying them off. Then, salary increment can be done when the financial performance is improving. However, it was discovered that most Nigerian banks depend on government funds. Treasury single account policy in Nigeria really affects their business and banks now decided to downsize their employee. We recommend that banks should intensify on how to mobilize fund from informal business sector into banking sector. This will help to boost their business and leads to increase in revenue than laying too much emphasis on cost reduction.

Government policies should make business environment conducive for banks to thrive well during this financial meltdown. Moreover, we recommend future researchers to examine other strategic cost management tools on bank profitability in Nigeria.

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Literature Review on Historical Development of Accounting

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Abstract: Accounting as a practice has existed since the earliest times of humanity. The first simple accounting records are found in the writings of Babylonian, Chaldeans, Assyrians and Sumerians in Mesopotamia. The time of theoretical accounting recognition is considered to be the year 1494, when Venetian mathematician Luca Pacioli published a book titled "Summary of arithmetic, geometry, proportions and proportionality". In addition to mathematical knowledge, Pacioli also wrote about the dual registration method and the accounting process. Despite Paciolli's writing, there is still much discussion regarding the issue of dual accounting origin. In reviewing the literature, it is noteworthy that accountancy history is scarcely addressed; there are only a small number of books and works that cover the topic. Therefore, the purpose of this paper is to take a historical look at accounting development from ancient periods to the present. This study, based on historians" records and archaeologists like Denise Schmandt-Besserat, has successfully described the origins and development of accounting from 3350 BC until today.

Keywords: Accounting; single entry accounting; double entry accounting; ancient time

JEL Classification: M410; M41; M40.

1. Introduction

Every discipline is born and developed to better understand a "phenomenon", it is important to understand the origin, how it emerged, identify the stages of development and based on this, whether it is possible to achieve further development. Accounting as a practice has existed since ancient times, while the theoretical aspect is considered to have appeared for the first time in 1494, when Venetian theologian and mathematician Luca Pacioli published a book "The Sum of Arithmetic, Geometry, Proportions and Proportionality", which described the method of double registration of accounting.

Today in any organization, the role of accounting is to provide information to help the decision-making process. This information is like a map of an organization.

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Accounting information helps decision makers determine where they are, where they were, and where they will go. Rather than measures distances by miles or kilometers, accounting measures the activities of an organization according to the amounts of money associated with these activities.

This study aims to address the historical development of accounting from its birth in ancient times to the present day. Many may be wondering why study accounting history? The reason is that the understanding the history of accounting provides a good foundation on which to develop and understand of the future of the discipline.

According to, (Alexander, 2002), a brief glimpse at this period helps to illuminate our past in general.

But perhaps the most compelling reason is to help explain this phenomenal growth that the accounting profession has enjoyed around the world.

According to (Napier, 2006), researchers face the evidential issue of describing accounting in the past, or at least documenting an absence of accounting in particular contexts.

The paper is organized as follows. First, it presents the historical perspective of accounting development from 3350 BC in Mesopotamia, Mesopotamia before the writing (symbolized accounting); Then describes the accountancy history in the period 3500 BC-2000 BC in Mesopotamia (Hammurabi code; price quotes for traders); Period BC BC-1100 AD, historical development of accounting practices in ancient Egypt, China, Greece, Rome (taxes on the king, use of papyrus, assessment of the efficiency of government programs, appearance of metal money, "codex accepti et expensi For household expenses), the historical development of accounting in the period 1130 AD -1485 AD, England (feudal system (real estate, and real estate tax) Domesday Book The Great Role of Treasury), development Historical Accounting Periods 1494 AD -1700 AD, Renaissance (Double System, Pacioli); Description of the period from the Renaissance to the Industrial Revolution. Since we are researchers from Kosovo in this paper, we have also dealt with the history of accounting development in Kosovo, and finally the conclusions are presented.

1.1. Research Methodology

The methodology employed in this paper consists of the following phases:

1. The problem identified in the research of historical evolution of accounting practice and theory;

2. The elaborate research plan, including the collected literature bibliography to be used;

3. The defined structure and sections of the paper;

4. The paper discussed through the structure based on the knowledge gained from qualitative data obtained mainly from books, articles, studies, and internet sources.

2. Before the Discovery of Writing: Accounting with Symbols - CA 7500-3350 BC

Farmers in Mesopotamia invented a system of symbols to count and calculate the goods they produced (Schmandt-Besserat, 2015).

Figure 1. Symbols from Jarmo, Iraq, 6500 BC

Source: (Schmandt-Besserat 2015)

The shape of the symbol represented different types of agricultural goods that were produced at that time. For example, a cone-shaped symbol represented a small amount of barley, a sphere-like symbol represented a larger mass of barley, a disk-shaped symbol represented sheep. The number of freight units was expressed by the number of "one in one" symbols (e.g., three small measures of barley were shown with three cones). Later these symbols were increased to 300 shapes representing the variety of manufactured goods.

Figure 2. Symbols from Uruk, Iraq 3300 BC

Source: (Schmandt-Besserat 2015)

On these discs, there are several lines and graphics or points that show the variety of textiles.

2.1. Accounting in Mesopotamia (3500 BC - 2000 BC)

Five thousand years before the emergence of a double accounting system, accounting records of economic activity appeared in Mesopotamia (today's Iraq) (Botes, 2009). The accountants at that time were called "Scribes", and they were employed by palaces, temples, and private firms. The scribe was a prestigious profession at that time. During this period, in addition to the description of transactions, the accounting system was highly focused on the deals (contracts) made, paying particular attention to the detailed coding of economic transactions (Alexander, 2002).

Scribes stood at the gates of the city, when there was a need to register a transaction. The deals (contract) had to be reported to the accountants (Scribes) and who were responsible for preparing the records of the financial transaction which they recorded on a clay tablets specially prepared for transaction registration. The accountant described on the clay tablets the names of the contracting parties who exchanged goods and money or any kind of promise made in the agreement. The parties were required to sign their names on their clays with their respective stamps. These stamps were with the names of their owners, religious symbols with pictures and the name of the gods they worshiped by the owner of that time (Alexander, 2002).

Figure 3. Clay table from Godin Tepe, present-dayIran

Source: (Schmandt-Besserat 2015), allowed by the Cuyler Young Jr Museum, Royal Ontario. Circular sings show large wheat mass, while signs in the shape of a cone lesser extent wheat.

Figure 3 Economic clay tables showing the amount of textiles

Source: (Schmandt-Besserat 2015), allowed by the Institute of German Archaeologists

2.2. Accounting in Ancient Egypt, China, Greece and Rome (3000 BC - 1100 AD)

Accounting in ancient Egypt had developed in a similar way to Mesopotamia (Alexander, 2002). Clay tablets on which the oldest tax records were written were found 3000 years before the birth of Christ. On these clay tablets were recorded the accounting records for linen and oil that at that time represented the tax that was to be paid to King Scorpio I (Kaplan & Johnson, 1987).

In Egypt, papyrus was used instead of clay tablets, and this allowed accounting records to be recorded in more detail. A "scribe" accountant had to know how to read and write more than 1,000 symbols (Metcalfe, 2014). Papyrus was divided by several horizontal lines which enabled the accountant to group the data. Accounting data provided information, e.g., the group included construction and woodwork, including a list of employees. At the same time, calculations were made on the construction projects and the number of workers they could accomplish (Katz, 2007).

Figure 4. Bookkeeping in papyrus

Source: (Metcalfe 2014)

In China accounting was used as a tool for assessing the effectiveness of government programs and appeared during the Chou dynasty (1122-256 BC) (ACAUS, 2000). During that period, the government appointed six officials: sky officer, land, spring, summer, autumn, and winter. The Sky Officer was responsible for managing government property, financial management, and government accounting (Xu & Zhang, 2013). Sky used the budget as a means of financial control. At the same time, the budget was also used to delegate authority and to create responsibility and accountability. Another important event in the Chou dynasty was the use of financial reports. By the end of each year, each governmental department was required to prepare reports on their operational parts. Some government officials were appointed as supervisors to monitor and evaluate the quality of financial reports. After the assessment, the reports were submitted to the prime minister, who drafted some recommendations regarding government policies, which were finally presented to the emperor (Xu & Zhang, 2013).

In 5th century BC Greece, "Public Accountants" were used to allow their citizens to monitor and control government finances. Ten public accountants, elected by lot by the Athens People's Assembly, monitored the revenues and expenditures of public money (Alexander, 2002).

The most important Greek contribution to accounting was the emergence of metal money about 600 years before the birth of Christ. In ancient Greece, banks seem to be more developed than in previous societies. Bankers maintained bookkeeping, exchanged and borrowed money, and allowed citizens through bank branches to transfer money in remote cities as well (ACAUS 2000).

Government and Banking Accounting in ancient Rome evolved from records traditionally held by the heads of households, where day-to-day cash receipts and cash outflows for household payments were kept in a memo ("adversary") in a daily diary ("Tabulae")) and the monthly allowances were made on the receipt-expense account "codex accepti et expensi". These family remedies were important in Rome because citizens were required to submit regular declarations of assets and liabilities that were used as a basis for taxation and even for defining civil rights (Alexander, 2002).

2.3. Accounting during the Medieval Period (1130 AD - 1485 AD)

After the fall of the Roman Empire, the field of accounting stagnated. The doctrine of administration and conservatism known in accounting, however, was rooted during this period (Botes, 2009). Medieval accounts were localized and focused on specialized feudal institutions (Alexander, 2002). The feudal system was the economic, political and social system by nature (Botes, 2009).

An accounting manuscript that survived from this period is the "Domesday" book, a document that includes all real estate and taxes due to real estate. These manuscripts were recorded in papyrus that was wrapped in tubular form and contained annual lease descriptions, fines and taxes paid on behalf of the King of England (Botes, 2009).

When William the Conqueror occupied England, he confiscated all the wealth on behalf of the king. In 1086, as bishop Robert of Hereford had written, the king's peoples had made a search all over England to identify the immovable property of each of the English mannaes (feudalists), i.e. the land, their homes, their people as captive and free, their horses and other animals (Jones, 2010).

Figure 5. Tubular papyrus containing annual lease descriptions, fines and taxes paid on behalf of the King of England.

Source: (Weston 2014)

Table 1. Questionnaire included in the Doomsday Book for property registration in the medieval period

The questions asked can be summarized as follows:
What is the manor called?
Who held it in the time of King Edward (in 1066)?
Who holds it now (in 1086)?
How many hides are there?
How many plough (team)s on the demesne (local lord"s own land) and among the men (rest of the village)?
How many free men sokemen, villains", cotta [ge]rs, slaves?
How much woodland, meadow, pasture, mills, fisheries?
How much has been added to or taken away from the manor?
How much was the whole worth (1066) and how much now (1086)?
How much had or has each freeman and each sokeman?

Source: (Jones 2010)

2.4. Renaissance - The Birth of the Double Accounting System (1494

Developing of writing, trade and production, accompanied by the accumulation of capital, influenced the development of the economic activity registration system (Bogdani, 2008). In the Renaissance period, as was the case in art, science, literature, architecture, and philosophy, accounting progressed. The development of accounting was addressed the increasing need for financial information. The modern accounting pillar is the secondary accounting system (double). Despite circumstances and changes in the business environment, this system has proven to be useful and effective for more than five centuries. The double registration system in accounting was formed in such a way that each census of each economic transaction consists of two aspects that affect at least two accounts. Rights to property in accounting are presented as liability to the owner (s) of capital and as a liability to creditors: Assets = Liabilities + Capital (Rexhepi, 2015), (Asllanaj, 2010), (Ahmeti, 2008), (Clendon, 2007); (Deana, Clarke, & Capalbob, 2016); (Kie, 2012); (Sangster, Stoner, Scataglini-Belghitar, 2014).

As the time of theoretical recognition of double accounting is considered the year 1494, when the theologian and Venetian mathematician Luca Pacioli published a book entitled "Sum of Arithmetic, Geometry, Proportion and Proportionality" the original title (Summa de arithmetica, geometry, proportions and proportions) Mathematical knowledge also dealt with the method of double registration of accounting[1]. Although Pacioli is known as the "Accounting father" in this book,

[1] Single entry accounting presents isolated evidence, does not represent a complete link, and does not represent a complete accounting system. Historically it has preceded it, and is therefore considered a stage of accounting development, today is used in many queues. In contrast, Double Accounting is the

only one small chapter is dedicated to double registration. At the beginning of the chapter, Pacioli explains that he is not the one who invented double accounting but only elaborating “As a Venetian method that is recommended and can be used as a guideline for others” (Lee, T.A.; Bishop, A; Parker, R.H, 2013). By reviewing the literature, many authors point out that Pacioli did not invent a dual accounting system, he only traversed an existing system: (Botes, 2009); (Alexander, 2002); (ACAUS, 2000); (Littleton & Yamey, 1956); (Shukla, 2015); (Warsono-bin-Hardono, 1986.); (Sangster & McCarthy, 2008); (Bertato & D'Ottaviano, 2007); (Carraro & Favero, 2017); (Geijsbeek, 1914); (Peragallo, 1938); (Ambashe & Alrawi, 2013).

According to a periodical writing by the association (Sanjay, 2002), and from the book Benedetto Cotrugli – “The Book of the Art of Trade” of the authors (Carraro & Favero, 2017), it is also emphasized that Pacioli does not pretend to invent double accounting. For this he credited Benedict Cotrugli (Benedict Kotruljevic of Dubrovnik, Croatia), who according to these writings reportedly treated double-entry bookkeeping in his book “of trading and the perfect trader” in 1458, but this book was not published more than a hundred years.

In the “Accounting History” (Sanjay, 2002), it is noted that merchants and bankers in Venice had been using some double accounting concepts a hundred years before Cotrugli treated it in his book. It is believed that both Pacioli and Cotrugli have described an existing system and none of them invented it. When the question arises as to how the concept of double-entry accounting in Venice is developing as fast as the modern accounting system just arrived in Europe.[1]

According to (Rey, 2005): *“It is possible that the author of the manuscript taught commercial arithmetic to future merchants and also gave lectures on the most “theoretical” part of the Summa to some highly-cultivated urban aristocrats with intellectual interests. However, on this question we can do nothing but speculate”.*

In the world of accounting science there is still no definitive answer to the origin of the double accounting system. (Littleton, 1928); (Yamey, 1947); (Gleeson-White, 2012); (Aho, 2005). Some authors such as Nigam Lall (1986) claim that Bahi-Khata[2] was a forerunner of dual accounting development and that the dual-registration system was used in India hundreds of years before being used in Italy.

accounting system that represents the entirety and includes the assets of the enterprise according to the composition and source of the special parts and the total amount. Basic double accounting principles are exposed on the basis of balance method, chronological evidence, main book (accounts).

[1] From the Roman numerals (I, II, III, IV, V ... etc.) in Europe, the Arabic numbers (1,2,3, ... 0).

[2] According to the Bahi-Khata system, double registration of all transactions that have an impact on the real or personal account is done. These transactions initially were recorded in Rokadbaah (the Ark of Libya), and then registered in khata-bahi in the diary (Sanjay 2002).

In response, (Nobes, 1987) concludes that Lall Nigam's claims are backed by 'system stems from Inka's accounting practices in Peru. (Forrester, 1968), argues that Inka had an economy that was not used for money. According to Mattessich, 1994, as a type or as the author calls a double accounting prototype, it was in Mesopotamia that the transfer from "token clay"[1] to "envelopes"[2] to create obedience to others (Mattessich, 1994) has tried to explain this in several respects:

Table 2. Summary of Dual Accounting Registration Features with Prehistoric Symbols

Physical Reality (Asset Transfer) Clay ball surface (called "envelope") A: equivalent to a credit in account A, inside the ball ("envelope") B: equivalent to a debit in account B. The shape of the symbols indicates the type of asset account for example ('Sheep', 'Fabric', 'Wheat'), the number of symbols indicates how many units (grain, sheep, fabric, etc.)
Social Reality (Owner and Debt Declaration): Stamping (with the sign of the asset) on the envelope surface: equivalent to a credit on the capital account that registers the existence of a debt or ownership over that asset (depending on how many clay symbols are in the envelope future), inserting the symbols inside the envelope: Equivalent to a debit in the asset account. (Croissant with the shape of the symbol).
Control features Control for verification: obtaining inventory (e.g. asset counting, e.g. sheep on pasture A) and comparison with the contents of mud symbol embedded in envelopes (e.g. envelope A). If these two do not match then verification is done (i.e., or some asset units are missing or some of the earth's orbital symbols have been lost or incorrectly added, etc.), tautological control: the counting of mud symbol in the envelope A and comparison with their printing (stamping) on the surface of envelope A. Even if both of these are not equated with each other in numbers and symbols, an analytical recording error has occurred (i.e. Scribe has forgotten to print) Some symbols on the outside of the envelope or has sealed more than enough, or has forgotten to place the symbols inside the envelope that had printed on the outside of the envelope, etc.). If everything is correctly recorded the symbols printed on the envelope surface and embedded inside the envelope will be equated and this means in the dual registration system that all debit and credit are equal in the balance.

Source: (Swetz 2012)

Figure 7. Envelope from Susa, Iran, about 3300 BC. Each oval disk means a "flock" (maybe 10 animals). The big cone is a very large measure of wheat; Small cone represent lesser wheat size
Source: (Mattessich, 1994)

[1] Clay symbols, for example, a symbol in the form of a cone represented a small amount of barley (Schmandt-Besserat 2015).
[2] In 3250 BC, the Sumerians began to use some hollow clay balls called "envelopes" in the holes of clay symbols. Fifty years later, these envelopes were embedded in mosaic symbols before they were put in envelopes. Then the envelope closed with the signing of the debtor (Mattessich, 1994).

Despite the dual accounting origins, many authors have focused on its efficiency. Some authors in their research have pointed to the fact that double-sided accounting has affected economic development; for example, (Ryan, 2014), concluded that double registration is an essential aspect of capitalism, appearing almost simultaneously with it, and has contributed to economic development. (Mattessich, 1964), emphasize that in Pacioli's book "The famous chapter, it will remain a cultural event as a sign of stone that ranks with great historical achievements such as Columbus, Copernicus, Galileo, Descartes and Newton." (Mattessich, 1964), the great achievement in accounting during the Italian Renaissance period is not only the double registration system , but also the creation of a statement of income as a separate but still integral part of the owner's equity. (Goethe, 1917), the double registration system "is among the best inventions of the human mind; And every god leads a saver, used it in his economy (Childs, 1985)," the double accounting system is a beautiful system - and a scientific fact " (Wolk, Harry I; Francis, Jere R; Tearney, Michael G, 1989) what is surprising, Is the sustainability of the dual system approach, even though technological development and business environment today is quite complex. (Hatfield, 1924), the dual system is the main reason for looking at accounting as an academic discipline.

2.5. From Renaissance - In the Industrial Revolution

The great development of the economy and trade exchange in the era of capitalism led to the development of accounting (Asllanaj, 2010), from the time of the emerging double-sided accounting system to date, accounting developments throughout the world have undergone significant changes. Accounting development progressed when Great Britain built its economic strength (in the eighteenth century as a century of global trade) (Neokleous, 2016). (Wood & Sangster, 2005), as businesses grew in size, it became less and less common for owners to keep records and accounting records as well as the most commonly employed as an accountant when businesses began to dominate the business environment. The managers were separated from the owners (the owners of the company "shareholders"), and they began not to be involved day by day in the business direction. So there was a need for monitoring managers. Auditing financial records became a rule and this effectively contributed to the development of the accounting profession. In the nineteenth century accounting achieved its greatest progress in Great Britain, which was at the helm of the industrial revolution; hence the development of businesses and the development of accounting professionals' organizations[1].

