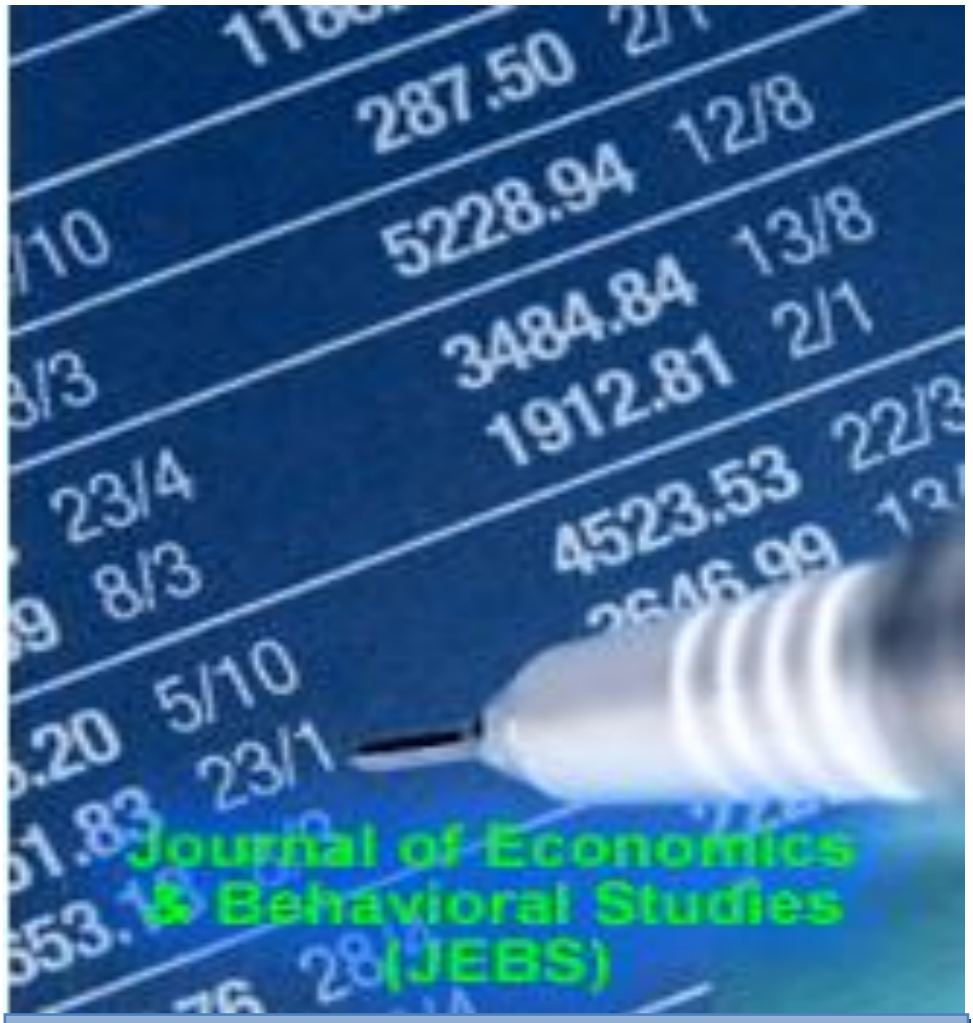

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Editorial

Journal of Economics and Behavioral Studies (JEBS) provides distinct avenue for quality research in the ever-changing fields of economics & behavioral studies and related disciplines. Research work submitted for publication consideration should not merely limited to conceptualization of economics and behavioral developments but comprise interdisciplinary and multi-facet approaches to economics and behavioral theories and practices as well as general transformations in the fields. Scope of the JEBS includes: subjects of managerial economics, financial economics, development economics, finance, economics, financial psychology, strategic management, organizational behavior, human behavior, marketing, human resource management and behavioral finance. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to JEBS. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. Journal received research submission related to all aspects of major themes and tracks. All submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The current issue of JEBS comprises of papers of scholars from Uganda, Nigeria, Palestine, Turkey, Germany and South Africa. Determinants of bancassurance adoption in emerging economies, adequacy of DEA in measuring the efficiency of public sector entities, investigating in the J-curve phenomenon, anchoring among German financial analysts and polity of regional integration development and the challenges hampering economic growth were some of the major practices and concepts examined in these studies. Current issue will therefore be a unique offer where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

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TABLE OF CONTENTS

Description	Pages
Title	I
Editorial	II
Editorial Board	III
Table of Contents	IV
Papers	V
Determinants of Bancassurance Adoption in Emerging Economies: Qualitative Evidence from Uganda Eva Mpaata, Rachel Mindra, Denis Ignatius Oula	1
Adequacy of DEA in Measuring the Efficiency of Public Sector Entities in Nigeria: A Comparative Analysis Approach Odewole, Philip Olawale	13
Investigating in the J-Curve Phenomenon in Tunisia- ARDL Bound Test Approach Elham Shubaita, Muhammad Mar'i, Mehdi Seraj	23
Anchoring among German Financial Analysts: An Empirical and Background Analysis Andre Tomfort, Paulina Wiegand	33
The Polity of Regional Integration Development and the Challenges Hampering Southern Africa Economic Growth Andrew Enaifoghe, Sandile Blessing Mkhwanazi	44

PAPERS

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Determinants of Bancassurance Adoption in Emerging Economies: Qualitative Evidence from Uganda

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Abstract: This study was conducted to establish the determinants of bancassurance adoption in emerging economies. The research adopted a qualitative approach based on interviews as a main form of data collection. The study pursued an inductive approach in order to generalize the results. In the analysis process, NVIVO software was used to analyze in detail the different qualitative responses obtained from the data collection phase. The research concentrated primarily on urban Kampala, which is endowed with the majority of commercial banks. This study provides a good insight into the factors (both internal and external) banks consider essential while providing the bancassurance service. As a result other prospect banks can be guided by these factors in their need to provide the bancassurance service. The research explores the supply side of the determinants banks focus on while providing bancassurance. This is new as the majority of studies take a look at the banks' demand-side perspective. In addition, the challenges faced by banks in offering bancassurance while providing alternatives to prospective banks are being included in the adaptation of bancassurance. The research is purely qualitative as opposed to most previous findings, which are either solely quantitative or partly quantitative and partly qualitative with respect to the determinants of the adoption of bancassurance. Specifically, the focus on bancassurance research in Uganda is also new and original, since bancassurance is new in Uganda.

Keywords: *Bancassurance, adoption, emerging economies, Uganda, supply-side.*

1. Introduction and Motivation of Study

Given the unprecedented era of change in the finance sector characterized by new technologies, new customer expectations, new regulations and new competitive pressures that are rapidly disrupting the traditional, financial business model banks and insurance companies have left no choice but to consolidate, hence bancassurance models. Banking and insurance are two important integrated financial services that affect not only individuals and companies, but also have a direct effect on the economic health of emerging economies (Al-Khalifah, 2018; Claessens, 2014). Many banks in these economies have not opted to fully provide bancassurance services and this is why it was necessary to consider the determinants of the bancassurance adoption and to decide if these determinants are in position to encourage other banks to provide the service. Integrated Financial Service Provision (IFSP) is beneficial to economies and firms as it improves the efficiency of the financial sector, broadens access to financial services, and reduces specific financial sector and overall economic volatility (Claessens, 2014). As bancassurance is a new innovation in the financial services sector in Uganda, an in-depth study of the determinants of its adoption is essential to the financial sector's innovation process in order to achieve a more sustainable financial system. The rise and penetration of Bancassurance.

Kayonde (2017) has been one of the major technology trends in the financial services sector in the last few decades. This work is also useful in Uganda, as Uganda's financial sector was the latest economy to adopt the business model for bancassurance (IRA, 2016). In Uganda, banking and insurance have undergone a great deal of change and growth as a result of innovative and supportive regulatory system changes see Financial Institutions Act, (2016) as amended that allow for technical innovations and synergic operations among sectors. The bancassurance industry is at an all-time high in terms of competition in Uganda and providers are challenged to attract new customers while retaining existing ones (Fan, Lai, & Lu, 2013). The identification of key determinants of the bancassurance business model embraced by insurance firms and commercial banks is therefore not only a vital competitive differentiator, but a requirement. Bancassurance is an evolving model for the sale / distribution of insurance products through the banking network, with the goal of growing market share, insurance penetration and thereby growing financial inclusion (Nyakomitta, 2017). Using the diffusion of innovation theory, the resource-based view theory and the unified theory of

technology of acceptance and use, the study looked at factors that influence the adoption of bancassurance by commercial banks in Uganda.

Context of Bancassurance in Uganda: Until the launch of Bancassurance, Uganda's insurance sector had risen to just 0.85 per cent. Nevertheless, with the introduction of Bancassurance, the redemption of Uganda's insurance sector grew to 18%. After October 2017, 17 commercial banks have been approved as insurance agents by the Insurance Regulatory Authority. More partnerships continue to form between insurance firms and the bank. In 2018, licensed banks only collected US$ 5.2 million (Ugx shs.19 billion) given the presence of a one-year bancassurance scheme. In this case, Stanbic Bank has a majority share of 50.22% of the premium booked in 2018. Barclays Bank came in second with 26.09%, DFCU Bank with 7.57%, Standard Chartered Bank with 5.29% and Diamond Trust Bank with 3.14%. Housing Finance Bank held a share of 2.14%, Orient Bank (2.21%), Bank of Africa (1.66%), NC Bank (0.61%), Exim Bank (0.35%), Finance Trust (0.18%), Kenya Commercial Bank (0.16%), and the Unit (Bank of Uganda., 2018). The 2016 Financial Institutions Amendment Act called for the implementation of bancassurance in Uganda. The Bank of Uganda was responsible for drawing up regulations to promote the smooth operation of the law, which was further approved by the Ministry of Finance, enabling commercial banks to offer bancassurance thereby complementing their existing product bouquets (Financial Institutions Act, 2016).