The first Association of Accountants, the Collegio dei Rexonati, was formed in Venice in 1581. Its main role was the training of auditors, but while the spread of

[1] In the UK there are 7 professional accounting bodies: ICAEW, ICAS, AI, AIA, CIPFA, CIMA, ACCA. (Https://www.frc.org.uk/ 2016).

the profession of accountant was slow until the nineteenth century, in most of the countries it was required in Italy. While the accountants were members of some well-known accountants' association, however, there were still no nationally recognized only national regional accounting bodies (Neokleous, 2016).

In 1854, the first professional national accounting body was established: the Scotland Accounting Institute of Scotland, Scotland (Alexander, 2002). Gradually national accountants' associations began to appear in other countries of the world as well. In 1880, the Institute of Accounting Experts in Great Britain and Wales (ICAEW) was formed. Capital and Ideas Movement from Great Britain to the United States influenced the development of US accounting theory and practice, and in 1887, the National Accounting Institute (AICPA, 2017) was established (the predecessor of today's Public Accountants, American Institute - AICPA). These institutes, based on well-known accounting practices, defined and taught the rules (principles) that businesses should apply. During the 20th century, besides the increase in the demand of different users for accounting information, much developed in both accounting theory and accounting practices and information retention improved through the use of accounting software[1] (Rayan, 2012). In the middle of the 20th century international accounting rules (international standards) were established to make financial information sustainable and comparable at international level (Asllanaj, 2010), (Hossain, Hasan, & Safiuddin, 2015), (Lagassé, 2010), the main merit of international accounting standardization[2], belongs to the International Accounting Standards Committee (IASC), which was formed in 1973 by The professional accounting bodies of these countries: Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United States, the United Kingdom and Ireland. The IASC Secretariat is based in London. In 1977, in Munich, Germany, the International Federation of Accountants (IFAC) was established at the 11th World Congress of Accountants, which was formed to strengthen the accounting profession worldwide, and as its main objectives:

• Formulation and publication of International Accounting Standards (IASs), which are in the public interest to observe the presentation of financial reporting.

• Issuance of guidelines and development of international high quality standards for auditing, ethics, vocational education, public sector accounting, and management accounting.

• Cooperation with other international organizations; and

• To serve as an international representative for the accounting profession

[1] Accounting software's facilitate the work of accountants, increase the speed of registration and disclosure and guarantee accurate data.

[2] International Accounting Standards as a primary purpose have the harmonization of accounting systems of all countries, and the application of unique rules in financial reporting. (Asllanaj 2010).

In 1982 (IASC) established close links with (IFAC). The professional accounting bodies that were members of the IASC, at the same time, were members of IFAC (Asllanaj, 2010). Founded in 1977, IFAC had 63 members out of 51 countries, with up to now the number of members increased to 175 out of 130 countries, representing more than 2.5 million accountants employed in public practice, commerce, industry, government etc. (Asllanaj, 2010), (IFAC, 1998). Until 2000, the IASC has issued 40 international accounting standards. In 2001, the IASC merged into (IASB) as a successor to IASC in the area of establishing international accounting standards. The IASB[1] is organized within the Independent Foundation appointed by the International Accounting Standards Committee Foundation (IASCF).

The number of members of the IASB Board from 1 December 2016 is 14. The main responsibilities of the IASB are:

• Development and publication of international financial reporting standards; and

• Approval of the interpretations developed by the International Financial Reporting Interpretations Committee.

In Europe - the EU Commission has made a significant contribution to the harmonization of financial reporting, the main goals of harmonization and qualitative advancement of accounting have been achieved through two main instruments: the directives (IV and VII only relate to adjustments Accounting) and provisions. The European Commission for the Harmonization of Accounting in Europe, receives advice and suggestions from the European Federation of Accounting Experts (FEE), which was formed in 1987, its secretariat is in Brussels.

In February 2009, David Tweedie stressed that "Since December 2011, the GAAP[2] and IFRS have to be pretty much the same" (Lagassé, 2010). In 2014, IASB deputy chairman Ian Mackintos, at a conference at the Business School in Manchester, said: "The good news is that we have seen remarkable progress towards the goal of a global financial reporting language. Very soon after the establishment of the IASB in 2001, the EU, Australia, New Zealand, Hong Kong and South Africa, in early 2005, led the way by making a major decision to move from national accounting standards to International Standards for Financial Reporting (IFRS). This first wave of IFRS adopts was followed by a second wave of countries that passed to IFRSs, including Brazil, Canada, Korea, Mexico, Russia, and Taiwan. Almost every country in the world has made a public commitment to global

[1] The IASB is an independent body that develops and approves International Financial Reporting Standards (IFRSs). In 2009, there were 16 members of the IASB board that numbered to 14 in 2016.

[2] GAAP- General Accepted Accounting Principles, that US companies that are registered in SEC (Securities and Exchange Commission) should respect.

accounting standards and almost everyone has stated a view that adopting IFRSs is the best way to achieve this commitment”. (Mackintosh, 2014)

Figure 6. States that have adopted the IFRSs and the states that are in the way of adapting them.

Source: (Vasani 2014)

Figure 7. Implementation of IFRSs in Albania, Kosovo, Macedonia and Serbia

Source: (IFRS 2017)

3. Accounting Developments in Kosovo

Accounting developments in Kosovo can be seen in two periods: Before the war: During this period, accounting in Kosovo was in line with Yugoslav legislation. In Kosovo, accounting was organized according to a single plan that was the same for all entities in the territory of Yugoslavia. The accounting framework used in Kosovo at that time consisted of ten classes, which were divided into main accounts and sub-accounts. Key accounts recognized as synthetic accounts, while sub accounts are known as analytical accounts (Vokshi, Nexhime; Ahmeti, Skënder; Dermaku, Arben; Ujkani, Sead, 2013), (Kastrati, 2016). After the war; Accounting in Kosovo had positive developments. In support of the legal authority in Kosovo, the Regulation no. 2001/30. “On the Establishment of the Kosovo Financial Reporting Board”, the main task of the Board is the issuance of KASs, so far this board has issued 18 Kosovo Accounting Standards (KAS), which are in line with International Accounting Standards (Asllanaj, 2010), (Vokshi & Nimani, 2011), in their study for the periods 2008, 2009, 2010, highlight the fact that IAS were also accepted in Kosovo, according to this study 87% of accountants surveyed in Kosovo have admitted that the use of IAS effect on the quality of financial reporting.

4. Conclusions

Accounting as an information system provides the entity with the eyes and ears necessary for its efficient management.

In this study we have tried to present the history and origin of accounting. In detail we have tried to present and explain the accounting practices from ancient periods to the present. The development phases of accounting during each period, the impact of the industrial revolution on accounting development, which can be said that the development of accounting depends on the business environment, the development of the business environment, and technological advancements. Despite the advances in the field of accounting, we can say that the basic principles of double-tier accounting like 523 years ago still remain the same today. Given this fact, the question arises whether there are no innovative accountants or forms of doing business since the dual accounting have remained the same.

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Foreign Direct Investment-Growth Nexus in Emerging Markets: does Human Capital Development Matter?

Kunofiwa Tsaurai[1]

Abstract: The study explored the impact of foreign direct investment (FDI) on economic growth and examined if human capital development is a channel through which FDI influence economic growth. Literature shows that the impact of FDI on economic growth is no longer a disputed matter. What is still unresolved is an agreeable list of channels through which FDI affects economic growth. This prompted the author to investigate if human capital development is a channel through which FDI influence economic growth in emerging markets using a dynamic panel generalised methods of moments (GMM) technique. Moreover, majority of previous studies on FDI-growth nexus overlooked the endogeneity issues and the dynamic nature of economic growth data. According to the author's best knowledge, this is the first study which investigated if human capital development is a channel through which economic growth triggered by FDI takes place in emerging markets. FDI positively but non-significantly influenced economic growth in emerging markets. When FDI was interacted with human capital development, the size of the positive impact on economic growth improved but was still non-significant. Emerging markets are therefore urged to implement policies aimed at increasing human capital development in order to enhance FDI's ability to influence economic growth.

Keywords: FDI; Growth; Human Capital Development; Emerging Markets

JEL Classification: F21; J24; F43

1. Introduction

1.1. Background of the Study

A general increase in foreign direct investment (FDI) flow between countries the world over has significantly been happening in recent years. According to UNCTAD (2017), total FDI inflow across the whole world went up from US$0.96 trillion in 2005 to US$1.52 trillion in 2016. The flow of FDI is very important as substantiated by UNCTAD (2012) report which disclosed that FDI flow over the years has proven to be a major source of economic growth and development,

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especially for emerging markets. What the UNCTAD (2012) report assumed was that FDI has got a direct impact on economic growth in the host countries. The assumption has been challenged by empirical researchers (Adams, 2009; Vita & Kyaw, 2009; Omri & Kahouli, 2014; Almfraji & Almsafir, 2014; Asong, 2014) who argued that certain absorption capacities must be existing in the host countries if FDI is to be able to have an impact on economic growth. Relevant to the current study, other studies noted that for FDI to influence economic growth, human capital development as an absorption capacity must be available in the host countries (Shahbaz & Rahman. 2010; Bailliu, 2000). The current study complements a forthcoming article by Tsaurai (XXXX) which focused on human capital development threshold levels needed to trigger significant FDI in that it explored if human capital development is a channel through which FDI influences economic growth in emerging markets.

1.2. Problem Statement and Research Gap

Despite emerging markets being major recipients of FDI in the last decade, empirical studies that investigated the impact of FDI on economic growth in emerging markets as a bloc are quite scant. Fu et al. (2011) found out that modern governance, institutional structures and structured local innovation programs must be prevailing in the emerging markets to enable them to benefit from international technological diffusion. A study by Gorodnichenko et al. (2007) observed that the type of a firm and not high technological advancement of MNEs determined the FDI's impact on economic growth in 17 emerging markets studied. Other empirical studies which investigated the FDI-growth nexus in emerging markets were done by Bailliu (2000), Adeoye (2007), Shahbaz and Rahman (2010) and Peter et al. (2012). All the FDI-growth nexus which were done on emerging markets are characterised by the following shortcomings. (1) They ignored the dynamic nature of the economic growth data, (2) they did not address the endogeneity problem which emanates from the feedback effect between FDI and economic growth, (3) the data they used is now outdated and their findings can no longer be used for current policy making purposes, (4) did not examine if human capital development is a channel through which FDI influences economic growth, which is the focus of the current study.

1.3. Contribution of the Paper

Apart from using the most up to date data, the current study addressed the issues that were ignored by most of the previous studies on FDI-growth nexus. These include the dynamic nature of FDI data and the endogeneity problem. To the best of the author's best knowledge, this is the first study to examine if human capital development is a channel through FDI influences economic growth in emerging markets using an estimation technique which captures the dynamic nature of FDI data and endogeneity problem (dynamic GMM estimation technique).

1.4. Organization of the Paper

Theoretical and empirical literature is discussed in section 2. Methodology of the study is explained in section 3. The same section describes the variables used in the study, performs pre-estimation diagnostics, panel stationarity tests, panel co-integration tests and dynamic GMM estimation tests. Section 4 concludes the study whilst section 5 provides a reference list.

2. Literature Review

The present theory on the impact of FDI on economic growth focus on what FDI brings along which then influences economic growth in the host country. In other words, it is silent on the conditions that must be present in the host country to enhance FDI triggered economic growth benefits. For example, the modernisation theory says that FDI brings the capital and technology to the host country which is a necessity for economic growth (Calvo & Sanchez-Robles, 2002). The endogenous growth theory argue that FDI brings along to the host country necessary economic growth ingredients such as technology, training of labour, capital, managerial and organizational skills (Romer, 1986; Lucas, 1988; Kumar & Pradhan, 2002). The neoclassical growth theory is of the view that FDI is foreign savings or additional physical capital stock injected into the host country which only brings short term economic growth benefits (Solow, 1956; Swan, 1956). Empirical studies done so far on FDI-growth nexus have produced results that can be classified into four broad categories and these are (1) FDI-led growth, (2) feedback, (3) no or insignificant hypothesis and (4) existence of certain absorption capacities perspective. Table 1 below shows a summary of empirical studies on FDI-growth nexus.

Table 1. A summary of empirical studies on FDI-growth nexus

Author	Focal unit of analysis	Methodology	Research findings
Adams (2009)	Sub-Saharan African countries	cross-section regression model	FDI had an influence on economic growth through transfer of new technology, augmenting domestic capital, marketing and managerial skills. The extent to which the economy benefits from FDI inflows depends on the host country's specific conditions such as the favourable policy environment, good infrastructure and opportunities for linkages between FDI and domestic investment.
Fedderke & Romm (2006)	Developing countries	Panel data analysis	FDI had a positive impact on productivity of domestic labour and capital through superior technology that it brings along.
Ekanayake & Ledgerwood (2010)	Developing countries	Panel data analysis	The findings were in line with the FDI-led growth hypothesis.
Temiz & Gokmen (2014)	Turkey (quarterly data from 1992 to 2007)	Ordinary least squares (OLS)	In the long and short run, FDI positively but non-significantly influenced economic growth in Turkey.
Lyroudi & Apergis (2008)	Emerging economies (annual data from 1991-2004).	Panel data analysis	Using aggregate data, FDI positively and significantly influenced economic growth whereas the use of disaggregated data showed that income size and implementation of the privatisation programme influenced FDI's impact on economic growth.
Chakraborty & Nunnenkamp (2008)	India	Vector Error Correction Model (VECM)	FDI and output influenced each other in India in the short and long run. The study noted that the output-led FDI results were stronger than the FDI-led growth in India.
Naguib (2012)	Argentina	Autoregressive Distributive Lag (ARDL)	FDI had no impact on economic growth in the short run whereas in the long run, economic growth was non-significantly affected by FDI in Argentina.
Tanggapantnam et al (2011)	Malaysia (Quarterly time series data from 2000 to 2010)	VECM	Economic growth was positively influenced by FDI in a non-significant manner in Malaysia. Human capital and financial development were found to be necessary preconditions that must exist in the host country in order for FDI to influence economic growth in Malaysia.

Vita & Kyaw (2009)	Developing countries	GMM technique	Only the developing countries whose absorption capacities have surpassed a certain minimum level economically benefited from FDI inflow.
Azam & Ahmed (2014)	Commonwealth of independent States	Fixed effects model	FDI played a facilitation role in influencing economic growth and that favourable economic policies and business environment ensured that FDI was able to facilitate economic growth in the Commonwealth of independent States
Pegkas (2015)	Eurozone countries	Panel data analysis	Favourable business environment must be present in the Eurozone countries in order for FDI to have a positive and significant impact on the economy.
Eller et al. (2006)	Central and Eastern European Countries (CEECs)	Fixed effects Chart Area	The positive impact of financial sector foreign direct investment (FSFDI) on economic growth heavily relied on what stage of economic development the host nation is at, with later -stage FSFDI economically benefiting CEESs more than during the earlier stages of FSFDI in CEECs.
Alguacil et al. (2011)	Lower, middle and upper income countries	System GMM and OLS model	Neither FDI nor the implementation of policies meant to attract FDI automatically translated into economic growth and development in the host countries. The availability of a clear investment framework, favourable macroeconomic and institutional environment in the host country were found to be necessary for enhancing economic growth emanating from FDI inflow
Lean (2008)	Malaysia	VECM	FDI in the manufacturing sector of Malaysia and economic growth were independent of each other. Specifically, no short and long-run relationship running from FDI to GDP, or vice-versa was found in the manufacturing sector of Malaysia.
Fu et al. (2011)	Emerging economies	Panel data analysis	Certain conditions must be prevailing in the emerging markets to enable them to benefit from international technological diffusion. These conditions include modern governance and institutional structures and structured local innovation programs.
Zhang et al. (2010)	China	panel data analysis	They found out that (1) presence of large domestic firms in China, (2) intermediate technological differences between domestic firms and MNEs and (3) diversity of FDI's country of origin were the three conditions that ensured FDI positively and significantly improved the productivity levels of domestic firms in China.
Gorodnichenko et al. (2007)	Emerging economies	panel data analysis	High technological advancement of MNEs failed to trigger FDI spill-overs in emerging markets. Instead, the ability of emerging markets to enjoy FDI spill-overs varied from type of the firm and sector in which the firms were operating.

Buckley et al. (2007)	China	panel data analysis	FDI spill overs were positive and significant in industries which were technology intensive as compared to labour intensive industries in China
Baharumshah & Almasaied (2009)	Malaysia	OLS model	Developed financial sector, high levels of educational systems were the absorption capacities that needed to be present in Malaysia to enable FDI triggered growth benefits to be enjoyed in Malaysia.
Shahbaz & Rahman (2010)	Pakistan	ARDL and ECM models	A developed financial sector coupled with strong human capital development index were preconditions necessary for Pakistan to benefit from technological diffusion associated with foreign capital inflows.
Peter et al. (2012)	Emerging markets	Panel data analysis	Acquisitions of domestic firms by foreign investors were to a large extent responsible for improving the efficiency and productivity levels of domestic firms in emerging markets (Czech Republic and Russia).
Adeoye (2007)	Emerging markets	Panel data analysis	Emerging markets should ensure that high macro-economic corporate governance systems are in place in order to allow FDI spill-overs to be enjoyed in their economies.

Source: Author compilation

3. Research Methodology

3.1. Data, Variables and a Priori Expectation

Twenty-one emerging markets' secondary data ranging from 1994 to 2014 was used for the purposes of the current study. The data was obtained from databases of reputable international institutions such as World Bank, International Monetary Fund (IMF), Global Financial Indicators, United Nations Development Programme and United Nations Conference on Trade and Development. The data was already converted into a common currency (United States Dollars), which according to (Nnadi & Soobaroyen, 2015, p. 233) made it easier to compare and analyse the results. The current study only included countries contained in the IMF (2015) list of emerging markets whose data for all the variables studied could be obtained. The 21 countries include Argentina, Brazil, China, Colombia, Czech Republic, Greece, Hong Kong, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, Portugal, Republic of Korea, Russia, Singapore, South Africa, Thailand and Turkey.

The dependent variable in the current study is economic growth, FDI is the independent variable whereas control variables include savings, financial development, inflation, infrastructural development and trade openness in line with prior empirical studies (Sghaier & Abida, 2013; Nor et al., 2015).

Savings increases investment thus providing a platform which guarantees sustainable levels of growth (Romer, 1986; Lucas, 1988; Singh, 2010). On the other hand, prominent economists such as Schumpeter (1911), McKinnon (1973) and Shaw (1973), among others supported a view that financial sector development has a positive influence on economic growth through mobilising savings and allocating them towards productive sectors of the economy, facilitating risk management and easing the trading of goods and services.

Schreft and Smith (1997) argued that higher inflation increases interest rates and non-efficient allocation of scarce resources, both of which lead to subdued rate of economic growth. High inflation discourage households from saving and this consequently stifle economic growth (Haslag & Koo, 1999). The level of infrastructural development enhances economic growth by acting as a conduit through which FDI is harnessed, in line with Denisia (2010). The view that infrastructural development is critical for economic growth was supported by Fedderke and Garlick (2008) who argued that infrastructure is a necessary ingredient in the economic growth and development process.

Trade openness can either have a positive or negative impact on the economy in line with prior empirical studies. For example, domestic firms are enabled to import key inputs for their production processes (Coe & Helpman, 1995) or export their products to the international markets hence boosting foreign exchange inflow into the economy (Chenery & Strout, 1966; Balassa, 1978; Hart, 1983; Ben-David & Loewy, 1998). On the other hand, the economy can suffer because local companies prefer to buy from other countries even commodities which are manufactured and available locally, consistent with Baltagi et al. (2009).

3.2. Empirical Model Specification

Equation 1 summarises the literature discussed in sub-section 3.1 in as far as the relationship between FDI and economic growth is concerned.

$$GDP = f(FDI, INFL, FIN, SAV, OPEN, INFR) \qquad (1)$$

Where GDP, FDI, INFL, FIN, SAV, OPEN and INFR respectively stands for economic growth, foreign direct investment, inflation, financial development, savings, trade openness and infrastructural development.

Following other similar studies on FDI-growth nexus, net FDI as a ratio of GDP, stock market capitalisation ratio, gross domestic savings as a ratio of GDP, GDP per capita, inflation consumer prices (annual %), electric power consumption (kWh per capita) and total imports and exports (% of GDP) were used in the current study as measures for FDI, financial development, savings, economic growth, inflation, infrastructural development and trade openness respectively.

As a starting point, the current study investigates the direct impact of FDI on economic growth in emerging markets and estimate the equation below using dynamic GMM approach, consistent with Sghaier and Abida (2013:6).

$$GDP_{i,t} = \beta_0 + \beta_1 GDP_{i,t-1} + \beta_2\ FDI_{i,t} + \beta_3\ X_{i,t} + \mu_i + \varepsilon_{it} \qquad (2)$$

GDP_{it-1} is the lag of GDP, subscripts t and i stands for country and time respectively and ε_{it} is the error term. $X_{i,t}$ is a matrix of control variables mentioned earlier on in this sub-section whilst μ_i is the time invariant and unobserved country specific effect. β_0 is the intercept term whereas β_1, β_2 and β_3 are co-efficients of GDP, FDI and matrix of control variables (INFL,FIN,SAV,OPEN,INFR) respectively.

The second objective of the current study is to find out if human capital development is a channel through which FDI influences economic growth in emerging markets. In line with literature, the hypotheses meant to address this objective appears as follows:

H0: Human capital development is a channel through which FDI influences economic growth in emerging markets.

HA: Human capital development is not a channel through which FDI influences economic growth in emerging markets.

Consistent with Nor et al.'s (2015) approach, the current study interacted the FDI and human capital development variables and then tested the significance and sign of the interacted co-efficient in order to approve or disapprove the null hypothesis –see equation 3.

$$GDP_{i,t} = \beta_0 + \beta_1 GDP_{i,t-1} + \beta_2 FDI_{i,t} + \beta_3 HCD_{i,t} + \beta_4 (FDI_{i,t} . HCD_{i,t}) + \beta_5 INFL_{i,t} + \beta_6 FIN_{i,t} + \beta_7 SAV_{i,t} + \beta_8 OPEN_{i,t} + \beta_9 INFR_{i,t} + \mu_i + \varepsilon_{it} \qquad (3)$$

Equation 3 was then estimated using the dynamic panel GMM approach by Arellano and Bond (1991). If β_4 is positive or positive and significant, the results would have shown that the influence of FDI on economic growth is enhanced if human capital development in emerging markets improves. Human capital development was proxied by human capital development index for the purposes of the current study, in line with Shahbaz and Rahman (2010).

3.3. Correlation Analysis

Table 2. Correlation analysis

	GDPPC	FDI	HCD	INFL	FIN	SAV	OPEN	INFR
GDP	1.0000							
FDI	0.6283***	1.0000						
HCD	0.6586***	0.3479***	1.0000					
INFL	-0.0663	-0.0567	-0.0154	1.0000				
FIN	0.5017***	0.7859***	0.2208***	-0.0387	1.0000			
SAV	0.2427***	0.3544***	0.0912*	-0.0299	0.2046***	1.0000		
OPEN	0.6700***	0.8070***	0.4296***	-0.0649	0.7145***	0.5474***	1.0000	
INFR	0.7664***	0.3831***	0.6572***	-0.0473	0.3312***	0.3355***	0.5327***	1.0000

Source: Author's compilation from E-Views

Note: ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

Consistent with theoretical predictions, FDI, human capital development, financial development, savings, trade openness and infrastructural development were individually and separately found to be positively and significantly correlated with economic growth (see Table 2). Inflation and economic growth were negatively correlated in line with literature (Schreft & Smith, 1997; Haslag & Koo, 1999). The maximum correlation co-efficient among the variables studied is 0.8070 (between trade openness and FDI), a result that shows that the problem of multicollinearity among the variables used in the current study was absent, in line with Stead (1996).

3.4. Descriptive Statistics

Table 3. Descriptive statistics

	GDPPC	FDI	HCD	INFL	FIN	SAV	OPEN	INFR
Mean	9604	4.04	0.78	13.58	87.04	26.39	93.45	3224
Median	5980	2.51	0.78	4.45	38.91	23.27	57.17	2607
Maximum	56284	39.87	0.94	2076	1254	54.29	455.28	10 428
Minimum	353	0.03	0.45	0.01	0.04	8.33	15.64	240.02
Std. Dev.	9830	5.76	0.09	101	157.8	10.45	95.27	2343
Skewness	1.84	3.60	-0.48	19.65	4.99	0.79	2.28	0.70
Kurtosis	7.01	17.47	2.95	402	31.51	2.92	7.39	2.70
Jarque-Bera	544	4800	16.80	2 948 116	16 769	46.09	737.14	37.49
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Author's compilation from E-Views

Standard deviation from the mean for GDP per capita and infrastructural development is above one thousand, which is evidence of the existence of extreme values in the two variables. The probabilities of the Jarque-Bera criteria are zero for all the variables under study which is proof that the data used is not normally distributed. Furthermore, the Kurtosis values in Table 3 shows that the data for all the variables are positively skewed which is further evidence of the absence of normal distribution. All the data was then transformed into natural logarithms before being used further in order to deal away with the problem of extreme values and absence of normal distribution, consistent with (Hair et al., 2014, p. 80).

3.5. Panel Unit Root Tests

Table 4. Panel root tests –Individual intercept

Level				
	LLC	IPS	ADF	PP
L(GDPPC)	1.4876	5.0440	9.5479	8.6597
L(FDI)	-5.8469***	-5.5820***	104.31***	159.98***
L(HCD)	-9.7730***	-7.5698***	133.89***	205.79***
L(INFL)	-4.0943***	-3.9300***	83.0525***	150.43***
L(FIN)	-3.8028***	-2.4949***	66.0206**	109.84***
L(SAV)	-1.5476*	-1.6283*	61.8386**	72.2632***
L(OPEN)	-1.2281	0.9237	29.3499	59.9943**
L(INFR)	-4.5126***	-1.0782	52.4567	65.3866**
First difference				
L(GDPPC)	-6.2515***	-6.2457***	113.46***	179.62***
L(FDI)	-11.4310***	-13.6157***	241.38***	1574***
L(HCD)	-17.5728***	-16.4661***	292.36***	3156***
L(INFL)	-12.7088***	-14.2952***	254.21***	951.92***
L(FIN)	-12.4061***	-13.3440***	237.79***	718.75***
L(SAV)	-8.0563***	-9.5960***	171.92***	724.57***
L(OPEN)	-8.7965***	-9.2367***	163.98***	355.55***
L(INFR)	-1.2471**	-2.8819***	75.5062***	138.87***

Source: Author's compilation from E-Views

Note: LLC, IPS, ADF and PP stands for Levin, Lin and Chu; Im, Pesaran and Shin; ADF Fisher Chi Square and PP Fisher Chi Square tests respectively. *, ** and *** denote 10%, 5% and 1% levels of significance, respectively.

Table 4 shows that not all variables under study were stationary at level. When unit root testing was performed at first difference, all the variables under study became stationary. In other words, the variables studied were integrated of order 1, a condition that must be met before further empirical tests are done, following Jiang and Liu (2014).

3.6. Panel co-Integration Tests

Table 5. Johansen Fisher Panel Co-integration test

Hypothesised No. of CE(s)	Fisher Statistic (from trace test)	Probability	Fisher Statistic (from max-eigen test)	Probability
None	29.11	0.9342	29.11	0.9342
At most 1	29.11	0.9342	29.11	0.9342
At most 2	20.79	0.9975	131.3	0.0000
At most 3	9.70	1.0000	267.6	0.0000
At most 4	2.77	1.0000	352.8	0.0000
At most 5	386.8	0.0000	386.8	0.0000
At most 6	328.6	0.0000	273.1	0.0000
At most 7	162.4	0.0000	162.4	0.0000

Source: Author's compilation from E-Views

Johansen Fisher panel co-integration framework was used to investigate if there is a long run relationship between economic growth, FDI, human capital development, inflation, financial development, savings, infrastructural development and trade openness in emerging markets. Table 5 shows that the null hypothesis that say there is at most seven co-integrating vectors among the variables studied is accepted. This finding was confirmed by both Fisher's trace and max-eigen tests (see Table 5).

The next stage involved the use of the dynamic panel GMM estimation technique to determine (1) the impact of FDI on economic growth and (2) if human capital development is a channel through which FDI affected economic growth in emerging markets.

3.7. Dynamic Panel GMM Estimation Technique Results and Discussion

Table 6. Dynamic GMM Results

	Without interaction variable (Model 1)			With interaction variable (Model 2)		
	Co-efficient	Std. Error	t-statistic	Co-efficient	Std. Error	t-statistic
$GDP_{i,t-1}$	0.9403***	0.0134	70.0840	0.9403***	0.0134	69.9926
FDI	0.0101	0.0074	1.3639	0.0108	0.0138	0.7804
HCD	0.2900***	0.0875	3.3127	0.2889***	0.0898	3.2184
FDI.HCD	-	-	-	0.031	0.0212	1.4623
INFL	-0.0041	0.0063	-0.6557	-0.0041	0.0063	-0.6577
FIN	0.0263***	0.0083	3.1683	0.0263***	0.0084	3.1374
SAV	0.0482**	0.0220	2.1899	0.0483**	0.0221	2.1851

OPEN	-0.0509***	0.0144	-3.5250	-0.0511***	0.0150	-3.4037
INFR	0.0309**	0.0143	2.1596	0.0309**	0.0143	2.1569
Adjusted R-squared 0.9849 J-statistic 432 Probability(J-statistic) 0.0000				Adjusted R-squared 0.9848 J-statistic 431 Probability(J-statistic) 0.0000		

Source: Author's compilation from E-Views

Notes: GDP per capita is the dependent variable. ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

In both models 1 and 2, FDI positively but non-significantly influenced on economic growth in line with Temiz and Gokmen (2014) whose study observed that the influence of FDI on economic growth in Turkey was positive but non-significant both in the long and short run. Resonating with theoretical predictions, both models show that lag of GDP per capita, human capital development, financial development (stock market capitalisation), savings and infrastructural development had a positive and significant impact on economic growth in the emerging markets. Inflation negatively but non-significantly affected economic growth in both models, consistent with Haslag and Koo (1999). On the other hand, trade openness had a negative and significant influence on economic growth in the emerging markets in both models in line with Baltagi et al (2009) whose study argued that an economy can suffer if local companies prefer to buy from other countries even commodities which are manufactured and available locally.

The co-efficient of the interaction term between FDI and human capital development was found to be positive but non-significant in the emerging economies studied. Although not significant, the study found out that human capital development provided a channel through which FDI influenced economic growth in emerging markets. This finding resonates with Shahbaz and Rahman (2010) whose study argued that a developed human capital development index was a necessary precondition for Pakistan to benefit from technological diffusion associated with foreign capital inflows.

4. Conclusion

The paper explored the impact of FDI on economic growth and also investigated if human capital development is a channel through FDI influence economic growth in emerging markets. Although the relationship between FDI and economic growth is no longer a contestable matter in literature, channels through which FDI influences economic growth have not received adequate attention and it's still an unresolved issue in the literature. It is for this reason that the current study focused on finding out if human capital development is a channel through which FDI influence economic growth in emerging markets using a dynamic panel GMM estimation technique. In both models (with and without an interaction term), FDI was found to have had a positive but non-significant influence on economic growth in emerging markets. When FDI was interacted with human capital development, the size of the positive impact on economic growth was found to have improved but still non-significant. The impact of the lag of GDP, trade openness, financial development, savings, infrastructural development and inflation on economic growth in emerging markets was in line with theoretical predictions. The implications of the study are that emerging markets should implement policies aimed at improving human capital development in order to directly boost economic growth or to enhance FDI's ability to influence economic growth. Other measures meant to accelerate economic growth which emerging markets should implement include: (1) promoting infrastructural development, savings and financial development, (2) inflation reduction policies and (3) moderating trade openness. Future studies must expand the current study by investigating other channels through which FDI influences economic growth.

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Truth Values in the Economic Logics

Emil Dinga[1]

Abstract: The bivalent logic usually performed in the economic discipline and thinking seems be unsatisfactorily because in the social field almost all the actions are based on teleology, i.e. on the goals. Consequently, the paper discusses a proposal to introduce tetravalent logics in the social field (so, in the economic one), that exhibits four truth values. In this context, the paper develops some considerations regarding the conceptual and methodological issues associated with the tetravalent logics proposal.

Keywords: logics; tetravalent logics; prescriptive statements

JEL Classification: A10; B00; B40

1. General Framework

We consider that the following g coordinates should underlie a possible solution to clarify the matter of truth in economy (broader, within the social field):

- In economy (broader, within the social field), due to the presence of the subject within the structure of the economic phenomenon/process, the purpose is the dominant cause of any such phenomenon/process. For the moment, we are not interested whether this purpose is individual or not, whether it is decided at the individual level or not. As shown, the economic phenomenon/process doesn't exist per se; rather it is generated by the decision, the action of the subject (all the economic phenomena/processes being artefacts)[2];

- The immediate consequence of the previous trait is that the prescriptive statements are dominant in economy. By prescriptive statement we understand a statement or assertion which indicates goals or procedures/means to reach the

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[2] Hence, in the economic (social) field, the future doesn't come, rather it is built; it is not emergent, rather planned (even if the matter of the future as intellectual project has yet to wait until approached within this paper).

AUDŒ, Vol. 13, no. 6, pp. 190-203

goals[1]. The prescriptive statements are, like the predictive statements, prior to the relevant factual, but they don't refer just the factual itself, like the predictive statements, but rather concomitantly to the factual, to the subject and to its action to generate the factual. The formal presentation of the two categories of statements (predictive, and prescriptive) might look like this:

- F: concerned factual;
- t_{-1}: moment when the prescriptive or predictive statement about the concerned factual is formulated;
- t_0: moment when the factual concerned by the prescriptive or predictive statement occurs;
- t_1: moment when the descriptive statement is formulated;
- $t_{-1} < t_0 < t_1$: time arrow condition;
- F_0: actual factual;
- $\dot{F}_{-1}$: factual concerned by the predictive statement;
- $\ddot{F}_{-1}$: factual concerned by the prescriptive statement;
- $\dddot{F}_1$: factual concerned by the descriptive statement;
- P_{-1}: predictive statement;
- N_{-1}: prescriptive statement;
- D_1: descriptive statement.

We might then have the following formal presentations (which we will subsequently use):

$$P_{-1}(F) = P\left(t_{-1}, \dot{F}_{-1}\right)$$

$$N_{-1}(F) = N\left(t_{-1}, \ddot{F}_{-1}\right)$$

$$D_1(F) = D\left(t_1, \dddot{F}_1\right)$$

- Based on the first two explanations, we can now make the third one: in the economic field (broadly, in the social field), the correspondence-truth is not relevant because the economic factual is not described by predictive statements, rather by prescriptive statements. Within this context, the descriptive statement

[1] In terms of semiotics, such statements are of the same type as Austin's perlocutionary statements (statements which change the situation within the context of their formulation; for instance, Habermas' concept of communicative action is a species of perlocutionary statement, because it aspires to change the polemic stance of the interlocutor).

doesn't inform about the factual only, but about three elements too: a) the factual itself; b) the subject which h issued the prescriptive statement which, most times, at the individual, collective or representative levels, is the same with the subject which generates the prescribed factual; c) the action which led to the appearance of the factual[1]; on this basis, the formal description above concerning the prescriptive statements and the descriptive statements associated to them, will change as follows:

$$\mathcal{N}_{-1}(F) = \mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, SN_{-1}, SA^{N}_{[-1,0]}, AN_{[-1,0]}\right), \text{ where:}$$

SN_{-1}: deciding subject (or normative subject); $SA^{N}_{[-1,0]}$: actional subject as it is set by the normative subject; $AN_{[-1,0]}$: the action required (normed) to turn objective factual $\ddot{F}_{-1}$.

$$\mathcal{D}_{1}(F) = \mathcal{D}\left(t_{1}, \ddot{F}_{1}, SA^{A}_{[-1,0]}, SE_{1}, AR_{[-1,0]}\right), \text{ where:}$$

$SA^{A}_{[-1,0]}$: actual actional subject (or praxeological subject); SE_{1}: evaluating subject (or observing subject); $AR_{[-1,0]}$: action accomplished (implemented) which produced factual F_{0}.

- Therefore, in the economic field, testing the "truth" is done by comparing the prescriptive and descriptive statements, as they were described above:

$$\mathcal{N}_{-1}(F) \setminus \mathcal{D}_{1}(F), \text{ or}$$

$$\mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, SN_{-1}, SA^{N}_{-1}, AN_{[-1,0]}\right) \setminus \mathcal{D}\left(t_{1}, \ddot{F}_{1}, SA^{A}_{[-1,0]}, SE_{1}, AR_{[-1,0]}\right), \text{ where:}$$

$\setminus$: our choice of noting the logic constant *is compared with*.

- Due to the complex character of the economic system/process (generated by the structural presence of the subject), any prescriptive statement will have two components: an eutaxiological one, aimed to capture, within the economic process, the necessary type of causality[2], and a teleological one, aimed to capture the contingent type of causality (in our case, the causality based on purpose). We may accept[3] that we have a linear overlapping of these two types of causality. If we

[1] Here, the expression appearance of the factual must not be taken ad litteram, because in the economic field, as mentioned before several times, the factuals don't emerge, rather are objectivised by the decision and, subsequently, by the action of the subject.

[2] Although the proportion of the eutaxiological causality still is very small within the economy (broadly, within the social field), there is, however, what we call an intra-contingent necessity, which overlaps this type of causality (for instance, the exhaustion of the fossil resources is a necessity within a process decided within a contingent manner).

[3] We are using here an analogy with the situation from the quantic mechanics of the linear overlapping of the potential states of a quantic object before proceeding to an experiment with that object. The accomplishment of the experiment collapses the wave function which describes the state of the quantic object, so that the observer (the scientist) notices a unique state. Although the

describe a prescription based on this linear overlapping as: $\mathcal{N}_{-1}(F) = \alpha \cdot E + \beta \cdot T$, where E is the eutaxiological component, and T is the teleological component, while α and β are weighing coefficients ($\alpha \ll \beta$, and $\alpha + \beta = 1$), then, a prescriptive statement can be represented as in Figure 1.