Statement of the Problem: Bancassurance incentives are perceived to be far reaching for commercial banks, insurance firms and customers which eventually also impacts on the economy in terms of contribution to GDP (Bank of Uganda, 2017). The provision of integrated financial services has been found to strengthen customer relationships, offering additional services at reduced cost, building better customer loyalty and retention among others (Claessens, 2003; Loechel, Brost, & Li, 2009). All these benefits are expected to be derived from the provision of bancassurance by the commercial banks if they get to offer insurance products alongside their traditional banking products. With the deregulation of insurance services in Uganda to allow commercial banks offer insurance products, many if not all, commercial banks were expected to embrace the bancassurance services to be able to enjoy the above benefits. This has however not been the case and according to IRA, (2018) report, the adoption rate has been termed as below par. In 2017 only two commercial banks out of twenty five were able to secure license to offer bank assurance and by December 2018, Eight (8) commercial banks had secured the license to offer the insurance services (IRA, 2018). What explains the slow adoption has not been established and research on bancassurance adoption in Uganda is still wanting. The majority of studies have been conducted in Kenya, Kombo (2019); (Mwangi, 2010) in addition to that, most of the empirical work on bancassurance focused on the benefits of bancassurance neglecting the determinants of its adoption (Arora & ain, 2013; Claessens, 2003; Kombo, 2019).

2. Methodology

The Philosophical Perspective: The study adopts a subjectivism philosophy which is premised on the principle that knowledge is based on personal interpretation and meanings individuals attach to a given phenomenon (Cresswell, 2011). This was considered appropriate given that the study sought to determine the factors influencing bancassurance adoption by inquiring about individual perception and experiences. Accordingly, this study sought to fill the gap in literature on the factors determining the adoption of bancassurance in emerging economies using Uganda as a case study. According to Ritchie, Lewis, Nicholls, and Ormston (2013), subjectivism as a research philosophy in social science posits that results depend on personal perceptions and personality of the activities in a social phenomenon.

Research Design: The study adopted a qualitative and cross sectional research design which involved collecting data at a particular point in time from the respondents using interviewing data collection method. The Interview data collection technique was used to gain an in-depth understanding into the adoption of bancassurance given that it is still a new innovation (Cresswell, 2011). A semi-structured interview guide was used to generate the data necessary for the study purpose. Interviews have long been used in soliciting responses from respondents in regards to innovation/product adoption (Robertson & Samy, 2015).The qualitative approach was considered appropriate for this study since it enables the researchers to solicit meanings and perception of individuals within the bank. The study also used an exploratory and narrative research approach which was deemed acceptable since it allows for an in-depth understanding of the

phenomenon (Creswell, 2009; Yin, 2008). The research therefore used an inductive lens in the investigation focusing on generating new theory emerging from the data (Magelah & Ntambirweki-Karugonjo, 2014).

Study Population and Selection Method: The study population consisted of 24 licensed supervised commercial banks that were considered eligible to provide bancassurance services and informed by 15 respondents determined using the principle of saturation(Bank of Uganda, 2018). Saturation refers to the point at which additional data generated from the study no longer give any new information as the number of the respondents increases (Glaser, 2018). Data was collected from Head Offices located in Kampala, given that bancassurance services is currently available at Head Offices only. The respondents were selected purposively which was considered appropriate since the study sought to get response from specific persons with relevant information from the bank (Cresswell, 2011). The respondents included principal officers/coordinators, managers and credit officers. These individuals were specifically selected because of their ability to adequately inform the study on bancassurance adoption.

Data Management and Analysis: Data were transcribed using Microsoft Word and then captured in Nvivo software. To simplify the coding process, operational concepts were used with the encoded categories grouped under tree nodes. This involved grouping quotations from the transcripts that represent each subcategory. This process enables the researchers to use the participants' own words as much as possible to maximize accurate representation of their (participants) views as opposed to those of the researchers. After the coding process, cross case analysis was done. For each of the codes, the different personal and societal capabilities identified will be compared. Careful analysis of the coded record assisted in ensuring that the domains derived accurately reflected the participants' perspectives. Cross analysis helped to identify the different determinants of bancassurance while comparing them to each of the codes. Careful analysis of the coded record helped ensure that the generated domains accurately reflected the experience of the participants.

3. Results, Discussion and Contribution of Study

Demographics of the Respondents: The study collected data from 15 interviewees, 14 principal officers and 1 credit manager from registered commercial banks. As seen in the demographic characteristics Table I most of the key informants were aged between 36 and 45 years of age, males, married, had acquired at least a bachelor's degree and had over 5 years of experience in the insurance business.

Table 1: Characteristics of Respondents

Cases	Age	Gender	Marital Status	Level of Education	Years in Insurance Business	Position Held at the Commercial Bank
1	26-35	Male	Single	Bachelor's Degree	7	Principal officer
2	36-45	Male	Married	Bachelor's Degree	11	Principal officer
3	46-55	Male	Married	Bachelor's Degree	6	Principal officer
4	36-45	Male	Married	Master's Degree	9	Credit manager
5	46-55	Female	Married	Bachelor's Degree	11	Principal officer
6	56-65	Male	Married	Bachelor's degree	5	Principal officer
7	56-65	Male	Married	Bachelor's Degree	5	Principal officer
8	36-45	Female	Married	Bachelor's Degree	8	Principal officer
9	36-45	Female	Married	Bachelor's Degree	7	Principal officer
10	36-45	Female	Married	Master's Degree	11	Principal officer
11	36-45	Male	Married	Bachelor's Degree	12	Principal officer
12	46-55	Male	Married	Bachelor's Degree	6	Principal officer
13	26-35	Male	Married	Bachelor's Degree	8	Principal officer
14	46-55	Male	Married	Bachelor's Degree	5	Principal officer
15	36-45	Male	Married	Master's Degree	7	Principal officer

Table 2: Transcript Analysis of Interview Responses

Questions Asked	Sample Quotes from Respondents	Emerging Themes
Does your institution provide bancassurance, how would you describe bancassurance?	(Yes). Bancassurance is a platform for insurance companies to sell their products to both customers; possible banking customers and the general public. Bancassurance operates like a broker, an insurance broker in the bank . Banks selling insurance policy to its existing customers and we currently sell insurance policies for five different insurance companies	Distribution of insurance products through the bank. Selling of insurance policies through banks to bank customers. A channel through which insurance is sold through the bank. Selling insurance through the bank
What internal factors are likely to influence adoption of bancassurance services in Uganda?	It is easy for banks to create awareness to the customers who are already transacting with the bank . The bank undertook the opportunity to be able to tap the noninterest revenue derived from selling insurance products . our culture requires that we be market leaders and therefore venturing into bancassurance is dictated by such culture .	Readily Available market Management perception about insurance Becoming a one stop center Corporate culture Additional income Well trained staff Top management support Company objective Availability of resources Investment policy
What other external factors are likely to influence the adoption of bancassurance services in Uganda?	…… "All insurance companies cannot reach up to all the customers but banks have customers who frequently come to the bank dedicated counter for selling insurance products." Customers trust in the bank and We have 69 branches and these branches should be selling insurance but due to knowledge gap, we are not yet able to roll out bancassurance country wide and bankers also have certain way they operate different from how insurance sector operate so we have to train them . The kind of setup you have with the insurance as well as the support the insurance company is willing to offer Religion may also influence the adoption of bancassurance given that the Muslim faith discourage earning interest on money . the customer belief in their bankers has contributed to the adoption of the product ……. The industry is young and growing firms are only allowed to adopt bancassurance when they meet the requirements of the regulatory bodies	Insurance is a need Dedicated counters Regulatory requirements Competition from brokers and agents Knowledge gap Customer trust in the bank Market prospects Relationship with the insurance company Support from insurance firms Perception about insurance products. Innovativeness Customer trusts in the bank. Belief in insurance products. Religion Customers' trust in the bank. The industry growth prospect Regulatory requirements
How has bancassurance influenced the banks performance	Bancassurance gives us opportunity to earn noninterest revenue arising from commission on sales Improvement in the level of income arising from non-interest income	Improve revenue level Increased noninterest revenue Improvement in income Competitive edge in insurance Increased product range offered

Questions Asked	Sample Quotes from Respondents	Emerging Themes
	May be some of them didn't want to invest because it requires some investments which include investing in people, and facilities but they are missing on commission income .	by the bank. Attracts new clients
What are the limiting factors to adoption of bancassurance services in Uganda? Please elaborate.	……Perception of the potential clients who believe insurance is an expenses/luxury not a necessity. Limited insurance products which are not customized to the needs of the local persons . The biggest challenge is what we call the market forces, these are things we can't control, first is acceptance of insurance is still low. So, people are not willing to put in a lot of money and the level of investment is a bit low . Other banks offering bancassurance are not affecting our performance but the normal intermediaries that are offering kickbacks to get deals which we cannot. . Others are lack of information about insurance products and its benefits to other banks. Limited penetration of insurance products to the local population discourages other banks from adopting bancassurance . Lack of capacity to undertake bancassurance in that bancassurance may only be adopted by banks that had prepared themselves and developed capacity .	Customer perceptions about insurance Lack of customized insurance products. Acceptance of insurance products Low level of investments Insurance being a new sector. Lack of government support. Perception about insurance Corrupts practices by other intermediaries Low penetration of the insurance products Lack of information about insurance products. Capacity to undertake bancassurance Perception of the potential customers Market penetration Lack of prioritization Limited human resources Perceived Lack of market
How best can adoption of bancassurance services in Uganda be improved?	Understanding customer needs such that the product is tailored to the client; this may be achieved through conducting research on the needs of the customers to be able to categorize them according to their needs. Banks needs to go digital and understand its clients to be able to tailor making the products For insurance to succeed, they need to be supported by government Payment of claims should also be improved by the insurance companies. If people get to realize that these claims are actually paid without hustle, it could market the insurance products to the masses .	Understanding customers Conducting more research Digitization Product customization for the local population Government support Sensitization The need for training Staff training Creating awareness. Sensitization Improve claim payment

Results: The study was conducted to determine the factors that influence bancassurance adoption by commercial banks in Uganda. Results in Table II indicate the responses generated from the interviewees and these captured both internal and external factors which are believed to influence bancassurance adoption. The internal factors that were identified included mainly; management perception about insurance, capacity in terms of human resources, additional income, becoming a one stop center, bank culture, well trained staff, a readily available market, earning non-interest income, customer retention, gaining new customers, top management support, supportive staff, company objective, availability of financial resources and investment policy.