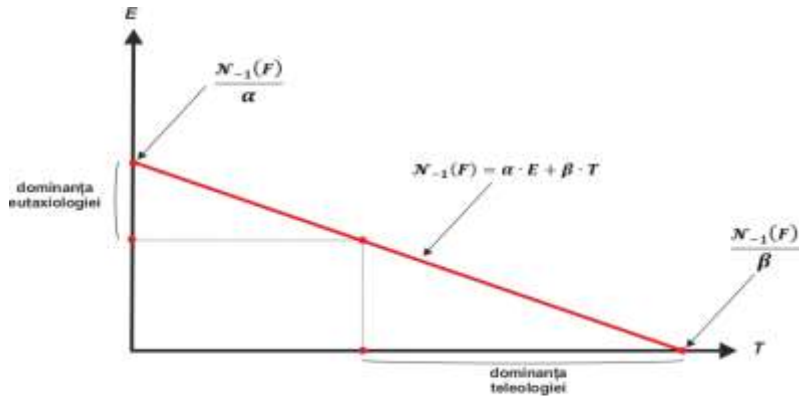

Figure 1. Linear overlapping within the structure of the prescriptive statement

The prescriptive statement will thus have the following formulation: $\mathcal{N}(t_{-1}, \dot{F}_{-1}, \ddot{F}_{-1}, SN_{-1}, SA_{-1}^{N}, AN_{[-1,0]}) = \alpha_{-1} \cdot E(t_{-1}, \dot{F}_{-1}, SN_{-1}, SA_{-1}^{N}, AN_{[-1,0]}) + \beta_{-1} \cdot T(t_{-1}, \ddot{F}_{-1}, SN_{-1}, SA_{-1}^{N}, AN_{[-1,0]})$

The descriptive statement will thus have the following formulation:

$$\mathcal{D}(t_1, \ddot{F}_1, SA_{[-1,0]}^{A}, SE_1, AR_{[-1,0]}) = \alpha_1 \cdot E(t_1, \ddot{F}_1, SA_{[-1,0]}^{A}, SE_1, AR_{[-1,0]}) + \beta_1 \cdot T(t_1, \ddot{F}_1, SA_{[-1,0]}^{A}, SE_1, AR_{[-1,0]})$$

As α_1 depends on β_{-1} (the proportion "allocated" to normativity in developing the prescriptive statement introduces restrictions for the accomplishment of eutaxiology when the factual occurs, therefore within the linear structure of the descriptive statement), we may write:

$$\mathcal{D}(t_1, \ddot{F}_1, SA_{[-1,0]}^{A}, AR_{[-1,0]}) = f(\beta_{-1)} \cdot E(t_1, \ddot{F}_1, SA_{[-1,0]}^{A}, SE_1, AR_{[-1,0]}) + \beta_1 \cdot T(t_1, \ddot{F}_1, SA_{[-1,0]}^{A}, SE_1, AR_{[-1,0]})$$

collapsing method used to explain the transition from the quantic state to its macroscopic description is rather unsatisfactory, it remains, nevertheless, an explicative alternative until ne suppositions emerge.

Purely theoretically, and simplifying the algebraic formulations just with an illustrative role, we may have the following cases of the prescriptive statement, depending on the values taken by coefficients α and β (Figure 2):

<table>
<tr><th></th><th>α</th><th>β_{-1}</th><th>β_1</th><th>β_1 vs. β_{-1}</th><th>β</th><th>$\mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, SN_{-1}, AN_{[-1,0]}\right)$</th></tr>
<tr><td>Case 1</td><td rowspan="5">$\alpha \neq 0$</td><td rowspan="2">$\beta_{-1} = 0$</td><td>$\beta_1 = 0$</td><td>$\beta_1 = \beta_{-1}$</td><td>$\beta = 0$</td><td>Exclusive eutaxiology</td></tr>
<tr><td>Case 2</td><td>$\beta_1 \neq 0$</td><td>$\beta_1 \neq \beta_{-1}$</td><td>$\beta \neq 0$</td><td rowspan="2">Linear overlapping eutaxiology-teleology</td></tr>
<tr><td>Case 3</td><td rowspan="3">$\beta_{-1} \neq 0$</td><td>$\beta_1 = 0$</td><td>$\beta_1 \neq \beta_{-1}$</td><td>$\beta \neq 0$</td></tr>
<tr><td>Case 4</td><td rowspan="2">$\beta_1 \neq 0$</td><td>$\beta_1 = \beta_{-1}$</td><td>$\beta = 0$</td><td>Exclusive eutaxiology</td></tr>
<tr><td>Case 5</td><td>$\beta_1 \neq \beta_{-1}$</td><td>$\beta \neq 0$</td><td>Linear overlapping eutaxiology-teleology</td></tr>
<tr><td>Case 6</td><td rowspan="5">$\alpha = 0$</td><td rowspan="2">$\beta_{-1} = 0$</td><td>$\beta_1 = 0$</td><td>$\beta_1 = \beta_{-1}$</td><td>$\beta = 0$</td><td>No prescriptive statements are formulated</td></tr>
<tr><td>Case 7</td><td>$\beta_1 \neq 0$</td><td>$\beta_1 \neq \beta_{-1}$</td><td>$\beta \neq 0$</td><td rowspan="2">Exclusive teleology</td></tr>
<tr><td>Case 8</td><td rowspan="3">$\beta_{-1} \neq 0$</td><td>$\beta_1 = 0$</td><td>$\beta_1 \neq \beta_{-1}$</td><td>$\beta \neq 0$</td></tr>
<tr><td>Case 9</td><td rowspan="2">$\beta_1 \neq 0$</td><td>$\beta_1 = \beta_{-1}$</td><td>$\beta = 0$</td><td>No prescriptive statements are formulated</td></tr>
<tr><td>Case 10</td><td>$\beta_1 \neq \beta_{-1}$</td><td>$\beta \neq 0$</td><td>Exclusive teleology</td></tr>
</table>

Figure 2. Theoretical cases of prescriptive statements

➢ *Cases 1 and 4*: pure phenomenological predictive statements (exclusively eutaxiological).

- For instance: predictions regarding the evolution of the fossil fuel reserves.

➢ *Cases 7, 8 and 10*: pure normative prescriptive statements (exclusively teleological).

- For instance: prescribing (norming) the maximal public budget deficit.

➢ *Cases 6 and 9*: impossibility (or uselessness) of formulating prescriptive statements in economy.

➢ *Cases 2, 3 and 5*: standard prescriptive statements, relying on the linear overlapping between eutaxiological and teleological.

- For instance: prescribing the annual inflation (average or at the end of the year), or prescribing the nominal exchange rate.

2. Concept of "truth" in Economy

It is strongly recommended that the paper should have an even number of pages, but no longer than 4 to 14 pages. In some cases papers with more than 14 pages will be accepted by the editorial board if they contain the report of a wider research activity which can not appear separated in two papers.

2.1. Four Values of Occurrence[1] in the Economic Field

Let us see how must be done the comparison between the prescriptive and the descriptive statements and how to decide on the "truth" of the prescriptive statement.

First, we set, within the new framework of the discussion, the differences between the predictive and the prescriptive statements. This is shown in Figure 3.

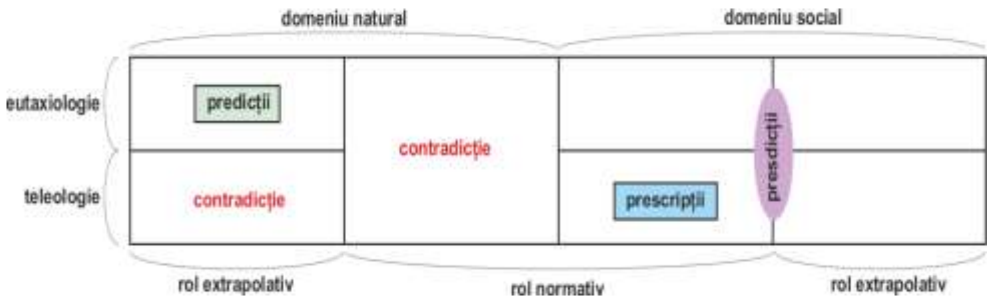

Figure 3. Cases of predictions, prescriptions and presdictions

NB: the term invented by us for the present necessities – *presdictions* – signifies the linear overlapping of predictions and prescriptions, when eutaxiological or teleological causalities also appear concomitantly.

Second, remember that we have to compare three entities which can be found, at the particular moments of time, both in the prescriptive statement, and in the descriptive statement[2]: 1) the factual itself; b) the subject which issued the prescriptive statement; c) the action which caused the appearance of the factual.

[1] We prefer to replace the term of truth with the term of occurrence. The justification of this action lies in the higher possibility to persist, in our memory, the significance of the correspondence-truth when we are discussing about the concept of truth as such. As it resulted from several arguments presented so far, the correspondence-truth has no relevance for the economic field. Therefore, when we will approach the matter of the tables of truth, we will call them tables of occurrence.

[2] We are ignoring the fact that the prescriptive statement contains, many times, eutaxiological causality too (that is, cases when $\alpha \neq 0$, using the notation used above). This disregarding doesn't compromise the generality of our considerations, although technically, in this disregarded case we will have two "modules" to analyse: a) the eutaxiological module, for which the eutaxiological

- For the factual: $\ddot{F}_{-1} \setminus \dddot{F}_1$;
- For the subject: $SN_{-1} \setminus SA^N_{[-1,0]}$; $SN_{-1} \setminus SA^A_{[-1,0]}$; $SN_{-1} \setminus SE_1$; $SA^N_{[-1,0]} \setminus SA^A_{[-1,0]}$;
$SA^N_{[-1,0]} \setminus SE_1$; $SA^A_{[-1,0]} \setminus SE_1$;
- For the action: $AN_{[-1,0]} \setminus AR_{[-1,0]}$.

Therefore, unlike the standard case (for instance, that of the correspondence-truth), this time we don't just compare semantically the content of the prescriptive and descriptive statements (in terms of the coincidence of denotations signified by each of the two statements); rather we also check the two "coincidences": between the involved subjects and between the involved actions.

Third, we consider, relying on what we have already shown, that in the economic field (broadly, in the social field) it is necessary that the bivalent logics, with two truth values – true (*A*) and false (*F*) – which is compatible with the correspondence-truth (inadequate, irrelevant and impossible to verify because, in this field, we almost don't have predictive statements) – must be replaced by tetravalent logics[1], with four "truth" values:

1. A: nominal accomplishment, "with no rest", of the prescribed purpose;

2. $\bar{A}_+$: nominal missing of the purpose[2], however, accompanied by unintentional[3] consequences, convenient to the subject;

3. A_-: nominal accomplishment of the purpose, but accompanied by unintentional consequences, non-convenient to the subject;

4. $\bar{A}$: nominal missing, "with no rest", of the purpose.

One may notice the following issues regarding this proposal:

a. We don't raise the issue of the discrete levels of accomplishing the purpose, because that would lead to logics with an infinite and countable multitude of values (polyvalent logics); we also don't raise the issue of the continuous levels of purpose accomplishment, because it would lead to logics with an infinite and

component plays a role of predictive statement; b) the teleological module, for which the teleological component plays the role of normative statement.

[1] For instrumental reasons, we propose to call this possible logics: $4\mathcal{A}$ logics .

[2] The negation sign ($\overline{\mathrm{A}}$) has the same significance as in the classical logics, which allows formulating the principle of identity (A = A), the principle of non-contradiction ($\overline{\mathrm{A} \wedge \overline{\mathrm{A}}}$), and the principle of the excluded third party ($\mathrm{A} \vee \overline{\mathrm{A}}$).

[3] The concept of unintended consequence has been highly theorized by Karl Popper, who was saying that the most important task of the social sciences is to make predictions about the unintended consequences of the taken decisions.

uncountable multitude of values (fuzzy logics); therefore, the purpose is either accomplished, or unaccomplished, only that for each of these cases we introduce the possibility that the accomplishment or unaccomplishment is accompanied by unintended consequences with opposite significance: non-convenient to the subject (nominal accomplishment, "with rest", of the purpose), or convenient to the subject (nominal missing, "with rest", of the purpose).

b. The nominal missing, "with rest", of the purpose is not equivalent with the partial accomplishment (therefore with a partial level of accomplishment of the purpose) because the convenient unintentional consequences, by definition, are not part of the purpose; similarly, the nominal accomplishment, "with rest", of the purpose is not equivalent with the full (more precise, accurate) unaccomplishment of the purpose, because the non-convenient unintentional consequences, by definition, are not part of the purpose

c. Applying Karl Popper's suggestion to make predictions about the unintended consequences of our decisions leads, in terms of logics, in our opinion, to the classical prediction: indeed, an unintended consequence, not being part of a purpose (case in which it would become intended), it can't have a contingent character, rather a necessary one; therefore, it will not submit to the teleological causality, rather to an eutaxiological causality. However, as seen in Figure 14, such situation can only be dealt with using predictions;

d. We will also notice that we have no less than six comparative situations regarding the subject involved in the matter of the economic truth, while in the case of predictions (the correspondence-truth) the subject doesn't appear neither in the predictive statement, nor in the descriptive statement, because we only have eutaxiological causality generated by necessity.

e. The two values of truth in the cases "with rest" are generated by the fact that, in the economic field, the normative subject (SN) can differ from the actional subject (SA) and from the evaluating subject (SE). Here are the possible situations:

(1) $SN \equiv SA \equiv SE \equiv S^{NAE} \rightarrow \mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, S_{-1}^{NAE}, AN_{[-1,0]}\right) \setminus \mathcal{D}\left(t_1, \ddot{F}_1, S_1^{NAE}, AR_{[-1,0]}\right)$ (NB: the sign $\equiv$ has the significance of *identical* or *equivalent*): therefore, in this case we have only two elements to compare: a) $\ddot{F}_{-1} \setminus \ddot{F}_1$; b) $AN_{[-1,0]} \setminus AR_{[-1,0]}$; we may formulate this comparison as follows: the prescribed factual is compared to the produced factual[1] under the conditions in which the prescribed action is compatible with the actual action. But what does it

[1] A more exact term, which to replace produced is accomplished, because, as already shown, the economic factuals are always artefacts; they don't appear or are produced, rather they are accomplished by the subject.

actually mean that the prescribed action is compatible with the actual action? Here are some considerations:

− *First*, what does it mean that all the three involved subjects are identical (or equivalent, more generally)? It means, of course, that all subjects aim the same purpose, which means that we have the following expectation: $\ddot{F}_{-1} \equiv F_0 \equiv \dddot{F}_1 \equiv F$. Of course, the equivalence of the subjects doesn't involve their ontological identity: this means that the three subjects may be ontologically different[1] (each of them is a different person) but praxeologically equivalent (have the same purpose, each in terms of his "role": prescribing the purpose, accomplishing the purpose, evaluating the accomplished purpose). In order to suggest in a formal manner too this difference between the ontological equivalence and the praxeological equivalence, we will adjust the above notation as follows:

✓ ontological equivalence: $x \overleftarrow{\equiv} y$;

✓ praxeological equivalence: $x \overrightarrow{\equiv} y$.

On the other hand, the subjects can be ontologically identical, but praxeologically different. This situation occurs when the initial conditions of the subjects change either in the temporal interval $[-1{,}0]$, i.e., between the time of formulating the prescription and the time of accomplishing the action, or in the temporal interval fie $[0{,}1]$, between the time of accomplishing the action and the moment of evaluating its result. In terms of our scientific interest, important is the praxeological equivalence of the subjects, not their ontological equivalence[2];

- *Second*, it is obvious that the prescribed factual is the very purpose, therefore comparison $\ddot{F}_{-1} \setminus \dddot{F}_1$ tells us whether the purpose has been accomplished or not;

− *Third*, from comparison $AN_{[-1,0]} \setminus AR_{[-1,0]}$ we should find out whether unintended consequences appeared after $AR_{[-1,0]}$; in our opinion, if the three involved subjects are praxeologically equivalent, the prescribed action will be identical (or equivalent, in terms of significance) with the accomplished action, namely $AN_{[-1,0]} \equiv AR_{[-1,0]}$;

− *Fourth*, therefore, the compatibility between the prescribed action and the accomplished action (actual action) means that the two stances of the action (prescribed and actual) have the same significance for the evaluating subject.

[1] The expression ontological difference involved by the reasoning of this study has, of course, nothing to do with the complicated concept of ontological difference (distinction being/person-being/existence) discussed by Heidegger. We hope we didn't confuse our scrupulous readers.

[2] Nevertheless, from other perspectives (social, political etc.) the ontological identity (equivalence) of the subjects is also relevant.

(2) $\overrightarrow{SN} \equiv \overrightarrow{SA} \equiv S^{NA} \not\equiv \overrightarrow{SE} \rightarrow \mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, S_{-1}^{NA}, AN_{[-1,0]}\right) \setminus \mathcal{D}\left(t_1, \ddot{F}_1, SE_1, AR_{[-1,0]}\right)$: in this case we have a praxeological equivalence between the normative subject and the actional subject, but the evaluating subject is different from the two subjects. The comparison between the prescriptive statement and the descriptive statement is also done for two components of the two statements, a) $\ddot{F}_{-1} \setminus \ddot{F}_1$, and b) $, AN_{[-1,0]} \setminus AR_{[-1,0]}$, but there is the possibility that $\ddot{F}_{-1} \not\equiv \ddot{F}_1$ because of the different evaluation of $AN_{[-1,0]}$, or of $AR_{[-1,0]}$. Therefore, we may have here the following sub-cases:

- $\ddot{F}_{-1} \hat{\not\equiv} \ddot{F}_1$ (where $\hat{x}$ denotes the situation “with rest”, convenient, which accompanies the logical constant x), showing that the prescribed (normed) purpose was not accomplished, but unintended consequences, convenient for the evaluating subject[1] appear; formally, we have a situation of the type $\bar{A}_+$;
- $\ddot{F}_{-1} \hat{\equiv} \ddot{F}_1$ (where $\hat{x}$ denotes the situation “with rest”, non-convenient, which accompanies the logical constant x), showing that the prescribed (normed) purpose was accomplished, but unintended consequences, non-convenient for the evaluating subject appear; formally, we have a situation of the type A_-;
- $\ddot{F}_{-1} \equiv \ddot{F}_1$: the prescribed (normed) purpose is accomplished, “with no rest”; although the normative subject is different praxeologically (but possibly equivalent ontologically[2]) from the evaluating subject, we cannot exclude the situation in which the two have the same evaluation about the accomplishment of the prescribed purpose; formally, we have a situation of the type A;
- $\ddot{F}_{-1} \not\equiv \ddot{F}_1$: the prescribed (normed) purpose is not accomplished, “with no rest”; formally, we have a situation of the type $\bar{A}$;

(3) $\overrightarrow{SN} \equiv \overrightarrow{SE} \equiv S^{NE} \not\equiv \overrightarrow{SA} \rightarrow \mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, S_{-1}^{NE}, AN_{[-1,0]}\right) \setminus \mathcal{D}\left(t_1, \ddot{F}_1, S_1^{NE}, AR_{[-1,0]}\right)$: in this case we have a praxeological equivalence between the normative subject and the evaluating subject, and a difference between them in relation to the actional subject. Similarly to the above situation, the differences in accomplishing the purpose (leading to the same four situations as those described at pct. (2) above) are generated by the fact that the actional subject, being different both from the normative subject and from the evaluating subject, can implement an action which deviates from the normed action, namely $AN_{[-1,0]} \not\equiv AR_{[-1,0]}$;

[1] Which, of course, may not have the same significance for the prescriptive (normative) subject, or may even not exist for it (meaning that the purpose is accomplished “with no rest”).

[2] The praxeological non-equivalence concomitant with the ontological equivalence can be also explained by the Oedipus effect.

(4) $\overrightarrow{SA} \equiv \overrightarrow{SE} \equiv S^{AE} \not\equiv \overrightarrow{SN} \rightarrow \mathcal{N}\left(t_{-1}, \ddot{F}_{-1}, SN_{-1}, AN_{[-1,0]}\right) \setminus \mathcal{D}\left(t_1, \ddot{F}_1, S_1^{AE}, AR_{[-1,0]}\right)$: in this case we have a praxeological equivalence between the actional subject and the evaluating subject, as well as a difference between the two on the one hand, and the normative subject, on the other hand. The possible consequences are, again, the four situations which we already analysed, because, although the evaluating subject and the actional subject can "agree" on the implemented action, therefore about the accomplishment of the purpose, and on the unintentional consequences that occurred by the implementation of that particular action, the normative subject may have a different "opinion".

Based on types of occurrence we may now state the types of statements.

We have seen that in the economic (more generally, social) field, almost all statements fall into two categories: a) prescriptive statements[1] $(.)$; and b) descriptive statements – $\mathcal{D}(.)$. In terms of their form, these statements are function of five variables: moment of formulation, involved subjects (two in each case), purpose and action (see paragraph 3.9.1). We may strike out the time variable, because it is decided that the prescriptive statement will be formulated before the accomplishment of the action associated to the prescribed purpose, while the descriptive statement will be formulated after the accomplishment of that action. We may also remove the variable referring to the action because we may presume that the differences between the prescribed action and the actually accomplished action are preserved in the differences between the prescribed purpose and the actually accomplished purpose (of course, only nominally, because the differences between the prescribed purpose and the actually accomplished purpose are of a different nature than the differences between the prescribed action and the accomplished action). We may also remove the variable referring to the actional subject, because the differences between the prescribed actional subject and the actual actional subject can also be found (nominally, too) within the differences between the prescribed purpose and the accomplished purpose. Therefore, according to the previous notations, the two types of statements have the following form:

- Prescriptive statement: $\mathcal{N} = \mathcal{N}\left(SN, \ddot{F}\right)$;
- Descriptive statement: $\mathcal{D} = \mathcal{D}\left(SE, \ddot{F}\right)$.

[1] In some cases, they will be of a mixed type: predictive-prescriptive, that is, what we earlier named presdictive (or presdictions).

All the four occurrence values proposed earlier (A, $\bar{A}_+$, A_-, $\bar{A}$) are possible because of the differences between $\ddot{F}$ and $\dddot{F}$, correlated with (forcing the language we might also say: generated by) the praxeological differences between SN and SE[1].

We will no give names to the statements of $4\mathcal{A}$ logics, as they verify the occurrence values (Table 1).

Table 1. Typology of statements within $4\mathcal{A}$ logics

Value of occurrence	Type of statement[2]
A	Performative statement ($\mathcal{N}_{[\mathrm{p}]}$)
$\bar{A}_+$	Convenient, non-performative statement ($\mathcal{N}_{[\bar{\mathrm{p}}\mathrm{c}]}$)
A_-	Non-convenient performative statement ($\mathcal{N}_{[\mathrm{p}\bar{\mathrm{c}}]}$)
$\bar{A}$	Non-performative statement ($\mathcal{N}_{[\bar{\mathrm{p}}]}$)

2.2. Significance of the Values of Occurrence

It is obvious that the significance of the occurrence values proposed in $4\mathcal{A}$ logics, which we find adequate to the economic field (otherwise, broadly, to the social field) is no longer related to the correspondence-truth concept, specific to the natural field. In conclusion of this chapter we would like to make some comments on the significance of the prescriptive statements[3] associated to the values of occurrence.

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[1] The reader has already learned that the differences between the two categories of subjects are praxeological differences, namely differences of design and evaluation of the purpose. Although it is not impossible that the two subjects also are ontologically different (i.e., different natural persons), we are only interested in the praxeological differences.

[2] This typology of the statements refer, of course, to the prescriptive statements, after they were tested by comparing them with the associated descriptive statements (the same procedure as for the values of truth from the classical bivalent logics, where the typology of the statements made reference to the predictive statements, after they were tested by comparison with the associated descriptive statements).

[3] Actually, prescriptive statements can also be found in the natural domain, but they are conditional prescriptive statements, while in the economic field, the prescriptive statements are unconditional. A prescriptive statement is conditional if the involved norm depends on (is function of) the occurrence some random condition(s) stipulated by that specific norm, and is unconditional if no such conditions are stipulated. Usually, the conditional prescriptions are called instructions of procedures (they are of the following general form: "if condition x occurs, then act in manner y" or, "if you aim x result, then act in manner y", etc.). on the contrary, the unconditional prescriptions are of the following general form: "you have to act in manner x" or "you have to do this or that", etc. Grammatically, we may also have formulations such as "this or that objective is to be accomplished" or, "this or that action is to be carried out", or even more vaguely "this or that phenomenon will have the following evolution…". Although no imperatives appear explicitly in the latter three types of formulations ("must to", "have to", etc.), these imperatives are implicit because, as mentioned several times before, they cannot take existence unless being accomplished by the subject.

- *Performative statement* ($\mathcal{N}_{[\mathrm{p}]}$). The value of occurrence of this prescriptive statement a is noted with A. A performative statement signifies that the purpose prescribed within it has been accomplished through the action associated to that purpose. Furthermore, this statement "specifies" that no unintended consequences[1] appeared while accomplishing the purpose, therefore this was done "with no rest". Purely analogically, this type of statements corresponds to the type of true statements from the bivalent logics;

- *Convenient, non-performative statement* ($\mathcal{N}_{[\bar{\mathrm{p}}\mathrm{c}]}$). The value of occurrence of this prescriptive statement a is noted with $\bar{A}_{+}$. A convenient, non-performative statement signifies (by the term *non-performative*) that the prescribed purpose has not been accomplished; however, some consequences unintended by the normative subject were produced, which are convenient to the evaluating subject (by the term *convenient*). We have two things to notice here: a) the unintended consequences must also be convenient for the normative subject, because the attribute of *convenient* also bears on the prescriptive statement, which has been formulated by the normative subject; b) the unintended convenient consequences don't mean a partial accomplishment of the purpose, but they merely, and unavoidably, accompany the unfulfillment of the purpose. The suggestion of benefit associated to a failure cannot be circumvented here[2]. Purely analogically, this type of statements corresponds to the types of statements from the bivalent logics;

- *Non-convenient performative statement* ($\mathcal{N}_{[\mathrm{p}\bar{\mathrm{c}}]}$). The value of occurrence of this prescriptive statement a is noted with A_{-}. A non-convenient performative statement signifies (by the term *performative*), that the prescribed purpose has been accomplished and that consequences unintended by the normative subject were produced during the process, which are non-convenient to the evaluating subject (shown by the term *non-convenient*). Same as before, there are two things to notice: a) the unintended consequences must be non-convenient to the normative subject too, because the attribute of *non-convenient* bears on the prescriptive statement formulated by the normative subject; b) the unintended non-convenient consequences don't mean a partial failure of the purpose, but they merely, and unavoidably, accompany the accomplishment of the purpose. The suggestion of

[1] The problem of evaluating the unintended consequences while accomplishing a purpose is not that simple. Logically, the assessment of the appearance or not appearance of consequences beyond the purpose can not be done unless there is a benchmark. But the prescriptive statement expresses no such consequences. Would they have been expressed, they would no longer be unintended, thus being part of the purpose. We revert thus to the initial problem, not having a benchmark to evaluate the unintended consequences. The situation "worsens" further when praxeologically, $\mathrm{SN}_{-1} \not\equiv \mathrm{SE}_{1}$.

[2] This is an idea to be developed subsequently, because it seems to us that it has a great explanative potential for the process of evaluating the human action in general.

transaction cost associated to a performance cannot be circumvented here[1]. Purely analogically, this type of statements has no correspondent in the types of statements from the bivalent logics

- *Non-performative statement* ($\mathcal{N}_{[\overline{\mathrm{p}}]}$). The value of occurrence of this prescriptive statement a is noted with $\bar{A}$. A non-performative statement signifies that the prescribed purpose has not been accomplished through the action associated to that purpose. Furthermore, this statement "specifies" that no unintended consequences appeared while trying to accomplish that purpose, therefore this was done "with no rest".

Purely analogically, this type of statements corresponds to the type of false statements from the bivalent logics.

[1] The concept of cost of transaction is well known to the economists: that cost (not necessarily monetary) which accompanies any transaction (here, the term of transaction is taken in its most general meaning, of voluntary, inter-subject, interaction), and it ads to the price of the transaction. Therefore, we have a price of transaction ($\mathrm{p_t}$), we have a cost of transaction ($\mathrm{c_t}$) and we have a transactional price ($\mathrm{p^T}$), so that: $\mathrm{p^T} = \mathrm{p_t} + \mathrm{c_t}$. NB: $\mathrm{c_t}$ must be recalculated in units equivalent with those used to measure $\mathrm{p_t}$ (for instance, in monetary units).

A Look at the Trend and Features of the Romanian Current Account over the Past Years

Camelia Milea[1]

Abstract: The balance of the current account provides the possibility of assessing the level of economic development of a country, its degree of foreign dependence and the international specialization of each economy. This article[2] aims to analyze the evolution of the Romanian current account balance and of some of its components during the period 2013-2016, showing the determinants and some of the factors influencing Romania's current account. Also, there are analysed the ways of financing the Romanian current account deficit, highlighting the advantages and disadvantages of this financing structure. The research methods used consist in comparative analysis in time, qualitative and quantitative evaluations, interpretations and correlations. The analysis shows that the services sector has developed, which increased the surplus of the services subaccount. Another result highlights that currently, the evolution of the current account deficit is sustainable in Romania. Also, the author concludes that the current account deficit of Romania has been and is still financed mainly from inflows of foreign direct investments.

Keywords: services; deficit; financing; investment; foreign credits

JEL Classification: F14; F21; F32; G01

1. Introduction

The balance of the current account, one of the main components of the balance of payments, provides the opportunity of assessing the level of economic development of a country, its degree of foreign dependence and the international specialization of the economy.

Starting with 2014, the international methodological framework used to compile the balance of payments and the international investment position has been updated, due to the requirements of the users of information, to the experience

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[2] The article is based on the chapter "The assessment of the external equilibrium", from the research project "The financial stance of Romania, edition 2016" elaborated in CFMR "Victor Slăvescu" in 2016, under the coordination of C. Marin, PhD.

gathered by the theoreticians and practicians and to the global microeconomic and macroeconomic evolutions. The new methodology is presented in IMF Balance of Payments and International Investment Position Manual, the sixth edition (BPM6), which replaces the older version, BPM5 from 1993. The new standards provided by BPM6 aim to enhance the completeness, the coherence and to harmonise the balance of payments with other sets of macroeconomic data such as the national accounts, the statistics of the governmental finances, the monetary and financial statistics, etc. (IMF, 2009, 2015)

The paper analyses the evolution and structure of the current account of Romania in the period 2013-2016 and outlines some directions of action for the management of the macroeconomic policies with impact on the foreign balance.

While before the onset of the international economic and financial crisis (particularly as of 2003) the deficit of the trade balance increased continuously on the background of higher imports than exports dynamics , this evolution slowed down after 2008, when the trade balance improved meaning that the high rate of deficit increase diminished. In 2015 and 2016, the increase rates of the trade balance deficit have been higher than in 2013 and than the year before, existing the possibility of returning to a high trade deficit.

2. Analysis of the Trend of the Current Account Balance and of Some of Its Components

In Romania, the evolution of the current account is influenced preponderantly by the trend of the goods and services subaccount. The trade balance (goods) holds the majority within this subaccount.

In 2013-2016, the exports and imports of goods and services, as well as the exports and imports of goods have increased moderately; both year to year, and compared to the year of basis, 2013. As of 2015, the annual rate of increase of the imports of goods and services was higher than the annual rate of increase of exports of goods and services. In the case of goods, the annual rate of increase of imports was higher than the annual rate of increase of exports in each year of the surveyed period (Chart 1). It can be noticed that the rate of increase of imported goods was higher than the rate of increase of imported services. (Milea, Ailincă & Bălăşescu, 2016)

The deficit of net exports decreased in 2014 on the background of an annual rate of increase of exports of goods and services higher than the annual rate of increase of the imports of goods and services, after which it increased in 2015 and 2016, when the comparative situation of the two annual rates of increase reversed.

This situation can be explained mainly by the continuous increase of the trade balance deficit in 2013-2016, on the background of an increasing surplus of the services subaccount. This situation, if it will continue, can be regarded as an evolution of the Romanian economy towards the economic structure of the developed countries, which have a very developed services sector.

Chart 1.

Source: author calculation based on National Bank of Romania (NBR) data (National Bank of Romania, 2017)

Analysing the structure of services, it can be noticed that road transportation accounts mostly for the positive evolution of this subaccount.

An explanation is that Romania is the eastern border of the European Union and that it borders the Black Sea. As many imports of the European Union member states are done via the Black Sea, we may speak, mostly, of transit transportation through Romania.

Considering the high demand for transportation through Romania, in order to capitalize on this opportunity, given the precarious quality of the road infrastructure in Romania, the author considers to be absolutely necessary to develop the road infrastructure at a rapid pace, as priority of our country.

The structure of exports has improved somehow in 2016, on the background of an higher increase of exports of goods incorporating more innovation and of higher added value (medium high-tech exports have reached 47.6% in mid 2016 in the total exports of domestic companies). (National Bank of Romania, 2016)

The surplus of the services subaccount is also largely supported by the services of goods processing, but also by telecommunications, IT and information services. The processing services bring low added value to the national economy, but the telecommunications, IT and information services bear high added value and their development should be supported. (Milea, Ailincă & Bălăşescu, 2016)

The exports of goods accounted for less than one third of the GDP in 2013 and 2014, which shows the low capacity of the exports to capitalise on the opportunities provided by the opening of the Romanian economy towards the international markets, the insufficient level of adjustment of the industrial production to the demands of the foreign markets, as well as the absence of a macroeconomic policy which should consolidate the Romanian exports. A positive fact is, however, the slight, although discontinuous, annual increase of the indicator, which shows an improving situation of the Romanian economy as the exports increase.

The consolidation of the positive trend, qualitatively and quantitatively, of the exports should be a priority for the macroeconomic policies during the following period, by attracting investments in high added value areas, by creating the premises for a more intense foreign trade activity in branches that presume a high level of innovation and technology, by increasing the capacity of the Romanian companies to adapt to the high standards of the foreign markets and by consolidating the capacity of these companies to cope with possible unfavourable evolutions.

The slight increase of the imports of goods during the surveyed period (Chart 1) can be explained both by the slowdown of the domestic demand (for the final consumption of households and for the intermediary consumption), and by the real depreciation of the national currency. The evolution of the imports should avoid creating a dependency of the national production on imports, which might affect the sustainable development of the Romanian economy, also ensuring a balance between the demand for national products and the demand for imported goods.

Both the imports of goods and those of goods and services increased slightly between 2013 and 2016, situation which is reflected in the evolution of the proportion of goods imports within the GDP, which increased slightly each year (Chart 1).

In each year of the period 2013-2016, the proportion of goods imports within the GDP exceeded the share of exports of goods within the GDP. This evolution has negative effects on the trade balance and on the level of national debt.

A possible explanation for the high level of Romanian imports might be the dependence of the domestic consumption on imports, particularly on consumer goods. Within this context, the sustainable development of the national economy presumes the orientation of the domestic consumption towards national products, both by stimulating the Romanian producers to provide the demanded goods, at high quality standards, and by intensifying the quality inspection made by the authorities, as well as by raising the awareness of the Romanian consumers towards the national goods.

The trade deficit increased each year, between 2013 and 2016 (Chart 2), with higher rise in 2015 and 2016. The growth of the trade balance deficit is explained by the higher dynamics of the imports than that of the exports. The domestic demand for consumer goods is one of the major factors driving this evolution.

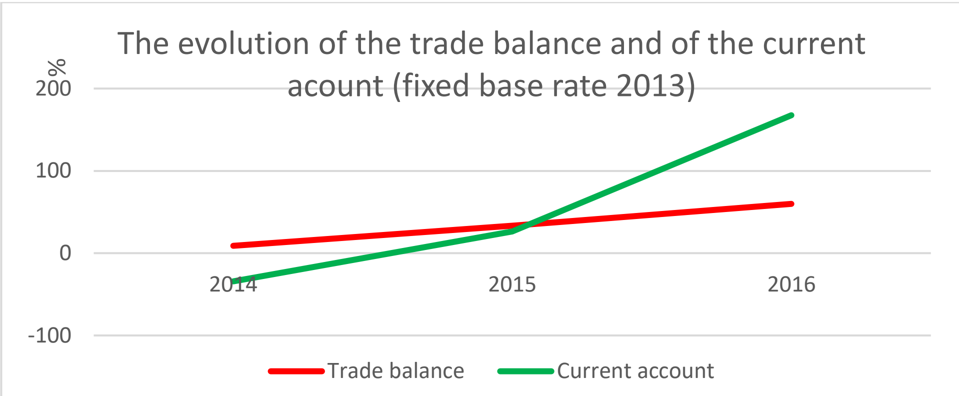

Chart 2

Source: author calculation based on NBR data (National Bank of Romania, 2017)

The increasing negative proportion of the trade balance deficit within the GDP shows a detrimental effect of the trade balance on the domestic economic process. Therefore, macroeconomic measures are required to stop the outflow of national income.

The current account deficit decreased much in 2014 compared to the previous year due to the significant increase of the surplus of the services subaccount and of the important reduction of the deficit of the direct investment income subaccount, even though the trade balance worsened and the surplus of the secondary income account decreased. The current account deficit increased in 2015 and 2016 due to the higher deficits of the trade balance and of the direct investment income subaccount, despite the increasing surpluses of the services and secondary income subaccounts (in 2015 compared to 2014) (Chart 2).

Another explanation for the increase in the current account deficit refers to the internal structural changes of the economy on the background of the process of convergence.

The important decrease of the current account deficit of Romania, as a proportion of the GDP, compared to the period before 2009, is a favourable element for the overall evolution of the Romanian economy, although it is not due to the reorganisation of the national economy on sustainable bases, rather to the effects of the financial-economic crisis, which means it doesn't have a deep, lasting character. The low proportion of the current account deficit within the GDP between 2013 and 2016 shows only a slight negative effect of the current account balance on the internal economic process, the values of this indicator being below the conventional threshold of current account deficit sustainability (5% of the GDP). One can notice, nevertheless, that the evolution of this indicator in 2013-2014 reversed in 2015-2016, the proportion of the current account balance within the GDP returning to an increasing trend that can be explained by the consistent deterioration of the trade balance within the GDP in 2015-2016 (Chart 3).

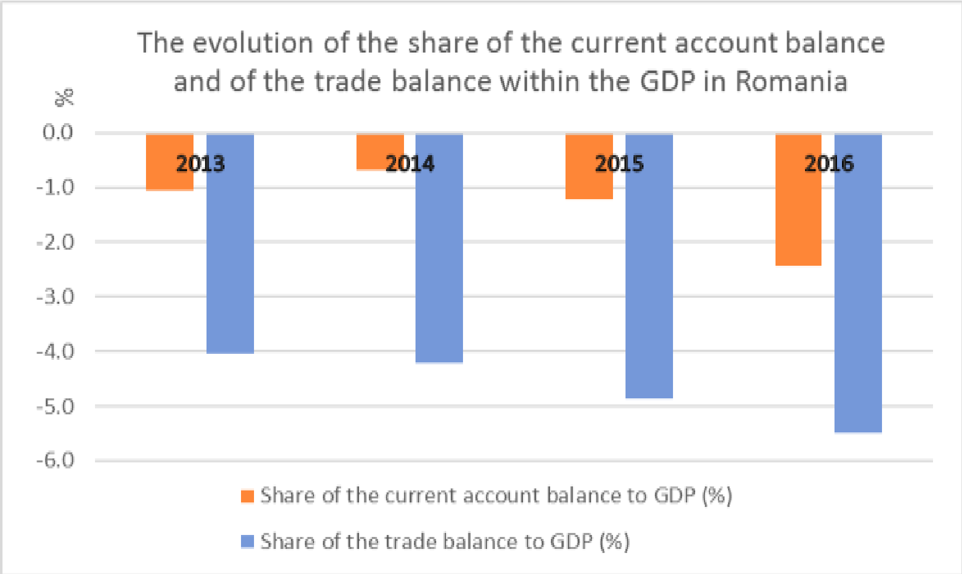

Chart 3

Source: Author calculation based on NBR data (National Bank of Romania, 2017)

We can presently speak of some degree of sustainability compared with the precrisis period (2005-2008); thus, according to RFS2016, the current account deficit in real terms was, at the end of 2016, almost 10 times lower than in 2007, and the rate of increase of the trade deficit is much smaller. However, the trend of increase of the current account deficit is expected to continue in the following period according to RFS2016; the European Commission has forecasted an increase in the current account deficit, to 2.6% of the GDP, in 2017, due to the rise in domestic consumption and demand.