Corporate Culture: Respondents argued that for a bank to take up a new product, it must fall within its corporate objectives. They further indicated that the strength of the bank to beat competition lies in its ability to innovate and introduce new products for which bancassurance presented an opportunity. One of the respondents had this to say.

Noninterest Revenue: Respondents argued that bank took interest in adopting bancassurance because of the possibility to earn noninterest revenue as an additional source. A number of respondents indicated that it would not be wise for any bank not to take up bancassurance because they are indirectly selling insurance products embedded in loans and investment products which revenue was going to the brokers.

Product Diversification: Some respondents argued that introduction of bancassurance services broadens the product range for the bank and that creates a one stop entre for its clients. They further argued that introduction of bancassurance would go a long way to create customer loyalty and retention since all services can be obtained from the bank. From the excerpts some of the respondents had this to say; **Respondent 5** "…our culture requires that we be market leaders and therefore venturing into bancassurance is dictated by such culture, we have well trained staff who are fit for purpose, we don't just pick anyone to handle bank services". **Respondent 7:** "The bank undertook the opportunity to be able to tap the noninterest revenue derived from selling insurance products." While according to **respondent 6**: "Besides noninterest income, Banks would want to be a one stop Centre for its customers, it's the way to go, that's why they are also going into agency banking, they are trying to be innovative."

Top Management Support: A number of respondents argued that adoption is mostly based on the perception held by top management. They indicated that it is very critical for management to take interest in an innovation if it is to ever succeed because they make the strategic decisions. Some argued that bancassurance was adopted because top management took interest in it and pledged their support by establishing separate unit to handle the products for instance from the excerpts.

Resource Availability: Some respondents argued that adoption is based on the bank's capacity in terms of both financial and human resources. They indicated that some banks may not be able to adopt bancassurance due to lack of financial capacity to inject in the new product line while other contended that human resources is equally an important factor that influences adoption. They further stated that insurance need a dedicated counter and group of staff assigned specifically to sell insurance policies but not juggling both banking and insurance products.

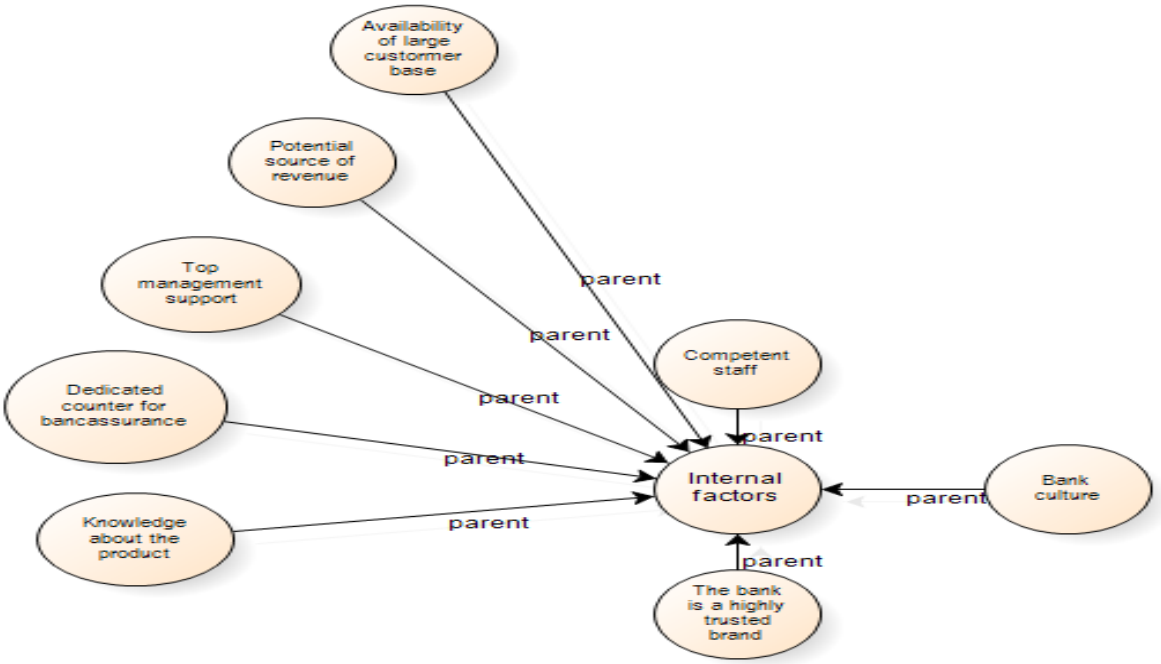
Readily Available Market: Many respondents indicated that banks took up bancassurance due to its readily available customers being served by the bank. They noted that most of their clients who sought insurance policies outside the bank can now be served within the bank. Other respondents indicated that all loan applicants are expected to pay for insurance and this constitute a huge market for the bank. For instance, from the excerpts the following were noted; **Respondent 4 asserted that** "……some banks do not look at insurance as a serious business opportunity to invest in…yet the only way to succeed in offering bancassurance is by having support from top management" **Respondent 1** "……the bank has a dedicated counter with designated officers trained to sell bancassurance to the clients. **Respondent 6** "……..bancassurance may only be adopted by banks that had prepared themselves and developed capacity . "……we have 69 branches and these branches should be selling insurance but due to resource gap, we are not yet able to roll out bancassurance country wide and bankers also have certain way they operate different from how insurance sector operate so we have to train them….." **Respondent 1;** "…..It is easy for banks to create awareness to the customers who are already transacting with them while **Respondent 11** argued that; "…..Banks are expected to sell to their existing clientele base".

Regulatory Requirement: The respondents indicated that a bank can only be allowed to provide bancassurance services when it meets the requirements set by regulatory bodies. They indicated that before taking up bancassurance services, each bank must be licensed by the insurance regulatory authority.

Competition: Other respondents argued that adoption of bancassurance is influenced by the level of competition in the industry. Most of the respondents indicated that the insurance brokers were the major

competitors for bancassurance since they have been in the business for selling insurance products for a long time.

Figure 1: Internal Factors that Influence Adoption of Bancassurance



Respondents were also asked about the external factors that were likely to influence the adoption of bancassurance services in Uganda and from Table II, many respondents argued that the following factors were pertinent; Regulations, competition, market prospects and growth, external trust by customers and support offered by insurance companies among others.

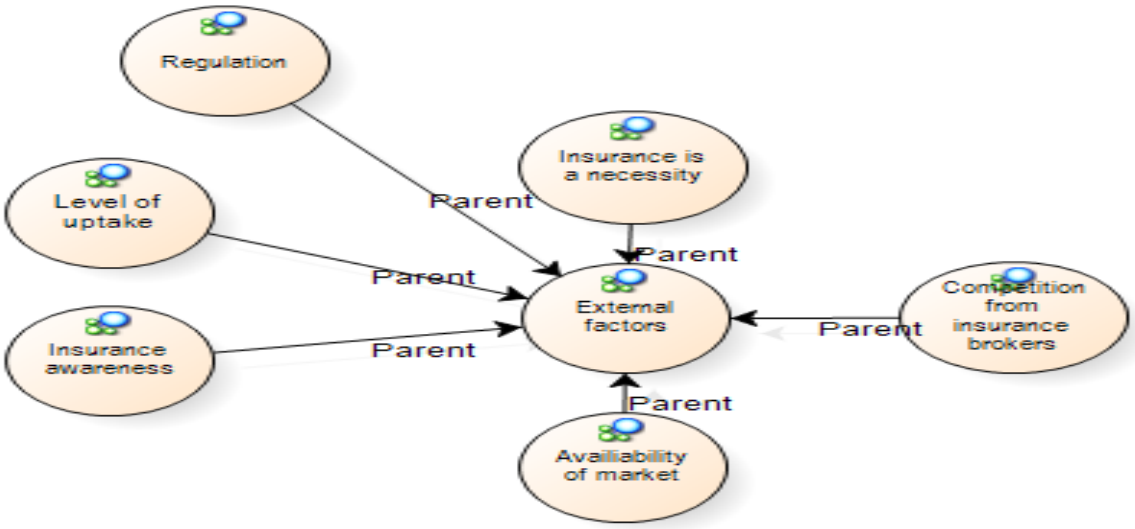
Customers Trust in the Bank: The respondents also indicated that the banks are taking up bancassurance because of the trust that customers have in them. They indicated that most customers do not trust insurance companies and were not willing to take up insurance policies but because this time the banks will be offering the services, they have begun asking for the products.

Market Prospects and Industry Growth: Some respondents argued that the prospect of insurance industry growth was one of the reasons the bank took up bancassurance services. They further stated that many bank clients are now taking up different insurance policies such as education, property and even investment policies among others which the bank believes could be offered from within their premises. Others indicated that insurance is becoming a necessity and with time many people will be interested in taking up the different policies which will be beneficial for the banks that are already offering. For instance one of the excerpts was captured as indicated below; **Respondent 10**:"…… the insurance industry is young and growing with good market prospects **while respondent 1**; "…….Insurance is a necessity and treated as a need for everyone by the bank. **Respondent 12**:"…… banks are only allowed to adopt bancassurance when they meet the requirements of the regulatory bodies.