Under these conditions, in order to avoid the return to high levels of current account deficit as before the occurrence of the effects of the international financial crisis, the author considers to be imperative the adoption of policies which should ensure the current account deficit sustainability on the medium and long term, and monitoring the evolution of this indicator.

Although large according to the international standards, the current account deficit of Romania, as proportion within the GDP, has not been worrying, as long as its financing has been ensured, particularly by inflows of foreign direct investments. The Romanian economy seems to have opened abroad faster than it has restructured. (Milea, Ailincă & Bălăşescu, 2016)

Consistent, coherent and deep measures of reorganisation of the national economy should be taken, as soon as possible, in order to temper the increase of the current account deficit within the GDP.

If analysing the proportion of trade balance within the current account balance during the surveyed period 2013-2016, one can notice that the main cause of the current account deficit has been the situation and evolution of the trade balance (Chart 4), the other subaccounts of the current account having a reduced activity compared to the trade balance. Therefore, one can state that the trade deficit might decrease and could support the decrease of the current account deficit only if the implemented macroeconomic policies support the decrease of the imports (or of their value) (both those for the production and, particularly, those for consumption) and the increase of the exports, particularly by improving the quality and the added value of the exported goods.

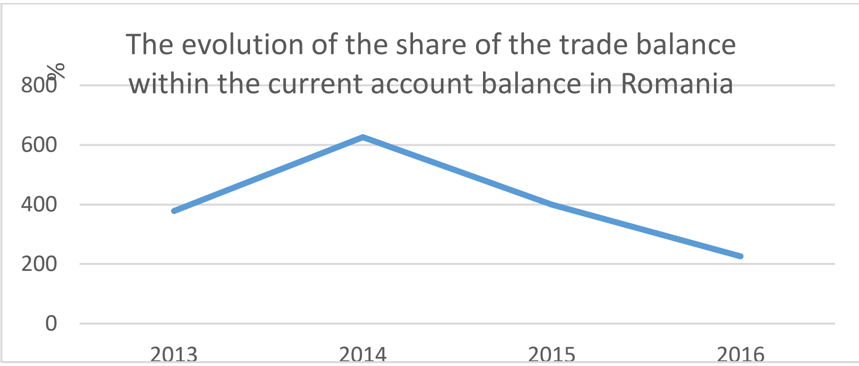

Chart 4

Source: author calculation based on NBR data (National Bank of Romania, 2017)

When we analyse the extent to which the imports are covered by exports (of goods and services) we notice that the indicator nears 100%, which shows that the trade balance deficit is offset in a certain degree by the surplus of the services subaccount (Chart 5).

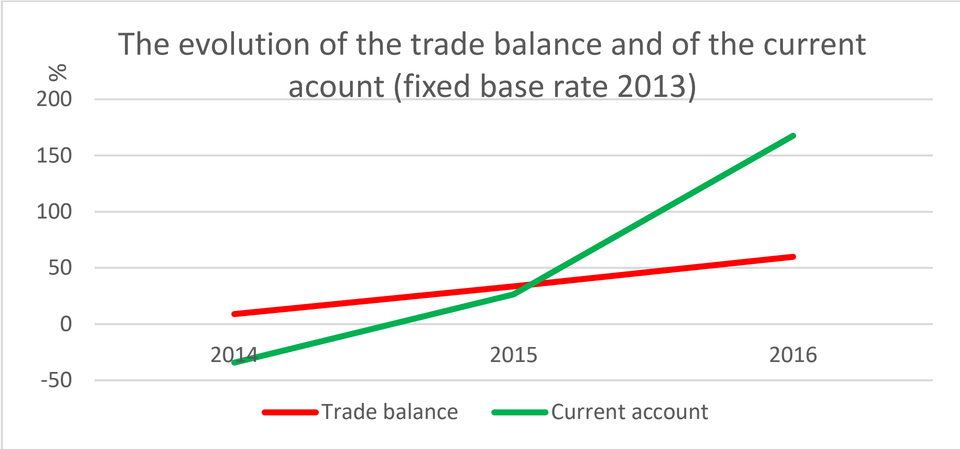

Chart 5

Source: Author calculation based on NBR data (National Bank of Romania, 2015, 2016)

Although the compensation for employees contributed little to the reduction of the current account deficit during the surveyed period, they influenced positively the evolution of the current account balance.

3. The Analysis of the Funding the Current Account Deficit

If until de start of the global economic and financial crisis there was an important level of foreign direct investments inflows to Romania, confirming the high level of trust of the foreign investors in our country, once the crisis began, the possibilities of attracting foreign direct investments decreased both at the international level, by an almost generalized risk aversion, and especially at the local and regional level, on the background of the regional tensions, such as the war from Ukraine, but also because of the characteristics of our country. Thus, the depletion of objectives that could be privatized, the precarious transportation infrastructure, the lack of fiscal facilities, of viable strategies to draw strategic investors, among others, resulted in a modest rate of attraction and capitalization of direct foreign investments in Romania.

The current account deficit of Romania has been and is still funded mainly from inflows of foreign direct investments which amounted from 2930 million euro in 2013 to 4804 million euro in 2016. In 2016, the balance of foreign direct investments was by 30.7% higher than in 2016.

In 2014 there was the highest level of current account deficit funding by the foreign direct investments, on the background of a strong decrease of the external deficit. In 2016, the level of current account deficit covering by the foreign direct investments was lower than in 2014 and 2015, as the current account deficit has increased strongly (Chart 6).

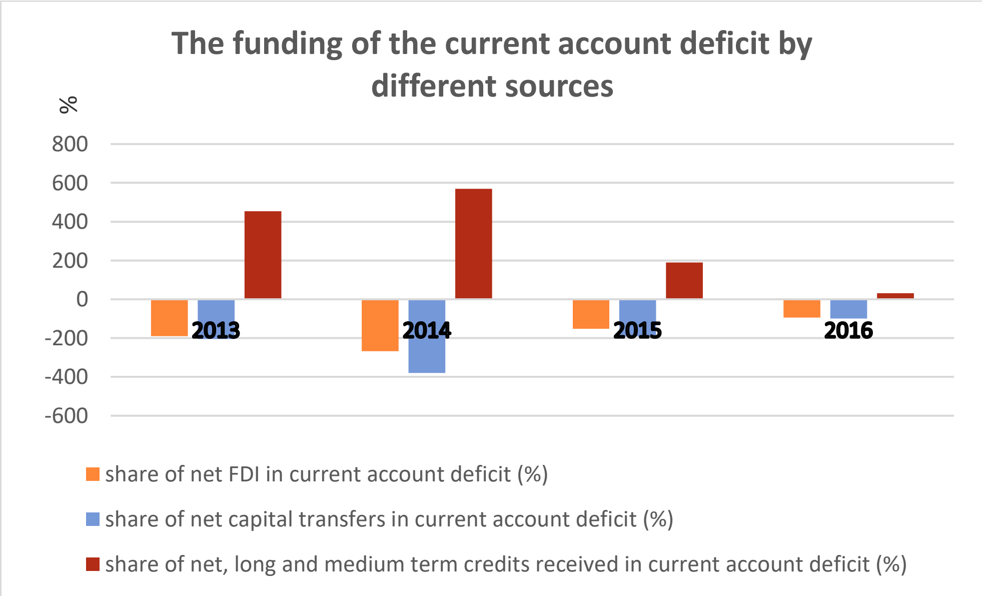

Chart 6.

Source: author calculation based on NBR data (National Bank of Romania, 2017)

Note: the negative sign shows the counter-balance of the current account deficit, while the positive sign signifies the contribution to the formation of the current account deficit

In Romania, the foreign direct investments are mainly investments of non-residents for 2013-2016, fact reflected by the balance of the direct investments subaccount. The inflows of foreign direct investments of non-residents have increased during the surveyed period, which reflects an improved perception of the foreigners about our country. Between 2013 and 2016 the direct investments of the Romanian abroad have increased also. In terms of the net balance, the direct investments decreased slightly in 2014 compared to 2013, followed by increase in 2015 and 2016, which signifies higher engagements of our country towards non-residents, therefore a negative influence on the international investment position.

According to Financial Stability Report [FSR] 2016, the advance payment of the equity and investment funds shares was the main element determining the increase of net inflows of direct investments. This reflects the improvement of capital inflows quality since 2015 and the reduction of instruments such as the debt. On the background of a higher confidence of the investors in the Romanian economy, the reinvestment of earnings remained positive and increased in 2016, after having negative values in 2008-2014. (National Bank of Romania, 2016)

Given the surveyed period (2013-2016), in 2014, the surplus of capital transfers contributed mostly to offsetting the current account deficit on the background of an important decrease of the current account deficit and of the high positive balance of the capital transfers compared to the other years of the surveyed period. The surplus of the capital transfers account signifies that Romania continues to receive funds from the European Union and from other international organisms, under different forms.

The evolution of the medium and long-term credits marked a turning point in 2011. Thus, in 2005-2010, the medium and long-term credits offset the current account deficit. As of 2011, however, within the context of paying back part of the credits received previously, this indicator contributed to the formation of the balance of payments (Chart 6), with decreasing absolute values in 2015-2016.

We may say that Romania pays, starting with 2011, for the massive foreign loans taken during the previous period. Thus, the increase of the foreign debt generates microeconomic risks (higher exposure to a possible external shock and stronger effects on the Romanian banking system), but also has macroeconomic implications in terms of the foreign debt sustainability. The increase of the medium and long-term foreign debt might bring about problems through the exchange rate channel (the sudden depreciation of the national currency would increase significantly the cost of foreign funding), through the confidence channel (the alteration of the feeling and perception of the investors would increase the risk premium, therefore the cost of foreign funding), through contagion (through a regional economic, political or social shock), or even through a shock within the national economy, of conjunctural or structural nature. We are currently facing some of these consequences (unfavourable perception of the investors, high cost of foreign funding). Chart 6 shows that both foreign direct investments and the transfers of capital contribute to covering the current account deficit. As of 2011, the net medium and long-term credits have increased the current account deficit.

The correlation of the current account deficit with its sources of financing should be the object of an in-depth analysis, considering that the inflows of foreign direct investments have been and still are a very important factor to offset the current account deficit in Romania, but with a decreasing share.

4. Conclusions

The exports and imports of goods and services increased moderately between 2013 and 2016, as well as the exports and imports of goods. Between 2014 and 2016, the rate of growth of the imports of goods was higher than that of the exports, which worsened the trade balance and the current account balance.

The structure of the exports of goods improved somehow in 2016, in the context of a faster increase of the exports of goods incorporating more innovation and higher added value.

One can also notice the development of the services sector, which increased the surplus of the services subaccount. Among the services, the road transportation accounts for most of the positive evolution of this subaccount.

In the context of the high demand for transport through Romania, given the precarious state of the road infrastructure in Romania, the author considers to be absolutely necessary to develop the road infrastructure at a faster rate as a priority of our country, in order to capitalise on this opportunity.

The low proportion of exports of goods within the GDP should generate the turn of the macroeconomic policies towards drawing investments in sectors with high added value, by creating the premises for a more intense foreign trade activity in branches which presume a high level of innovation and technology; respectively by increasing the capacity of the Romanian companies to adapt to the high standards of the foreign markets and to consolidate their capacity to cope with possible unfavourable conditions.

The evolution of the imports should avoid creating a dependency of the national production on imports, which might affect the sustainable development of Romania's economy, ensuring a balance between the demand for national products and the demand for imported products.

Currently, the evolution of the current account deficit is sustainable in Romania. The considerable decrease of the current account deficit, as proportion of the GDP, compared with the period before 2009, is not due to the reorganization of the Romanian economy on sustainable bases, but mostly to the effects of the economic-financial crisis, which means that its character is not long-lasting. The share of the current account deficit within the GDP between 2013 and 2016 is below the conventional threshold of sustainability (5% of the GDP). However, the evolution of this indicator in 2013-2014, reversed in 2015-2016, the share of the current account deficit within the GDP increasing. This might also be explained by the considerable deterioration of the trade balance, as proportion of the GDP, in 2015-2016, the evolution of the trade balance being the main cause of the current account deficit in Romania. Thus, one might say that the economy needs rather a moderation the commercial openness and a more efficient reorganisation.

Under these conditions, in order to avoid returning to the high levels of current account deficit in Romania from the period before the display of the effects of the international financial crisis, policies must be adopted in order to ensure the medium and long-term sustainability of the current account deficit and to monitor the evolution of this indicator.

The current account deficit of Romania has been and is still financed mainly from inflows of foreign direct investments, which decreased after the crisis has started due to an almost generalized risk aversion, to the regional tensions and to the characteristics of our country.

It can be noticed that both foreign direct investments and the transfers of capital contribute to offsetting the current account deficit. On the other hand, as of 2011, when Romania started to pay back partly the foreign loans received before, the medium and long-term credits exacerbate the current account deficit.

The correlation of the current account deficit with its sources of financing should be analysed in-depth, considering that the inflows of foreign direct investments have been and still are a very important factor in financing the current account deficit in Romania, but with a decreasing contribution (share).

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Fiscal Resilientors in the Economic Dynamics

Diana-Maria Drigă[1]

Abstract: The paper intends to introduce and clarify a new concept, the fiscal resilientor, defined as automatic fiscal stabilizer that presents the resilience property. In the first place, the paper clarifies the resilience and automatic fiscal stabilizer concepts. The two concepts are defined in a logical perspective, through the identification of sufficiency predicates. In addition, the following concepts are proposed that make up the conceptual family of resilience: stability, robustness, autopoiesis, inertia, homeostasis and antifragility. Next, the fiscal resilientor concept is clarified at syntactic and pragmatic level, and the criteria for designing fiscal resilientors are outlined. The last part of the paper presents the fiscal resilientor operation mechanism, as well as the aspects highlighting the relevance of the fiscal resilientor concept to the economy.

Keywords: fiscal resilientors; resilience; automatic fiscal stabilizers; discretionary fiscal policy

JEL Classification: E62; G18; H30

1. Introduction

The paper attempts to clarify the resilience and automatic fiscal stabilizer concepts. By connecting the two concepts, a new concept will be introduced, namely the *fiscal resilientor.* In order to define the above-mentioned concepts the sufficiency predicates are first established, which confer them the following status: resilience, automatic fiscal stabilizer and fiscal resilientor. The paper brings a novelty element, namely the introduction of the fiscal resilientor concept. The fiscal resilientor concept will be clarified from the semiotics perspective, at syntactic and pragmatic level.

The paper has the following structure:

- identification of the conceptual family of resilience;
- establishment of sufficiency predicates of resilience and the resilience concept definition;

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- establishment of sufficiency predicates of the automatic fiscal stabilizer and definition of this concept;
- clarification of the introduced concept – *fiscal resilientor* – at syntactic and pragmatic level;
- operation mechanism of fiscal resilientor;
- conclusions.

In this paper we shall refer to the automatic fiscal stabilizers as species of automatic stabilizers and to the fiscal resilientors, as species of resilientors.

2. The Resilience Concept

2.1. Literature Review

In this paper, in our approach to clarify the resilience concept, we consider it necessary to identify a list of concepts that will compose the conceptual family of resilience. In the first place, some references will be made to the resilience concept as it is found in the literature. Thus, the following interpretations of the concept are highlighted.

In a first interpretation, the resilience of a system is defined as: the *"bounce back"* of a system to the pre-existing state or pathway following a shock, condition or path that is assumed to be stable or in equilibrium. This definition has in view the etymology of the word, which derives from the Latin word *resilio* - to bounce back.

This definition belongs to the ecologist Holling (1973), who, in his papers, referred to the "ecological resilience", specific to the ecosystems: "the resilience is a measure of the ability of these systems to absorb changes of state variables, driving variables, and parameters, and still persist" (Holling, 1973, p. 18).

A third interpretation of resilience comes from the psychological field. The individual resilience has been defined as: "the successful adaptation to life tasks in the face of social disadvantage or highly adverse conditions" (Windle, 1999, p. 163). Other authors defined resilience as: the coping abilities of individuals to maintain or regain their mental health from personal stress, trauma or various crises to which the individual has been subjected. (Masten, 1990; Kaplan, 1996)

Nassim Nicholas Taleb, in his book "*Antifragile: Things That Gain From Disorder" (2012),* provides a complex approach to the resilience concept, by clarifying the robustness and fragility concepts, mainly through the introduction of the *antifragility* concept in the literature. The author comes with the following interpretation of the concept: *"the resilient resists shocks and stays the same, the antifragile gets better".* (Taleb, 2012, p. 3)

2.2. Conceptual Family of Resilience

The paper next presents the conceptual family of resilience, which, in our opinion, includes the following: stability, robustness, autopoiesis, inertia, homeostasis and antifragility. In our opinion these concepts are defined as follows:

- *stability* represents the ability of a system to maintain its reference parameter value within a pre-accepted numerical interval;
- *robustness* represents the ability of a system to preserve its structure following the external shocks;
- *autopoiesis* represents the capacity of the system to restore its initial conditions following the external shocks;
- *inertia* represents the ability of the system to preserve its structure, by integrating external shocks and dissipating their effect into its internal structure, accumulating change-related stress up to a certain limit;
- *homeostasis* represents the property of a system to integrate the external shocks, dissipating their effect into its internal structure, within limits that allow it to preserve its identity;
- *antifragility* represents the ability of the system to gain more advantages than disadvantages from the external shocks, having internal structures capable of obtaining these advantages. The antifragile systems are able to look for advantages brought by disturbances, not only to avoid, counteract or treat the disadvantages.

2.3. Sufficiency Predicates of Resilience

In order to define the resilience concept, we shall next identify the sufficiency predicates of this concept. Before pinpointing the sufficiency predicates of resilience, we shall make some clarifications on the predicates of sufficiency.

The sufficiency predicates are those attributes that, wholly verified by an entity, give it a certain qualification. The sufficiency predicates have the following characteristics: none is the logical outcome of another, none is contradictory to another and they are verified at the same time. In fact, these characteristics refer to the conditions of independence, consistency and completeness that the predicates of sufficiency must fulfill (Dinga, 2011).

In the case of resilience, we consider the following sufficiency predicates:

- robustness;
- “accumulability”.

We shall next clarify the two sufficiency predicates that were identified.

Robustness represents the ability of a system to preserve its structure following the external shocks. "Accumulability" represents the ability of a system to accumulate the change-related stress caused by external shocks up to a certain acceptability limit.

The predicates mentioned above fulfill the conditions of independence, consistency and completeness. Thus, we can define resilience as*: the ability of a system to preserve its structure following the external shocks through the accumulation of the change-related stress produced by the external shocks up to a certain acceptability limit.*

3. The Fiscal Resilientor

3.1. Sufficiency Predicates of the Automatic Fiscal Stabilizer

We shall follow the same logic for defining the concept of automatic fiscal stabilizer, namely the punctual identification of sufficiency predicates of this concept. We shall use the following notation, AFS, to refer to the automatic fiscal stabilizer.

Thus, we consider the following sufficiency predicates of an AFS:[1]

- it is normatively generated, being a construct of institutional type;
- its operation is automatic (non-discretionary);
- it is a construct of structural type, having a permanent character and discontinuous action;
- it has an anti-cyclic effect, acts in the opposite direction of the variation of variable it controls;
- it is a macro-economic construct, its action targets the dynamics of macro-economic variables, the finality of an AFS is to reduce the macro-economic output volatility;
- it is context dependent, the design of the institutional path is achieved by the explicit indirect public policy;
- AFS action is over-proportional in relation to the variation of controlled variable, otherwise the dynamics of the process would not be influenced.

[1] The author Dinga, E. provides an approach to the automatic fiscal stabilizers from the perspective of sufficiency predicates in the book "Economic sustainability through adjustment policies in the globalization context" (Dinga, 2011).