Respondent 11: "…… …the banks have been aware of the competition fronted by the insurance agents and brokers…." **Respondent 11**: "……when the banks were allowed to offer bancassurance, the clients began trusting the banks more than the insurance agents…….. the customer belief in their bankers has contributed to the adoption of the product.". They also emphasized that from an organizational point of view, innovations require an effort to recognize the selection and presentation of the finest technologies while enhancing the way of generating, obtaining, handling and transmitting knowledge from customers to

companies and vice versa. Similarly, Ahmadinia, Karim, and Ofori (2015) assert that the use of technology becomes smart by connecting retails and clients with mutual goals of achieving better customer dynamics and customer experience.

Figure 2: External Factors that Influence Bancassurance



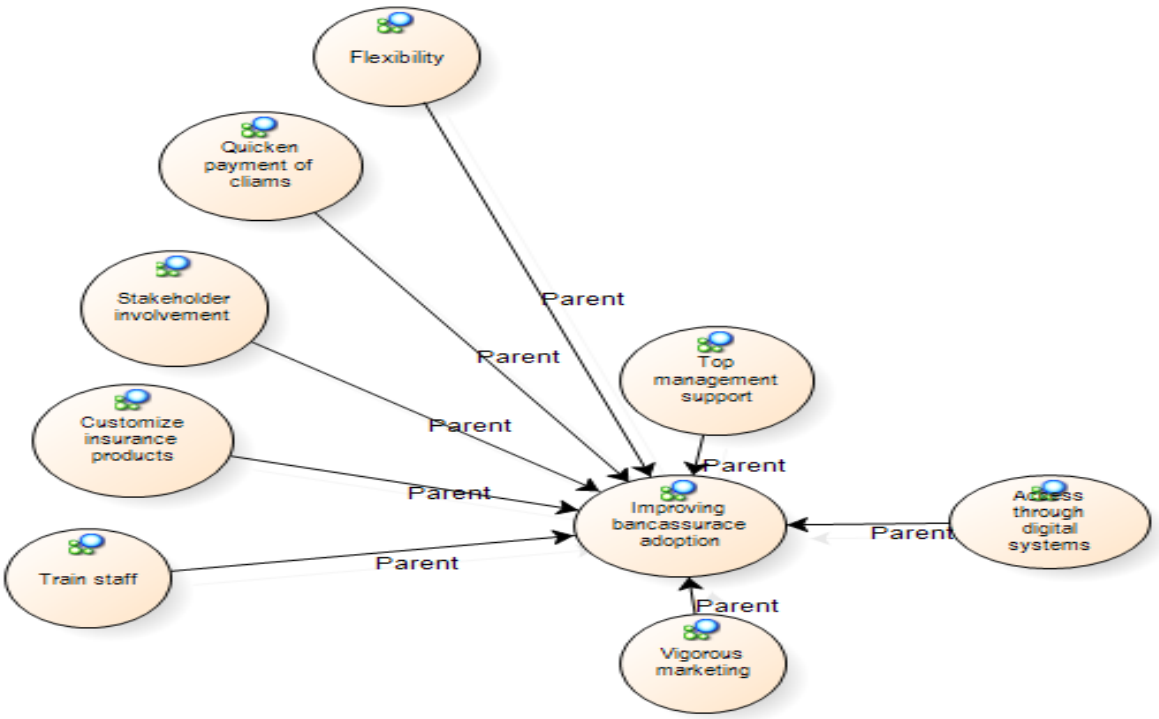
Previous studies on the factors influencing bancassurance adoption were supported by the above finding. Omondi (2013) analyzed the determinants of adoption of bancassurance by commercial banks in Kenya. He found that bancassurance was influenced by the need for diversification and new revenue streams. Pantano and Timmermans (2014) studied the implementation of smart technologies in retail in both selling activities and business. Furthermore, Lovelin and Sreedevi (2014) studied bancassurance in India and found that customer loyalty influences the purchase of insurance products. This is reflected on the perception that the customers have trust in the banking sector compared to the insurance brokers. Additionally, Mwangi (2010) argued that in order to improve bancassurance in Banks, customer access, a larger market share and government support were crucial factors.

Challenges of Bancassurance Adoption in Uganda: Despite the advantages associated with bancassurance in Uganda, the respondents argued that the service still faces some challenges which included among others; Customer perceptions about insurance, Lack of customized insurance products, Acceptance of insurance products, Low level of investments, lack of awareness, Lack of government support, Corrupt practices by other intermediaries, and These responses are well elaborated by the data extracted from the interview responses as indicated in **Table II. Respondent 2** "…….. acceptance of insurance is still low……people are not willing to put in a lot of money and the level of investment is a bit low **Respondent 8:** "……..the one mismatch we have is the government, government does not believe in insurance" **Respondent 14:** "…..the perception is a different story but if the government who is the biggest employer does not believe in insurance the penetration will always remain like that." **Respondent 3: noted** "……lack of information about insurance products and its benefits to other banks also, lack of capacity to undertake bancassurance in that bancassurance may only be adopted by banks that had prepared themselves and developed capacity." **According to Respondent 8** "……People are biased about insurance products, it's very hard for someone to be told about insurance and get excited about it" **Respondent 3:** "……..bancassurance is not on the employee KPI and therefore most staff may not give it priority" **Respondent 5** "……people do not see the need to insure and therefore market is perceived to be limited."

Strategies to Improve Bancassurance Adoption in Uganda: The study also sought to find out the best ways commercial banks can improve adoption and the respondents indicated the following strategies; top management support, stakeholder involvement, product customization, quick payments of claims, vigorous

marketing, digitization of the system for easy accessibility and building capacity among others. This finding concurs with Bergendahl (1995) who noted that in order to improve bancassurance adoption, the banks must understand customer needs. On the importance of regulation in banking, researchers (Arthur & Iris, 2003; Guttentag & Lindsay, 1968) agree that a regulated banking and insurance sector reduces transaction costs. Indeed they point out that regulating the bancassurance business influences liquidity and performance and recommend that banks and insurance companies take advantage of efficiencies that come with embracing a regulated bancassurance business since this increases the trust customers may have with the service provider (bank).

Figure 3: How to Improve Bancassurance Adoption in Uganda



4. Conclusion and Recommendations

In Uganda, bancassurance is intended to drive the penetration of insurance service in the economy; providing key avenues or distribution of insurance products. Given the importance of bancassurance established in the study findings, the following conclusions are drawn. The key drivers of bancassurance adoption by commercial banks in Uganda include but not limited to; top management support, internal controls, the bank's investment policy, bank culture and already available insurance market have a strong impact on the rapid adoption of bancassurance by banks in Uganda. These undertakings enforce regulation and improve the bank culture as far as provision of bancassurance products is concern. They also improve on the relationship with the insurance companies. The external factors like; customer trust in a commercial bank, competition from brokers and agents, relationships between commercial banks and insurance companies, the influence of religion on customers insurance uptake as well as regulatory requirement are the main external factors driving the adoption of bancassurance services in Uganda. The study also found that there are a number of challenges surrounding bancassurance ranging from customer's biased perception about insurance, lack of awareness and lack of customized insurance products for the local market. These could be overcome through extensive outreach, government support, improved level of investments, insurance literacy will improve bancassurance uptake among commercial banks in Uganda.

Recommendations

The study recommends that commercial banks in Uganda should put into consideration both the internal and external factors that impact on bancassurance adoption thereby attracting a bigger clientele and subsequently affecting their financial performance. This will increase their non-interest income as a result of bigger commissions in addition to the provision of a competitive platform given the wide range of products offered. Secondly, we recommend that commercial banks improve the working relationships with insurance companies. Firstly, commercial banks should seek to partner with insurance companies who have their goals aligned with the services that banks' services need. Secondly, both commercial banks and insurance companies must agree on the capacity in which they will be acting. For instance, they need to decide whether banks are operating as; pure distributors of insurance products; whether banks have strategic alliances with insurance companies; whether both banks and insurance companies are operating a joint venture; or whether the two are running a holding company.

Aligning the capacity in which banks and insurance companies operate is vital in the various decision-making processes. Such decisions include commissions and profit-sharing agreements. This will give commercial banks easier terms of business and improve their way on doing business. The study also recommends regular evaluation of bancassurance practices. For instance, getting a substantial customer base, ensuring good brand equity, making long term commitments, readiness to commit resources, (both technological solutions and marketing). Also, a regular review of the bancassurance products and services offered by the commercial banks to ensure that they are in line with the bancassurance regulations, 2017. To achieve this, the bancassurance regulators in the country like the Insurance Regulatory Authority must be committed to playing their supervisory role efficiently and effectively. There is need for government to enforce country wide financial literacy and insurance literacy trainings if adoption of bancassurance is to be achieved. This will help bank clients and prospective clients to appreciate the importance of insurance. It will also help them to make informed financial decisions.

Theoretical and Practical Implications

Theoretical Implications: Resource Based Value (RBV) illustrates the theory's practical value as a framework for strategic decision-making. Our findings clearly indicate that established competitive advantages based on resources and skills are apparent in financial institutions that provide bancassurance services. The portfolio of resources and how they are deployed, especially in the context of the business-to - business marketing that is imperative in banks and insurance companies. Banks providing bancassurance ensure that resources are allocated strategically and effectively. This in turn gives financial institutions enormous flexibility which is a source of competitive advantage. Diffusion often involves an invention to be consistent with the adopters' (in this case banks) principles, interests, historical experience and current needs. With rapid technological advances, using the Innovation diffusion theory ensures changes in the way business is carried out and how the bank's daily routine activities are handled. In addition, since the banks have information about their customers in their databases that can be easily accessed using technology. Consequently, the innovation diffusion theory has been widely used to describe the implementation of innovations by financial institutions that could improve bancassurance adoption. Furthermore, the theory of Diffusion of Innovations helps to find reasons and explanations for spreading innovative ideas and technology. This research would also integrate the theory into the implementation of bancassurance provided by banks using three Rogers's theory models that include adopter styles, innovation-decision mechanisms, and innovation attributes.

Practical Implications: With the widening of the financial market with so many players entering the finance industry, it is expected that banks with insurance firms will produce new products, raise customer awareness of their goods and sell them at a reasonable price. New financial services entrants had no difficulty matching their products to the needs of the customers and offering them at a price that was acceptable to the customer. But the restructuring (bancassurance) has led to more concentration of payment and settlement flows by fewer parties within the financial sector. The integration of both the banking and insurance sectors leads to the emergence of very large financial institutions and non-insurance service providers who are specialized in providing a wide range of insurance services to third parties, thus increasing in-house transactions, no need

to involve external exchange of payment messages and therefore tend to be cheaper to process. The areas for further research would include a comparative study on the performance assessment between bancassurance service providers and the third party insurance providers, a study to ascertain whether bancassurance inspires the uptake of insurance within Uganda and lastly whether bancassurance is a better delivery method for insurance services.

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Adequacy of DEA in Measuring the Efficiency of Public Sector Entities in Nigeria: A Comparative Analysis Approach

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Abstract: The study examined the efficiency of Decision- Making Units (DMUs) in the public sector entities in Nigeria. The study focused on the efficiency in the utilization of personnel cost releases to the federal educational and health institutions by the Federal Government of Nigeria. Secondary data were sourced from the Annual General Warrants from Audited financial statements of the Public Sector entities. Sampled size for the study comprised twenty-five (25) DMUs each from both sectors out of the major Federal Ministries from four (4) geo-political Zones and Abuja. Data were analyzed using Data Envelopment Analysis Model (DEA). The results of the average efficiency scores from both Charnes, Cooper and Rhodes Model (CCR) and Banker, Charnes and Cooper (BCC) on the DMUs showed that the sectors were marginally inefficient. The summary of the overall results therefore revealed that the DMUs under health sector performed averagely better than education sector in the utilization of personnel cost allocations. The study recommended that a central monitoring team be created jointly by the Federal Ministry of Finance and Accountant-General's office to ensure full utilization of personnel cost releases to the DMUs. The study therefore concluded that only continuous assessment and periodic appraisal of the personnel cost utilization by the supervising ministries, can guarantee full efficiency in the utilization of personnel cost releases.

Keywords: *Efficiency, DMUs, Health Sector, Education Sector, DEA.*

1. Introduction

Public sector entities are a set of organizations with a mandate to carry out public programs and provide general services for the general welfare of the populace (Kara, 2012). They are the vehicles of central system through which government cardinal ideas reach the masses at the grassroots. A well -functioning public sector entity facilitates effective public financial management. Over the years, the public sector entities in Nigeria witnessed a significant transformation through series of financial reforms carried out in the sector. These reforms were predicated on needs to redress and address the critical issues of loss of confidence on public financial transactions. Generally, public sector entities are categorized according to their reliance on central authority's funding for carrying out their core functions. The first on the list of such category are the public sector entities that are fully funded by central authority. In this category, the central authority is wholly responsible for the provision of adequate funding for all the operating activities of the entities such as personnel cost allocations, capital grants allocations, overhead cost allocations and funding for repairs and maintenance of equipment. The entities are therefore not allowed to keep any part of its own internally generated revenue within its coffers. It is expected that such own internal generated funding be remitted wholly to the federal coffers. Next to this are the entities that are self-funded.

These are public entities that generate own funding to cover all its operating expenses. They are therefore responsible for the payment of staff salaries, payments for capital acquisition and providing funding for repairs and general maintenance. All the Internally Generated Revenue accrued to such entities as inflows are kept within their coffers. The last category is partly funded by the federation account. This group receives major allocations such as personnel cost allocations, capital grant releases and overhead cost allocations for financing day-to-day activities of the enterprise and offsetting staff salaries payments. They are equally allowed to generate own revenue to fill up the shortfalls from the central authority and also remit part of the internally generated revenue to the coffers of the Consolidated Revenue Fund (CRF). Examples of such entities are the Federal Universities, Federal Colleges of Education, Federal Polytechnics, Federal Teaching Hospital, all Federal Medical Centers etc. The focus of this study is on this group of entities which are partly funded by the central authority. The purpose of this study is to investigate the efficiency of utilization of personnel cost allocations by the central authority to the federal institutions in both education and health sector. The focus is to determine which of the entities in both Health and Education are more efficient in the utilization of personnel cost resources under review.

The paper therefore aims at analyzing the efficiency of utilization of personnel cost allocations by the public sector entities under both education and health sector using DEA models – CCR and BCC. The work provides information to the top echelons in both education and health sectors on the efficiency of utilization of personnel cost releases to the Ministries, Departments and Agencies (MDAs). The remainder of the paper is therefore organized as following. Following the introductory section, section two (2) reviews the literature. Section three (3) presents data and methodology adopted in the study. Section four (4) discusses the results of findings while section five (5) concludes the study with policy recommendations for improving the efficiency of the entities.

2. Literature Review

The measurement of the public sector entities' efficiency adopting both parametric and non-parametric frontier models is popular among both the economics and finance researchers. The application of Data Envelopment Analysis (DEA) is prominent among the various approaches in frequent usage. The univariate nature of ratio analysis with major limitation in appraising firms' performance has exposed the strength of DEA in the determination of entities' efficiency (Yu, Barros, Tsac and Liao, 2014). DEA is a linear programming tool used to measure the relative efficiencies of a set of Decision- Making Units (DMUs) in a production process (Yilmaz and Yurdusev, 2011). DEA is a non-parametric method which measures the efficiency of a DMU from a single input and single out efficiency analysis to multi-input and multi-output situation (Abdulkareem & Oyeniran 2011). It assumes no random mistakes. DEA was proposed by Charnes, Cooper and Rhodes (1978). The efficiency performance measurement backdated to Farrel (1957) who introduced both technical efficiency and allocative efficiency. This technique has been used in many fields of the world ranging from school, hospitals, financial, security, administration (Agasisti & Johnes, 2009, Kwon & Lee, 2015, Tao, Liu, & Chen, 2013, Tsolas and Charles, 2015, Ahn, Charnes & Cooper, 1988). The main uses of DEA are the evaluation of management and program efficiencies of DMUs of not-for-profit-making organization like schools, hospitals etc (Cyrek, 2017; Stanickova, 2017).

Many scholars have employed DEA window analysis in the assessment of influence on operational efficiencies of the hospitals (Kazley and Ozcan, 2008, Jia and Yuan, 2017). The preference for the use of DEA by many researchers for the determination of entity's efficiency is partly due to its advantage over the traditional ratio because of the simultaneous use of multiple inputs and outputs for the determination of efficiency (Cheng, Cai, Tao, He, Lin & Zuo 2016, Czypionka, Kraus, Mayer & Rohrling, 2014). Opinions in the use of DEA and its benefits differ among the scholars. In the case of primary and secondary healthcare service deliveries, inputs data used in the determination of healthcare efficiency are sometimes uniform. In order to achieve improved health promotion within the organization, health outcomes are sometimes increased (Harnandez & San, 2014, Rezaee & Karimdadi, 2015, Samut & Cafri, 2016, Sendek, Svital kova & Angelovicova, 2015). Therefore, the adoption of DEA is a dominant approach in assessing the efficiency of the healthcare system, educational institutions and other economic units across the globe. Previous studies on efficiency were based on productive efficiency which subsequent authors built upon (Farrel, 1957). Also, the public choice theory and bureaucracy was equally dominantly adopted in various works on efficiency by numerous authors (Tullock, 1965). However, the present study is anchored on the public sector entity's allocative efficiency theory as a theoretical framework to fill the gap created by the caveat.

3. Methodology

The study investigated panel data of (50) fifty public sector entities in both the federal educational institutions and federal health institutions in Nigeria. Taro Yamane technique was employed to determine the sample size from the total population of Decision- Making Units (DMUs) in the two sectors. Both Charnes, Cooper and Rhodes (1978) models and Banker, Charnes and Cooper (1978) models were applied for the comparative analysis on the personnel data obtained from the sector in the determination of efficiency of utilization of personnel cost allocations. The study adopted both constant and variable inputs and outputs of Data Envelopment Analysis (DEA) techniques. Out-put oriented model focuses on the capacity of DMUs to achieve the level of output from the limits of available inputs in the entity. The input-oriented model on the other hand, measures the capacity of a DMU to maintain the maximum level of production with the available inputs in the organization.