These predicates fulfill, two by two, the independence, consistency and completeness conditions specific to the sufficiency predicates. Thus, we can set forth the following definition of the automatic fiscal stabilizer.

Now we can define an AFS as: *an institutional instrument, normatively generated, with automatic triggering mode, having a structural character and anti-cyclic action, aiming at reducing the macro-economic output volatility.*

3.2. Clarification of the Fiscal Resilientor Concept - at Syntactic and Pragmatic Level

This part of the paper introduces the fiscal resilientor concept. The fiscal resilientor is that institutional instrument called automatic fiscal stabilizer presenting the resilience property. As we have mentioned in a previous paragraph, the clarification of this concept will be made at syntactic and pragmatic level.

We shall next use the notation FR to refer to the fiscal resilientor.

We define the fiscal resilientors syntax as a logical concatenation of fiscal resilientors. The syntax is that part of semiotics that connects the signs.

We shall exemplify a logical concatenation of two fiscal resilientors, FR1 and FR2. We shall have the following situations:

- FR1→ FR2 (implication) – FR2 is triggered by the FR1 action; FR2 will produce the final effect;
- FR1 and FR2 (conjunction) – the simultaneous action of the two resilientors will be necessary to produce the final effect;
- FR1 and FR2 (disjunction) – FR1 action or FR2 action will be necessary to produce the final effect;
- FR1↔ FR2 (equivalence) – the action of the two fiscal resilientors on the final effect is similar.

At the same time, we consider that for the clarification of the fiscal resilientors syntax, it is useful to analyze their typology. Thus, we shall mention the classification criteria and the classes of fiscal resilientors related to these criteria.

Criterion 1 – way of action:

- Non-mediated FR: their action is directly exercised on the target variable;
- Mediated FR: their action is exercised on an intermediate variable, which in its turn will update the target variable.

Criterion 2 – final target (macro-economic variable upon which FR will act):

- FR that targets the aggregate demand components;

- FR that targets the aggregate supply components.

Criterion 3 – FR impact transmission channel (fiscal policy instrument used by FR to transmit its action to the target variable):

- progressive taxation of personal income – FR affects the disposable income;
- progressive taxation of corporate profit;
- unemployment benefit – FR affects government spending;
- para-fiscal levy – FR affects the disposable income by levying social contributions of any kind;
- social assistance – FR that affects government spending through different types of transfers: social aid, minimum guaranteed income, social subsidies.

Pragmatics is that part of semiotics that links the sign to the sign user. In our case, the sign is represented by the fiscal resilientor. As regards the sign user, this will have in view:

- producers of sign: normative authority. In the case of the fiscal system, the normative authority is represented by the Ministry of Public Finance (MPF), which designs the fiscal policy;
- consumer of sign; in our case, the consumer of the fiscal resilientor is represented by the National Agency for Fiscal Administration (NAFA).

The normative authority will design a FR through a (discretionary) explicit indirect public policy. After meeting the pre-established conditions, FR will trigger an action on the controlled macroeconomic variable (macro-economic output).

NAFA has a passive relation with regard to FR, it is an observer relation, is does not have the ability to intervene on the fiscal resilientor. If NAFA finds anomalies in the tax payers' fiscal behaviour, it communicates these anomalies to the Ministry of Public Finance. MPF can take the following steps:

- introducing a new FR to correct the fiscal behaviour anomalies;
- removing a particular FR that has determined these fiscal behaviour anomalies;
- modifying the FR that has determined the fiscal behaviour anomalies.

4. Operation Mechanism of the Fiscal Resilientor

Before describing the FR operation mechanism, we consider it necessary to make some clarifications regarding to the design of fiscal resilientors by the normative authority, MPF. In order to design a FR, MPF has in view the following aspects:

- the role that RF has to play;
- the institutional conditions that enable FR implementation and operation in the established period;
- the rules for monitoring and adjusting the FR operation**.**

The purpose for which a FR is designed is to reduce the volatility of macro-economic output. Thus, a FR must be able to reverse the economic processes it controls. The key criterion in designing a FR is the identification of an inverse process to the controlled process. Therefore, for a FR to function, it is necessary to construct at institutional level pairs of processes that act in the opposite direction to each other. These pairs of processes are next referred to as *the current process and reverse process.* The reverse process will control the current process, automatically, avoiding too great variation of the controlled process.

After the completion of FR design stage and establishment of FR role, the institutional conditions in which it will effectively function will be next established. Thus, the most important institutional condition for FR operation is to provide an institutional grid. This institutional grid represents, in fact, an institutional framework that contains thresholds. The institutional grid will allow automatic triggering of FR, following verification of pre-conceived conditions introduced in the causal functioning mechanism of FR. FR monitoring rules refer to FR testing and maintenance. When designing the FR, the procedures for monitoring the setting into operation of FR and also the effects of FR must be also designed. By monitoring the FR operation, the weaknesses and strengths of its operation will be identified, thus providing the feedback needed for FR stability and effectiveness. The fiscal resilientor operation mechanism refers to transmitting the stabilization impulse of a FR over the target variable, taking into consideration the pre-established conditions that allow automatic FR triggering. As FR is an institutional construct of structural type, it is sensitive to the structure modifications that have been produced at the level of controlled macro-economic variable. Thus, we need to make sure that the controlled macro-economic variable produces, with its variations, structural changes. When a predetermined threshold of this variation is exceeded, the fiscal resilientor is spontaneously activated and produces the programmed change through the corresponding transmission mechanism. Therefore, the institutional conditions are very important in FR design. The existence of an institutional framework of controlled economic variable variation, which should contain thresholds, i.e. an institutional grid, is essential in FR operation.

5. Conclusions

The paper represents a theoretical basis for clarifying the resilience and automatic fiscal stabilizer concepts. At the same time, by introducing the resilientor concept, it brings its contribution to the theoretical research in this field. In this paper, the new concept that has been introduced, i.e. resilientor, is clarified at syntactic and pragmatic level.

We can highlight the following aspects:

- resilience means the ability of a system to preserve its structure from external shocks, through the accumulation of change-related stress produced by external shocks up to a certain acceptability limit;
- the automatic fiscal stabilizer is an institutional instrument, of normative nature, with structural character, with macro-economic scope, with anti-cyclic action and implicit (automatic) triggering, aiming at reducing the volatility of macro-economic output (GDP);
- the fiscal resilientor represents that institutional instrument called automatic stabilizer that presents the resilience property.

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Assessing Nature Conservation and Tourism Development Effectiveness towards Local Economic Development in South Africa: Nuanced by the Perceptions of Local Communities?

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Abstract: Tourism development around protected areas is perceived a major development opportunity for rural sub-Saharan Africa. This study was conducted in South Africa to investigate how local communities living around a nature reserve, uKhahlamba-Drakensberg Park (a World Heritage Site) in KwaZulu-Natal Province of South Africa, evaluate the effectiveness of nature conservation and tourism development towards their local economy. Quantitative data were collected using a structured respondent-completed questionnaire from simple-randomly selected respondents. Descriptive and bivariate data analyses yielded information used to address research objective. Local community members who were surveyed declare that the 'development strategy' seems to be the main issue adversely affecting community participation in conservation practices and tourism development around uKhahlamba-Drakensberg Park. It is therefore recommended that nature conservation and tourism development strategies in rural South Africa align with the sustainable rural development critical success factors outlined in this paper. This will support optimising local economic development successes, especially in rural sub-Saharan Africa.

Keywords: Natural resource management; local community; local participation; tourism development; sub-Saharan Africa.

JEL Classification: O55; R11; Z32

1. Introduction

Much recent studies which focus on community-based natural resource management in sub-Saharan Africa advocate for sustainable management of natural resources, and for such management to use accepted governance best

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practices regarding local stakeholders' involvement, decentralised powers to local actors, capability-building, and fair allocation of resources (such as Dell'Angelo et al., 2016; Diawuo & Issifu, 2015; Dyer et al., 2014; Ezeuduji, 2017; Ezeuduji, 2015; Jugmohan et al., 2016; Kamoto et al., 2013; Measham & Lumbasi, 2013; Mueller et al., 2015; Musavengane & Simatele, 2016; Rid, Ezeuduji, & Pröbstl-Haider, 2014; Thondhlana et al., 2015). They mostly assume that local communities will welcome natural resource management as a vehicle to spur on their socio-economic development. This study will enquire the effectiveness of nature conservation and tourism development towards a local economy. It can be argued that local perceptions towards nature conservation and tourism development in their area could be positive, sceptic or negative. Local perceptions, based on literature, will suggest conclusions and recommendations toward this development. Tourism as well as general natural resource management, may not always bring the benefits that the local communities expect (Nkwanyana et al., 2016; Mdiniso et al., 2017). Hence, local communities' active involvement is usually desired in tourism or natural resource management.

Ezeuduji and Rid (2011) posit that motivation for locals' active involvement in tourism are critical to successfully integrate local communities into their tourism development. Akama and Kieti (2007, pp. 746 – 747) outline some of the ways in which tourism can significantly contribute to sustainable rural development in developing nations to include: (1) creation of clear opportunities for local employment; (2) supporting collaboration among local actors, namely private and public sectors, non-governmental organisations, and local population; (3) enhancing socio-cultural impacts of tourism; (4) allowing local community access to services and infrastructure provided for tourists; (5) enabling local population participation; and (6) fostering continuous institutional capacity-building to support locals' active participation. Ezeuduji and Rid (2011, p. 190) label Akama and Kieti's (2007) first, third and fourth critical success factors as "desired outcomes", and the second, fifth and sixth factors as the "enablers" to achieve "the desired outcomes". It is therefore expected that when these factors are in place, local communities will view tourism development positively and be spurred to participate positively in this development.

Moreover, Ezeuduji (2017) suggests that addressing risks and contingencies inherent in local communities' involvement in rural development in sub-Saharan Africa does involve regular reviews of local communities' strengths and weaknesses and external threats and opportunities. This evaluation will identify local communities' knowledge, capabilities, and sources of leverage they require to embark on local development. Delgado-Serrano et al. (2015, 2016) argue that many local communities who are collectively managing common pool resources lack the context-specific knowledge and skills that are needed for such management. In this situation, capability-building, community empowerment and participation skills are needed to overcome these obstacles. Thus, Howard (2017) recommends community skills' development regarding participatory rural governance and negotiated accountability that assist natural resource management.

This study is aimed at enquiring the effectiveness of nature conservation and tourism development towards a local economy, using local communities living around a nature reserve, uKhahlamba-Drakensberg Park (a World Heritage Site) in KwaZulu-Natal Province of South Africa, as the respondents. It therefore means that the results of this study will be applicable to the area of study, and cannot be generalised nationally or internationally. The pointers for the sustainable management of natural resources and governance best practices relating to context-specific knowledge and local capacity, local communities' involvement in policy formulation, planning and management, and fair allocation of resources (Mdiniso et al., 2017), are explored in this research. This paper is significant in elucidating specific ways of optimising nature conservation and tourism development strategies to support participatory governance in natural resource management.

The nature reserve, uKhahlamba-Drakensberg Park, covering about 240,000 hectares, is situated in KwaZulu-Natal Province of South Africa, offering scenic beauty, hiking, fishing, swimming, rock climbing, mountain biking, horse riding, boating, bird watching and relaxed atmosphere. It is declared a World Heritage Site for rock art and endemic flora in the year 2000, by the United Nations Educational, Scientific and Cultural Organization (Nature Reserve-South Africa, 2017). Respondents for this study are recruited from local communities living close to uKhahlamba-Drakensberg Park.

2. Literature Review

Nzama (2009), in South Africa, argue that conservation of natural resources and tourism development are perceived as drivers of regional economic development within communities living around protected areas, such as uKhahlamba-Drakensberg Park. Other researchers in South Africa, such as Jugmohan et al. (2016) posit that community-based tourism provides opportunity for rural communities to develop their natural and cultural heritage into tourism activities, to their own benefit. They argue (Jugmohan et al.) that mass tourism does not offer such opportunity. Communities may decide to offer services such as arts and crafts, tourist guiding, traditional performances, local cuisine, etc. to tourists who are likely to demand these. Saayman and Ferreira (2009) posit that the establishment of protected areas which has been focussed on nature conservation, has now encompassed economic sustainability and local community upliftment.

However, some researchers, especially those in developing nations, unearthed tensions that may exist between local communities and protected areas' managers.

Brousse-James (2009), at uMlalazi Nature Reserve in South Africa, uncovered poor relationships and unresolved problems between conservation agencies and communities living close to the protected area. Sebola (2006) spoke about the history of conflict between the local communities and managers of protected areas in South African wildlife landscape. These tensions arose mostly from unresolved traditional ownership and difficult cross-cultural communication (Strickland-Munro & Moore, 2013), and can lead to hostile attitudes towards conservation agencies (Fu et al., 2004; Hamilton et al., 2000; Jim & Xu, 2002), conflicts that can jeopardise protection policies, and the effectiveness of biodiversity conservation in protected areas (Lane, 2001).

Research evidence suggests that local communities will more likely commit themselves to conservation strategies if their knowledge and opinions are incorporated into conservation decision-making process (Fu et al., 2004; Gelcich, et al., 2005; Mascia, 2003; Pretty & Smith, 2004). Evidence from Kgalagadi Transfrontier Park and its surrounds in South Africa reveal that collaborative governance, with its practical appeal, can be limited by 'lack of participation in decision-making, information dissemination, transparency, trust and accountability, power relations, divergent interests and unequal access to natural resources' (Thondhlana et al., 2015, p. 121). These can result in difficulties, in the enforcement of conservation policies (Chape et al., 2008; Fu et al., 2004; Ramutsindela, 2007).

Involvement of local communities in natural resource management can be achieved by carefully creating the desire for the local communities to become partners of conservation management and changing local attitude through active participation (Tosun, 2001). When communities have a high degree of control or ownership of the resources and activities (such as tourism) around their protected areas, they will likely develop a positive attitude towards conservation management (Brooks, 2005). This will ensure that they receive a significant share of the economic benefits of tourism, such as direct revenues and employment, upgraded infrastructures, environment and housing standards (Stronza, 2007; Telfer & Sharpley, 2008). Baquiano (2016) in Philippines, discussed the use of social representations theory to effect social change. It is therefore important to know how local community members understand natural resource management and how interventions and policies can be designed and implemented to foster sustainable natural resource management. Discussions with different groups in the local communities can help to address concerns regarding natural resource management. However, Vuola and Pyhälä (2016) in Madagascar, revealed that attempts were made by conservation authorities to involve local communities in nature conservation and local development processes, but these attempts were met with local scepticism, reinforcing existing power-play and inequalities within local communities. Tang and Zhao (2011) and Fischer (2003) reported that in natural resource management, local communities do tend to focus more on their short-term interests and mostly neglect strategic environmental issues.

These difficulties notwithstanding, some authors have cited how good practices in community-based natural resource management can be promoted. Dell'Angelo et al. (2016) advised that local stakeholders' involvement, capacity-building, decentralised powers to local actors, equitable allocation of resources, are good practices. Dyer et al. (2014, p. 144) elaborated on defining 'community' at an early stage and delineating target participants; choosing methods for representative community engagement; employing a trustworthy project manager among the participants; clearly stating aims and objectives of the project with communities at the beginning; two-way communications and community access to all locally-based project staff at all times; and being flexible and adaptable in project design, as successful strategies in natural resource management. Musavengane and Simatele (2016) posit that building strong social capital towards successful collaborative resource management projects, hinges on local participation, adequate transparency, reciprocity and effective communication. Howard (2017) recommends the development of community skills in participatory rural governance and properly negotiated accountability that support natural resource management, as good practices in community-based natural resource management.

3. Research Method and Design

This research was conducted between July and December 2016. It assessed local community's perceptions of nature conservation and tourism development effectiveness towards local economic development. It targeted local communities living around a nature reserve, uKhahlamba-Drakensberg Park, in KwaZulu-Natal Province of South Africa. Individual responses of community members were required to eliminate bias due to group pressure. The study was more exploratory and descriptive, than conclusive and explanatory. Method of gathering quantified responses from respondents seem more logical in this research, than method of gathering qualitative responses (Veal, 2011). The researchers therefore employed structured questionnaire survey, using respondent-completion approach, of simple-randomly selected local community members living around uKhahlamba-Drakensberg Park, to gather data for subsequent analyses. 250 community members were surveyed, but 202 questionnaires received were usable for descriptive and bivariate analyses, to address research objective. Variables introduced in the questionnaire were categorical and ordinal in nature, emanating from previous studies cited in literature review.

For data analyses, frequencies of responses were first determined, followed by Pearson Chi-Square tests. IBM's SPSS software (IBM Corporation, 2016), was employed for data analyses. Pearson Chi-Square tests identified relationships between respondents' profile and other questionnaire's categorical statements. (Ezeuduji et al., 2016a, b; Veal, 2011; Zondo & Ezeuduji, 2015). Statistical tests were performed at 95% confidence interval.

4. Results and Discussion

Results in Table 1 reveal that female respondents were somewhat in the majority, with the population being fairly young (about 70% of the respondents are under the age of 35). The population is mostly Black and many are single (owing to the average age of the sample), with close to 80% having secondary or tertiary education. Unemployment is quite high in the population (about 41%), hence majority have very low income level (about 70% do not earn more than R5000 /$385 per month – at the time this paper was written, $1 is about R13).

Table 1. Profile of the respondents (N = 202)

Profile of respondents		
Variable	**Category**	**Frequency (%)**
Gender	Female Male	54.5 45.5
Age group	15 – 24 years old 25 – 34 years old 35 – 44 years old 45 – 54 years old 55 – 64 years old 65 + years old	50.5 19.8 16.8 6.9 4.0 2.0
Cultural group	Black White Indian Coloured	83.1 12.9 1.0 3.0
Marital status	Married Single Widowed Divorced	24.8 72.2 2.0 1.0
Highest level of education attained	No formal education Primary level Secondary level Tertiary level Other	11.9 5.9 47.5 30.7 4.0
Employment	Employed Unemployed	59.4 40.6
Income level per month	Less than R1000 per month R1001 - R5000 R5001 - R10000 R10001 - R15000 R15001 +	41.6 25.0 14.6 4.2 14.6

Table 2 shows some interesting results that need to be highlighted. In as much as more than 86% of the sample understand the meaning of conservation and its importance towards local economic development, and 56% of the respondents agree that their community is participating in nature resource management; however 32% stated that the economic rewards of conservation are not being received by the community, and close to 40% of them declared that the community is not satisfied with tourism development. 28% of respondents declared that community is not consulted regarding tourism development; and about 26% stated that tourism development does not contribute to infrastructural development in their locality. 42% of the respondents are not aware of successful conservation practices in their area, and about 44% of them are not aware of successful tourism practices in their area. Responses to statements were compared with the respondents' profile and the results can be seen in Table 2.

Table 2. Conservation statements compared with respondents' profile (N = 202)

	Yes (%)	**No (%)**	**Not sure (%)**	**Compared with respondents' profile [a]**
Meaning of conservation				
Do you understand the meaning of conservation?	**86.1**	9.9	4.0	***more males agree, ***age group 25–54 agree most, ** Secondary and Tertiary level education agree most, ***employed individuals agree more.
Is conservation important for your local area?	**88.2**	5.9	5.9	NS
Community involvement in conservation				
Is your community participating?	56.0	**28.0**	16.0	*more females agree, **age group 45–54 agree most, ***employed individuals agree more, ***income level up to R5000 per month agree most.
Are you aware of conservation practices that contribute to community development in your area?	53.5	**35.6**	10.9	*more males agree, *more White population agree than other races, **age group 45–54 agree most, ** married population agree most, ***employed individuals agree more, ***income level less than R1000 disagree most.
Community is satisfied with tourism development	44.0	**39.6**	16.4	**more males agree, **age group 25–54 agree most, *employed individuals agree more, *income level less than R1000 disagree most.