The usefulness of DEA has found a deep root in the healthcare sector and the educational institutions. In output-oriented version, the efficiency score for the DMUs ranges from 1 to infinity but in the input -oriented version, efficiency score is between 0 and 1. The efficiency score is estimated as the ratio of weighted outputs to weighted input (Charnes et al., 1978). Weights are selected from each variable of every analyzed unit in order to maximize its \efficiency score. The efficiency rate for each unit of the reference set of j = 1, . . ., n. DMU is evaluated in relation to other set members (Charnes et al., 1978). The maximal efficiency score is 1, and the lower values indicate the relative inefficiency of the analyzed objects. The DEA model with m inputs variables, s outputs variables, and u DMU's, the envelopment form of the input-oriented model is given by (Charnes et al., 1978) and Cooper et al. (1978) in their proposition as follows: $\max h_0(u, v) = \frac{\sum_r u_r y_{r0}}{\sum_i v_i x_{i0}}$

Subject to:

$\frac{\sum_r u_r y_{r0}}{\sum_i v_i x_{i0}} \leq 1$ for $j = 1, \ldots, n$, (1)

$u_r, v_i \geq 0$ for all i and r

The proposition developed by (Charnes and Cooper, 1978) was employed for linear fractional programming. This proposition then selects a combination of solution of (u, v) for which $\sum_{i-1}^{n} v_i x_{i0} = 1$) and results into the equivalent linear problem in which the variance of variables from (u, v) to (μ, v) is a direct result of the application of DEA model as propounded by "Charnes-Copper" transformation which can be re-written as:

$\max z = \sum_{r-1}^{s} \mu_r y_{r0}$

Subject to:

$$\sum_{r-1}^{s} \mu_r y_{rj} - \sum_{i-1}^{m} v_i x_{ij} \leq 0 \quad (2)$$

$\sum_{i-1}^{m} v_i x_{i0} = 1$

$u_r, v_i \geq 0$

For which the linear programming dual problem is

$\Theta^* = min\Theta$

Subject to:

$$\sum_{j-1}^{n} x_{ij}\lambda_j \leq \Theta x_{i0} \; i = 1, 2, \ldots, m;$$
$$\sum_{j-1}^{n} y_{rj}\lambda_j \geq y_{r0} \; r = 1, 2, \ldots, s; \quad (3)$$

$\lambda_j \geq 0 \; j = 1, 2, \ldots, n.$

This expressional transformation is the original DEA model and commonly referred to as the "Farell model" by a wide range of finance and economic scholars. It is otherwise referred to as the output-oriented model that aims at maximizing outputs of a given DMU with the given input level at a particular time. The second is the input-oriented model, which also aims at minimizing inputs at a given output level (Cooper et al., 1978):

$min\Theta - \varepsilon \left(\sum_{i=1}^{m} S_i^- + \sum_{r=1}^{n} S_r^+\right)$

Subject to:

$$\sum_{j=1}^{n} \lambda_j x_{ij} + S_i^- \leq \Theta x_{i0} \; i = 1, 2, \ldots, m;$$
$$\sum_{j=1}^{n} \lambda_j y_{r0} + S_i^+ = y_{i0} \; r = 1, 2, \ldots, s; \quad (4)$$
$$\lambda_j \geq 0 \; j = 1, 2, \ldots, n$$
$$\sum_{j=1}^{n} \lambda_j = 1$$

Where, xij indicates the ith input of the jth DMU, y_{rj} indicates the rth output of the jth DMU, and *λj and* u_r, indicate the weight of the jth DMU while v_r *is the efficiency score of* DMU_j. If the constraint $\sum_{j=1}^{n} \lambda_j = 1$ is adjoined, they are then referred to as the Banker, Cooper and Charmes model (BCC model) (Banker et al., 1988). The BCC model is also otherwise referred to as the Variables Return to Scale (VRS). The VRS assumption is different from the CCR assumption which is referred to as the Constant Returns to Scale (CRS model). The VRS assumption or BCC model considers the variation of efficiency with respect to the level or scale of operation and measures pure technical efficiency arising from the variables. The BCC model or the VRS assumption is used to measure the scale efficiency which is determined as follows:

$$\text{Scale Efficiency} = \frac{\text{Technical efficiency from CRS}}{\text{technical officiency from VRS}} \quad (5)$$

The determination of adequate model variables (inputs and outputs) was the second important consideration used in measuring efficiency of the public entities. Also, Cooper et al. (1978) and Paradi, David and Fai (2018)

indicate that the number of DMUs should be at least three times the total number of inputs plus outputs used in the models. Cook, Kaoru and Joe (2014) suggested a similar rule in order to set a minimum number of DMUs in relation to the number of variable inputs to have a meaningful result with a clear set of efficient and inefficient units which are expressed as follows:

$$n \geq \max\{m \times s, 3(m+s)\}, \qquad (6)$$

Where m, s, and n are the numbers of inputs, outputs and DMU's respectively.

4. Interpretation of Results

Table 1 showed the average efficiency scores in personnel costs for the 25 sampled DMUs in the federal health institutions using CCR model. The mean efficiency scores for DMUs in the utilization of the personnel cost allocations are between 0.317 and 0.969.This implies that none of the DMUs attained a full efficiency of 100% or1. That is, none of the DMUs among the federal health institutions fully utilized all the personnel cost releases to the various DMUs during the period. Rather, most of them held on to the idle personnel cost balances which were either unspent, diverted or locked up in private personal accounts. With the efficiency score of 0.317 in the sector, it shows that the personnel cost resource usage was unimpressive. It shows that some of the DMUs had sticky personnel cost balances left idle during the financial year. It also means that the personnel cost allocations to the DMUs were in excess of their actual needs. The DMUs were therefore inefficient in the personnel cost resource utilization during the research periods. A DMU is fully efficient in the utilization of resources when its efficiency scores is100% or 1. That means there is a full utilization of resource usage in the entity. However, if the efficiency score is less than 1, then the DMU is either marginally inefficient, distinctively inefficient or averagely inefficient. The implication of inefficiency in the personnel, cost usage with the DMUs is that there is more surplus personnel cost allocation available within the DMUs than the actual need of the personnel staff.

Table 1: The Average Efficiency Scores Distribution across the Selected DMUs in the Health Sector using the CCR Approach

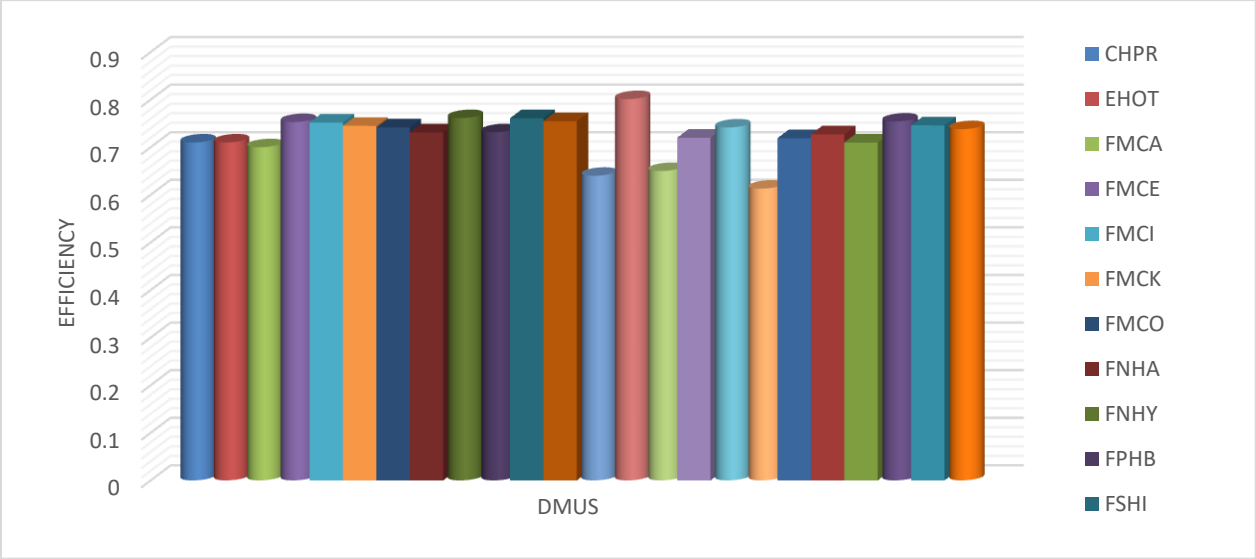


Table 1 shows the average efficiency scores distribution across the selected DMUs in the health sector using the CCR approach. The table shows a fair performance among the DMUs. Figure 1 shows the ranking of the pool of average efficiency score weights attached to the use of personnel cost among the DMUs in health sector. DMUs capabilities in the efficient usage of personnel cost in the health sector ranges between 60 and 80%. This is suggestive of a fair performance in the way personnel costs were utilized in the health sector. The average efficiency scores show that the DMUs were marginally inefficient in personnel cost resource usage. Among the sampled DMUs, MLSCY recorded the highest average efficiency score among the twenty-five DMUs. This implies that the highest rate of personnel cost utilization or absorption was recorded by MLSCY, while NTPA was the last on the ranking list. The implication therefore is that NTPA has surplus

personnel cost balances that were neither utilized by the DMU nor returned to the central treasury as expected at the end of each year for the use of other DMUs with insufficient balances.

Figure 1: Ranking of Average Efficiency Scores in Personnel Costs Utilization in the Sampled DMUs in Health Sector using CCR