Qualities of infrastructure and services have improved	53.5	**33.3**	13.1	*married population agree most, ***employed individuals agree more.
Nature reserve has impacted positively on community	51.0	**25.0**	24.0	*more Coloured agree than other races, **age group 45–54 agree most, ***no formal education agree most, ***employed individuals agree more, ***income level less than R1000 disagree most.
Economic rewards received by the community	53.0	**32.0**	15.0	**age group 15–24 agree most, *secondary level education agree most.
Conservation practices be implemented for the benefit of all	**71.0**	16.0	13.0	*more Blacks agree than other races, * married population agree most, *employed individuals agree more.
I perceive visitors' experiences satisfactory	56.0	**26.0**	18.0	**age group 35–54 agree most, ** married population agree most, ***employed individuals agree more, ***income level less than R1000 disagree most.
Nature reserves contribute adequately to community tourism	53.7	**26.3**	20.0	***age group 45–54 agree most, **married population agree more than others, **employed individuals agree more.
Community views of tourism activities				
Employment opportunities will support poverty reduction	**84.0**	11.0	5.0	**more males agree, ***more Blacks agree than other races, * singles population agree most, **tertiary level education agree most, *unemployed individuals agree more.
Community is consulted regarding tourism development	52.0	**28.0**	20.0	*more White population agree than other races, **age group 45–54 agree most, ** married population agree most, ***income level less than R1000 agree most.
Community is aware of economic benefits of tourism	44.0	**25.0**	31.0	*more females agree, *more Blacks agree than other races, ***income level less than R1000 agree most.
Tourism contributes to job creation and employment	**84.0**	8.0	8.0	*more males agree, **employed individuals agree more.

Community is aware of potential negative impacts of tourism on environment	45.0	**31.0**	24.0	*more females agree, *more Whites agree than other races, *age group 45–54 agree most, ** married population agree most, *no formal education agree most, ***employed individuals agree more, ***income level less than R1000 disagree most.
Tourism development contribute to infrastructural development	59.6	**26.3**	14.1	*more Whites agree than other races, *employed individuals agree more, ***income level less than R1000 agree most.
Implementation of conservation and tourism practices				
I am aware of successful tourism practices in my area	36.4	**44.4**	19.2	*more Whites agree than other races, **age group 45–54 agree most, ** married population agree most, **employed individuals agree more, *income level less than R1000 disagree most.
I am aware of successful conservation practices in my area	25.0	**42.0**	33.0	***age group 45–54 agree most, ** married population agree most, ***employed individuals agree more.
I am aware of successful conservation practices outside my area	21.2	23.2	55.6	*age group 25–34 agree most, * singles population agree most, **tertiary level education agree most, ***employed individuals agree more.
Do you think more intervention strategies are needed for conservation, tourism planning and development in your area?	**63.4**	17.8	18.8	**more Blacks agree than other races, ***age group 25–54 agree most, ** married population agree most, *no formal education agree most, ***employed individuals agree more, **income level less than R5000 agree most.

[a]Pearson Chi-Square test significance. NS, no significant results.*, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.000$.

Local community members were then asked to evaluate conservation practices and tourism development effectiveness in their communities. The results in Table 3 relay some good news for conservation agencies and tourism stakeholders around uKhahlamba-Drakensberg Park. About 75% of local community members declare they understand the idea behind the conservation of natural resources and about 78% of them believe that local communities benefit from nature reserves. 71% of respondents believe that conservation is beneficial to tourism, and about 84% of them declare that tourism growth has brought business opportunities. However, close to 34% of them disagree that local communities are involved in policies' formulation, 25% disclose that harvesting of natural resources is not well managed in their area, 25% declare that related tourism benefits are not available in their area, and about 26% of the respondents stated that tourism development has not improved their area. These results support previous findings that tourism and natural resource management may not always bring the benefits that the local communities expect (Nkwanyana et al., 2016; Mdiniso et al., 2017).

It seems however from these results that the "development strategy" is the main issue affecting community participation in conservation practices and tourism development around uKhahlamba-Drakensberg Park. This statement is evidenced by the 30% of the respondents who reason that strategies have not been successfully implemented. Akama and Kieti (2007), in the introduction section of this paper, provided "enablers" that will support local communities to view tourism development positively and be spurred towards active participation.

Table 3. Respondents' evaluation of conservation practices and tourism development effectiveness [a] (N = 202)

Statements	**Strongly agree or Agree (%)**	**Neutral (%)**	**Disagree or Strongly disagree (%)**	**Compared with respondents' profile [b]**
Local communities are involved in policies' formulation	51.5	14.9	**33.6**	*more Whites agree than other races, ***age group 15–24 disagree most, ** married population agree most, ***no formal education agree most, ***employed individuals agree more.
The conservation of natural resources is well understood	**75.2**	9.9	14.9	***age group 15–24 disagree most, ***tertiary education agree most, ***employed individuals agree more, ***income

				level less than R5000 agree most.
Tourism growth has brought business opportunities	**84.2**	4.0	11.8	*age group 45–54 agree most, **tertiary education agree most, ***income level less than R1000 agree most.
Local communities benefit from nature reserves	**78.2**	6.9	14.9	*age group 45–54 agree most, * married population agree most, **no formal education agree most, **income level less than R5000 agree most.
Local people participate adequately in tourism activities	60.4	22.8	16.8	*more males agree, ** married population agree most, *employed individuals agree more, ***income level less than R5000 agree most.
Community conservation has improved recently	60.4	16.8	22.8	**more males agree, *more Blacks agree than other races, **age group 45–54 agree most, *tertiary education agree most, ***employed individuals agree more, *income level less than R5000 agree most.
Related tourism benefits are available in my area	57.4	17.6	**25.0**	**more males agree, **more Whites agree than other races, *age group 45–54 agree most, ** married population agree most, **no formal

				education agree most, ***employed individuals agree more.
Local participation in planning and management is satisfactory	63.3	13.9	22.8	*more females agree, **more Blacks agree than other races, *age group 55–64 agree most, *no formal education agree most, ***employed individuals agree more.
Tourism development has improved my area	60.4	13.8	**25.8**	**more Whites agree than other races, ***age group 35–64 agree most, * married population agree most, *no formal education agree most, ***employed individuals agree more, *income level less than R1000 agree most.
Strategies have been successfully implemented	50.0	20.0	**30.0**	*more Coloured agree than other races, **age group 25–34 agree most, * married population agree most, *no formal education agree most, **employed individuals agree more, ***income level less than R1000 agree most.
The harvesting of natural resources is well managed in my area	48.5	26.3	**25.2**	*more Whites agree than other races, **age group 45–54 agree most, ** married population agree most,

				***employed individuals agree more, *income level higher than R15000 agree most.
Conservation is beneficial to tourism	**71.0**	11.0	18.0	**more Whites agree than other races, * married population agree most, ***employed individuals agree more.

Notes: aQuestionnaire were itemised along a 5-point Likert-type scale ranging from 1, strongly agree; 2, tend to agree; 3, neutral; 4, tend to disagree; 5, strongly disagree

bPearson Chi-Square test significance. *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.000$.

From the results in Table 3, community members tend to perceive nature conservation more favourably than tourism development. It may be argued that they want more from tourism development, which they perceive is where more economic benefits will accrue from. Differences in responses among local community groups are also shown in Table 3.

5. Conclusions

Majority of the local community members assert that tourism growth, due to nature conservation, has brought business opportunities around uKhahlamba-Drakensberg Park. Community members perceive nature conservation more favourably than tourism development. They want more from tourism development, which they perceive is where more economic benefits will accrue from. Local community members therefore, call for more direct local involvement in conservation and tourism development, which will enable them to enjoy more direct tourism benefits and improvements in their area. From the study results, the ‘development strategy’ seems to be the main issue affecting community participation in conservation practices and tourism development around uKhahlamba-Drakensberg Park, as a significant sample size put forward that development strategies have not been successfully implemented. It can then be further concluded that local community members are still doubtful that nature conservation and tourism development are solving their local economic development problems. It is therefore recommended that nature conservation and tourism development strategies in rural South Africa align with the sustainable rural development critical success factors outlined in the introductory part of this paper. The “enablers” and the “desired outcomes”, when in place, will enable local communities to view tourism development positively and be spurred towards active participation in this development.

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Statistical Analysis of the Evolution FDI Comparative with Growth Rate of Labour Productivity per Employed Person and Growth Rate of GDP per Capita

Rodica Pripoaie[1]

Abstract: This paper aims at making a comparative analysis of the evolution FDI rate influence in Romania vs growth rate of labour productivity per employed person and growth rate of GDP per capita. The starting point of this analysis is the position of FDI occupies in Romania, because the competition between firms and countries is getting is getting bigger due to globalisation. The comparative analysis of the evolution FDI comparative with growth rate of labour productivity per employed person and growth rate of GDP per capita in period 2003 - 2015 with adjusted data based seasonally used the average and the function AVEDEV, DEVSQ as well as the coefficient of variation and graphics.

Keywords: FDI (Foreign direct investment); GDP; growth rate of labour productivity per employed person; growth rate of GDP per capita

JEL Classification: E27

1. Introduction

The Foreign direct investment FDI, growth rate of labour productivity per employed person and growth rate of GDP per capita are annual statistical data of Romanian National Institute of Statistics.

Foreign direct investment (FDI) is defined by Eurostat as: "the category of international investment made by a resident entity (direct investor) to acquire a lasting interest in an entity operating in an economy other than that of the investor (direct investment enterprise); the lasting interest is deemed to exist if the investor acquires at least 10 % of the equity capital of the enterprise; FDI stocks are the value of FDI assets (for outward FDI stocks) and of FDI liabilities (for inward FDI stocks) at the end of the reference period." http://ec.europa.eu/eurostat/web/products-datasets/-/tec00095.

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Growth rate of labour productivity per employed person is defined by International Labour Organisation as "the growth rate of output per unit of labour input". The output is considered as added value. http://www.ilo.org/empelm/units/employment-trends/lang--en/index.htm.

Growth rate of GDP per capita (annual %) is defined by Word bank as "annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources."[1]

2. Statistical Data

The Evolution of FDI in Period 2003 - 2015 with Adjusted Data Based Seasonally Statistical Data

According to the data provided by the www.insse.ro the evolution of FDI in Romania for the period 2003 - 2015 with adjusted data based seasonally, synthesised in the following tables.

Table 1. Foreign Direct Investment in Romania

Anul	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FDI (millions Euro)	9662	15040	21885	34512	42770	48798	48827	51414	53723	57851	59958	60198	64433
Growth rate of labour productivity per employed person (%)	5.6	10.2	5.8	7.3	6.5	8.4	-5.2	-0.5	1.9	5.7	4.4	2.3	5.3
Growth rate of GDP per capita (annual %)	6.0	9.0	4.8	8.7	8.5	10.3	-6.3	-0.2	1.6	1.1	3.9	3.5	4.5

Sources: http://www.insse.ro/cms/files/Web_IDD_BD_ro/index.htm

Analyse of Statistical Data

Analyse of statistical data for the evolution FDI comparative with growth rate of labour productivity per employed person and growth rate of GDP per capita in period 2003 - 2015 with adjusted data based seasonally use the average and the function AVEDEV, as well as the coefficient of variation and graphics, centralised as well as:

[1] https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG.

Table-2

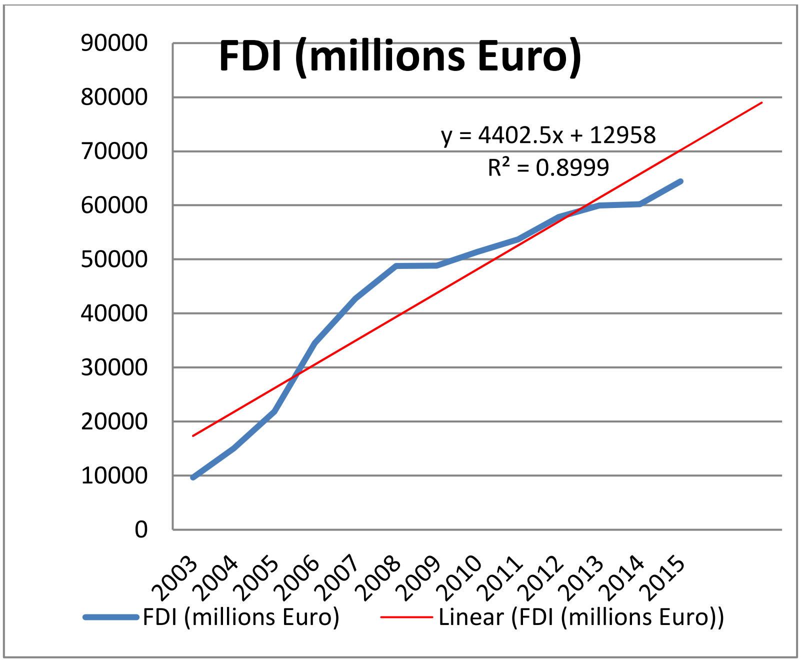
Function	Average	AVEDEV	Coeff. variation
FDI (millions Euro)	43774.69	14616.07	0,33
Growth rate of labour productivity per employed person (annual %)	4.44	2.97	0,67
Growth rate of GDP per capita (annual %)	4.26	3.38	0,79

Sources: own calculations

The comparative analysis by Growth rate of labour productivity per employed person (annual %) and Growth rate of GDP per capita (annual %) shows a perfect correlation, per total.

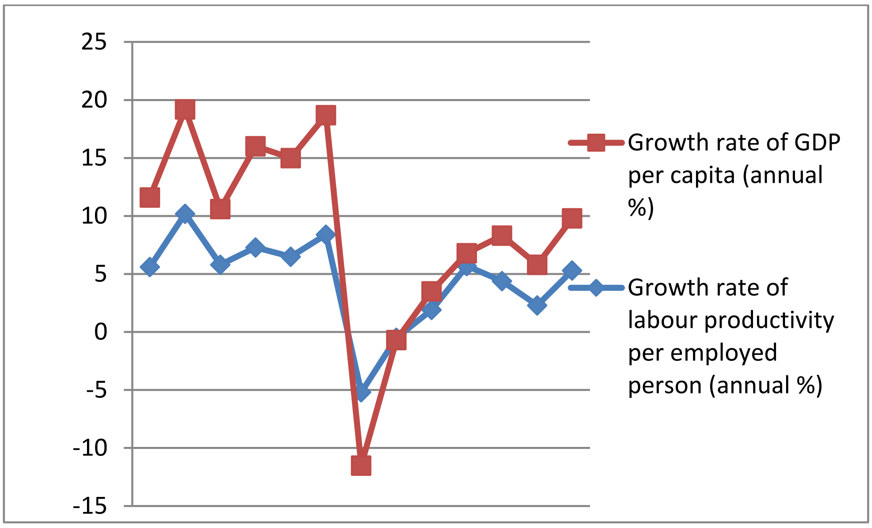
Graphical Evolution

The graphical evolution of FDI in Romania of 2003 – 2015, the forecast linear trend line and R-squared value is the following:



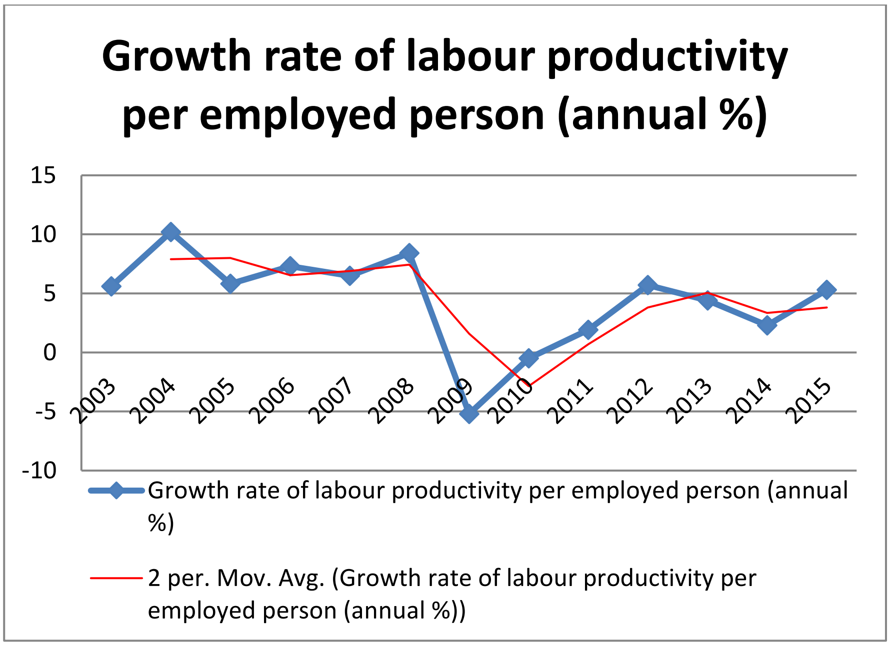
Graphic 1

Sources: own calculations

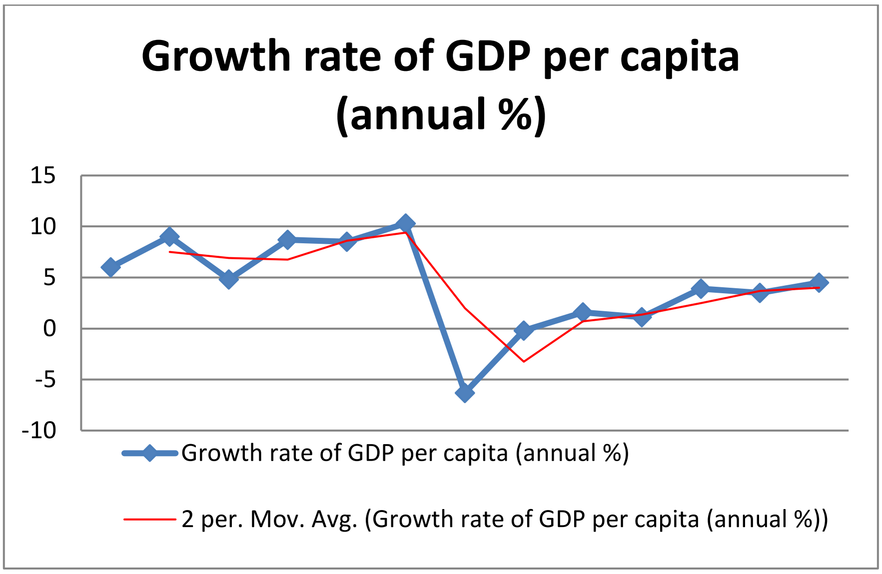


Graphic 2

Sources: Own calculations



Graphic 3



Graphic 4

As can be seen by using the smallest square method, both the series growth rate of labour productivity per employed person and growth rate of GDP per capita, can be estimated using the moving average trend line method, relative to FDI that are approximated by a linear regression equation. Thus, we consider that between FDI and the other two series is not a direct and strong correlation, the only correlated being growth rate of labour productivity per employed person and growth rate of GDP per capita.

3. Conclusions

This work trying to discover the correlation between FDI, growth rate of labour productivity per employed person and growth rate of GDP per capita. After analyzing the series we can say as decision to invest in a particular country through foreign direct investment depends by the level of taxation in that country, but also depends on the cost of the workforce and its level of qualification. The comparative analysis of the FDI, Growth rate of labour productivity per employed person (annual %) and Growth rate of GDP per capita (annual %) in period 2003-2015, shows a perfect correlation between Growth rate of labour productivity per employed person (annual %) and Growth rate of GDP per capita (annual %) per total, with adjusted data based seasonally used the average and the function AVEDEV, as well as the coefficient of variation, graphics and with moving average trend line method.

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