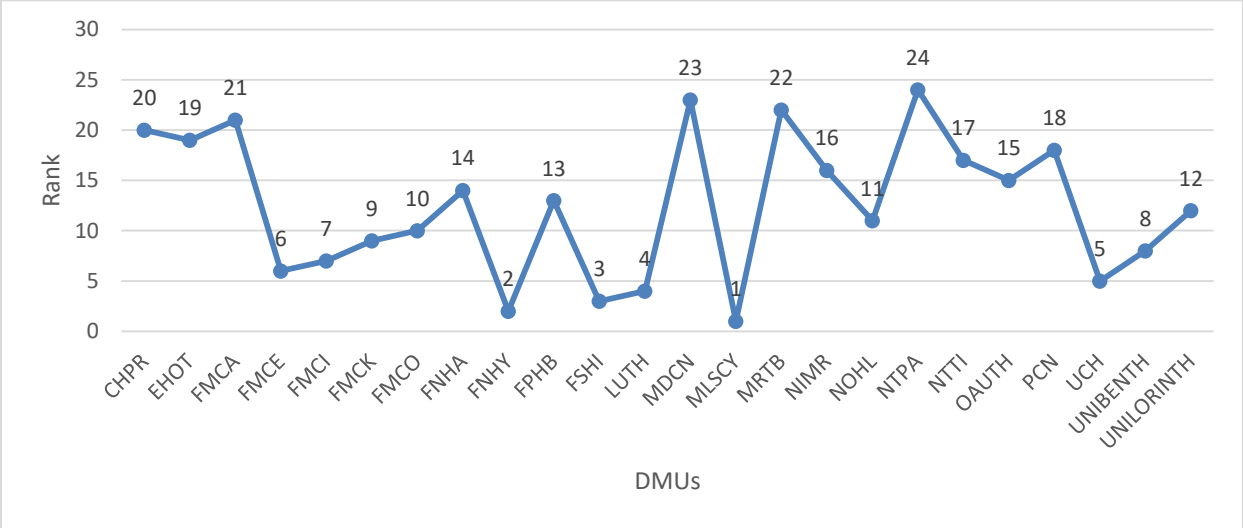


Figure 1 shows the ranking of average efficiency scores in personnel costs utilization for the Sampled DMUs in health Sector Using CCR. The summary of the ranking shows a reasonable performance among the DMUs. Table 2 shows the summary of analysis results for the average efficiency scores in personnel costs utilization among the sampled DMUs in health sector using BCC model. From the table, average efficiency scores for the DMUs ranges from 0.672-0.955 signifying a better average efficiency scores distribution for the DMUs under BCC model. However, none of the DMUs attained a full average efficiency score of 100% whereby the personnel cost releases to the DMUs were fully utilized in the payment of staff salaries during the research period. However, the pattern and trend of average efficiency scores show an impressive usage of personnel cost utilization among the DMUs. The efficiency scores distribution pattern with the application of BCC in the sector is slightly better than the efficiency scores performance under CCR. The impression therefore is that the DMUs under health sector are marginally inefficient in the personnel cost resource usage.

Table 2: The Average Efficiency Scores Distribution across the Selected DMUs in the Health Sector using the BBC Approach

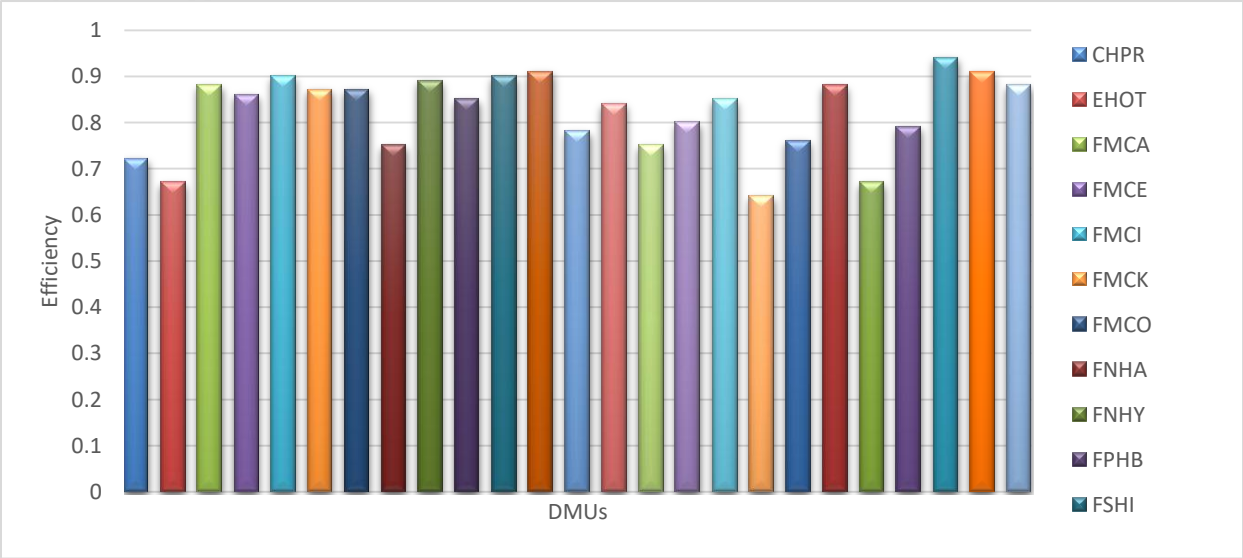


Table 2 shows the average efficiency scores distribution across the selected DMUs in the health sector using the BCC approach. The table shows a good performance in the utilization of personnel cost releases to the DMUs. Figure 2 shows the ranking of average efficiency scores on personnel cost usage among the sampled DMUs in the health sector using BCC model. UCH is on top of the list of the average efficiency ranking with the highest average efficiency score in the overall class of scores of 94%. NTPA, however, comes last in the efficiency ranking with the lowest average performance of average efficiency scores of 64%. The average efficiency scores performance of other DMUs were stated between the high and low of average efficiency scores performance.

Figure 2: Ranking of Average Efficiency Scores in Personnel Costs Utilization for the Sampled DMUs in Health Sector using BCC Model

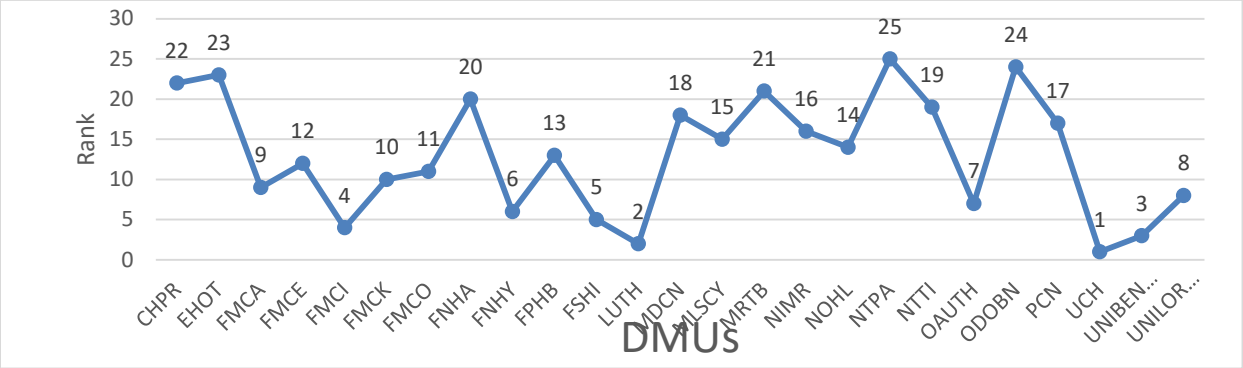
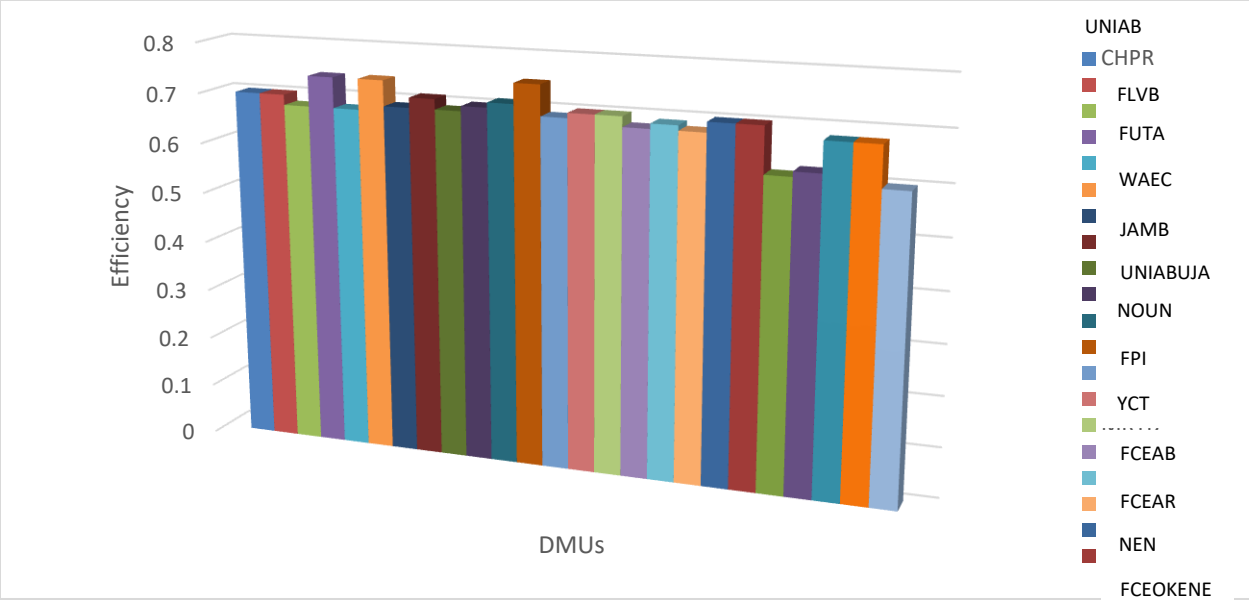


Figure 2 shows the ranking of average efficiency scores in personnel costs usage for the sampled DMUs in health sector using BCC model. UCH ranked first on the list while NTPA came last of the ladder. Table 3 presents the summary of the analysis of the distribution of average efficiency scores in the utilization of personnel costs among the DMUs in Education sector using CCR model. The spread of the average efficiency scores on the utilization of personnel cost allocation in the education sector was unimpressive. Most of the DMUs in the sector were averagely inefficient with the average efficiency scores of 65%. The implication is that most of the DMUs in the sector did not efficiently maximize the personnel cost resource made available to fund the payment of staff salaries. Personnel cost allocations to the DMUs were far in excess of the actual needs of the entities. Therefore, the sticky personnel cost balances at the end of the year in the DMUs were as a result of inefficiency in the utilization of personnel cost resource.

Table 3: The Average Efficiency Scores Distribution for Personnel Cost Utilization across the Selected DMUs in the Education Sector using the CCR Approach



The table shows the average efficiency scores distribution across the selected DMUs in the education on the utilization of personnel cost allocations. Figure3 shows the average efficiency scores ranking on the utilization of personnel cost allocation for the DMUs in the education sector. Average efficiency scores are steady across the DMUs except in the case of UI which shows a peak in the average efficiency scores. UI had the highest average efficiency score in the overall class of scores with 75% while UNIAB recorded the lowest average performance of 60%. The summary of the average efficiency scores performance for the DMUs under the sector is comparatively low in reference to the performance under the health sector. The inference therefore is that DMUs under the health sector are more efficient in the usage of personnel cost allocations than the counterparts in education sector.

Figure 3: The Ranking of Average Efficiency Scores in Personnel Costs Utilization for the Sampled DMUs in Education Sector using CCR Model

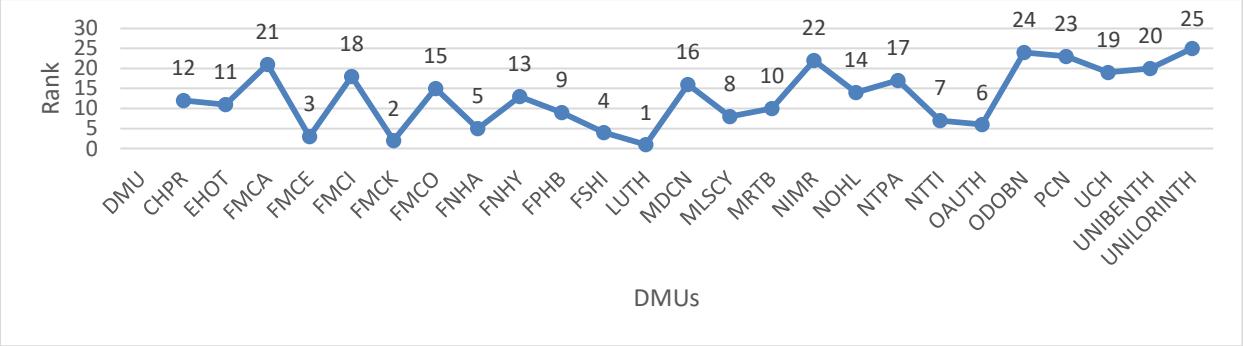
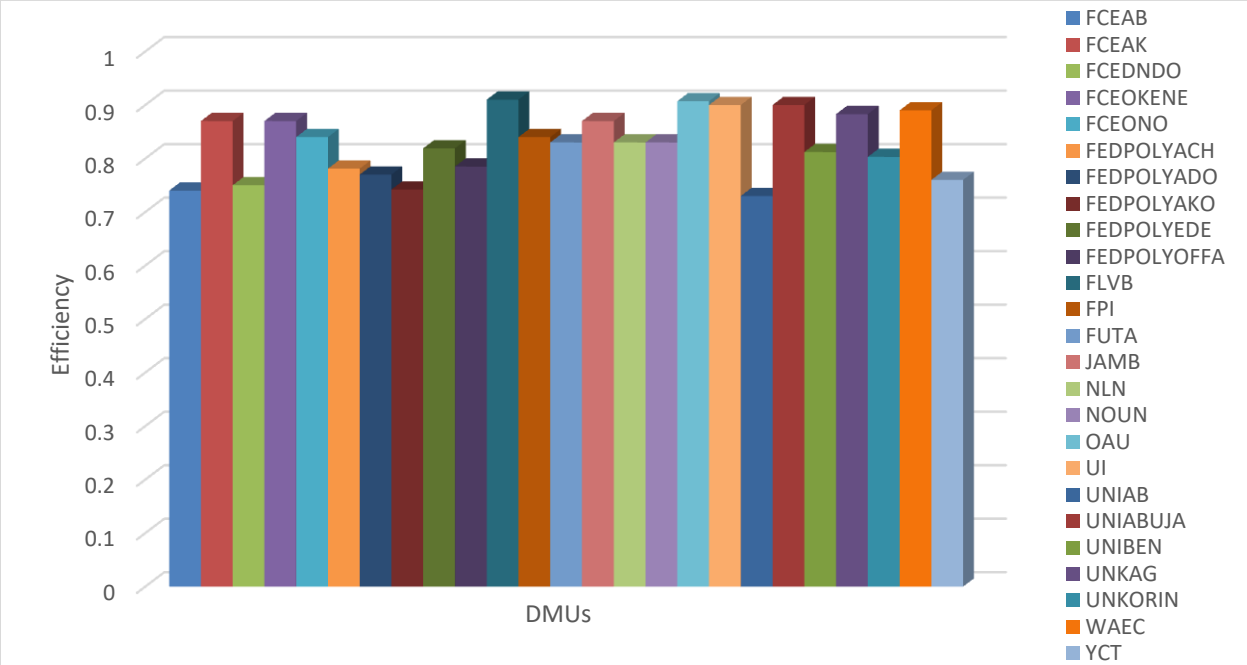


Figure 3 shows the average efficiency scores ranking in Personnel Costs utilization among the sampled DMUs in Education sector using CCR model. Table 4 presents the summary of analysis of results for the average efficiency scores in personnel costs usage for the sampled DMUs in Education Sector using BCC model. On the average, the personnel costs utilization among the DMUs in the education sector was not as impressive as in health sector. Most of them retain idle personnel cost balances which were released to them over and above the normal requirements. Unfortunately, the unused sticky fund is either ploughed back to the personnel account with DMUs or returned to the central treasury for fair distribution among the DMUs.

Table 4: The Average Efficiency Scores for Personnel Cost Utilization across the Selected DMUs in the Education Sector using the BCC Approach



The table shows the average efficiency score distribution for personnel cost utilization across the selected DMUs in the education sector using the BCC approach. Figure 4 shows the ranking and the pattern of behavior of pool of average efficiency weight attached to the use of personnel cost among the DMUs in Education sector. DMUs capacity ranges between 70% and 91% in the efficient usage of personnel cost in the sector. There is a steady efficiency score performance across the DMUs except in the case of FLVB which shows a spike to the peak in the overall class of scores. From the ranking chart, FLVB and OAU have the highest average efficiency scores ranking in the overall class of scores with 91% while UNIAB recorded the lowest average efficiency scores performance of 73%. The application of BCC in the determination of efficiency scores in the sector shows that there is an impressive performance among the entities in the utilization of personnel cost usage.

The spread of the average efficiency scores among the DMUs reveal the ability of the entities under education to utilize the personnel cost resource. The evaluation of the DMUs efficiency under the sector was better with the application of BCC than other the health sector. The range of 73%-91% efficiency scores performance show that the entities effectively maximized the personnel cost resource allocated to the DMUs with little slack balances. However, the deviation between performance range and full efficiency of 100% show that the DMUs did not fully utilize the personnel cost allocations to the entities. It shows that personnel cost estimates were over and above the actual personnel cost fund needed to finance staff salary expenditure in the entities. The sticky balances also indicate that some of the DMUs either kept idle personnel cost balances or diverted the surplus fund to other purposes instead of paying it back to the central treasury.

Figure 4: Ranking of Average Efficiency Scores in Personnel Costs for the Sampled DMUs in Education Sector using BCC Model

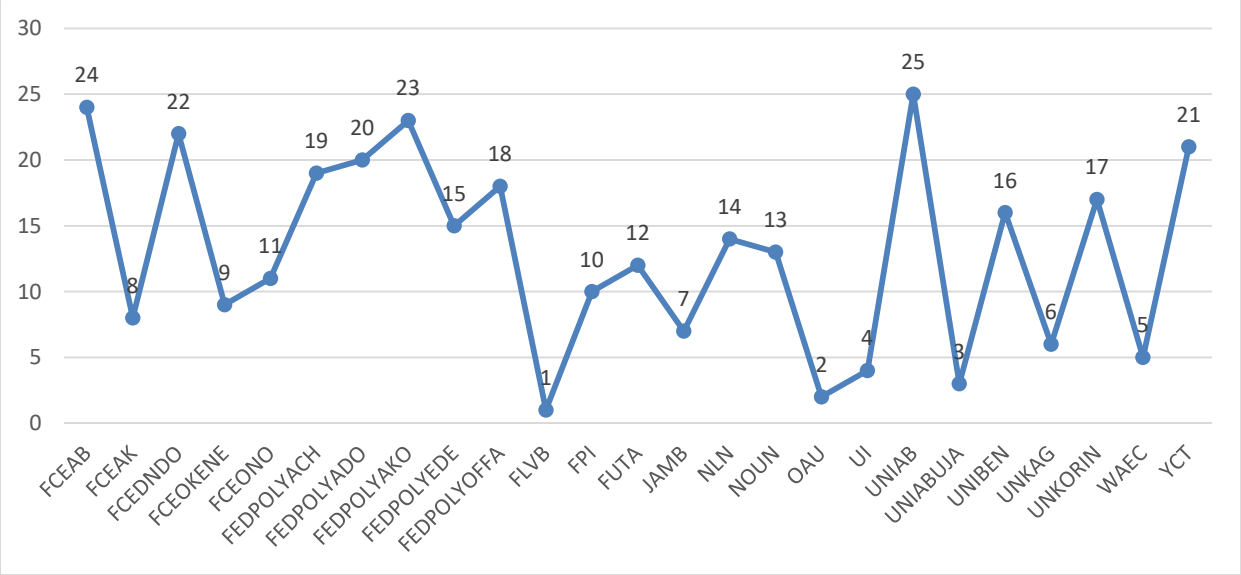


Figure 4 shows the ranking of DMUs based on their average efficiency scores in personnel costs usage for the sampled DMUs in Education Sector using BCC model.

5. Conclusion and Recommendations

The study evaluated the efficiency of the DMUs under both health and education sector in the utilization of personnel cost releases using DEA techniques. Both CCR and BCC models were adopted for the comparative analysis results of the DMUs. The results from both techniques showed that none of the DMUs under the two sectors were technically efficient in the utilization of personnel cost releases during the research period. However, results of the findings on the utilization of personnel cost allocations show that DMUs under health sector performed averagely better than DMUs under education with application of both CCR and BBC techniques. The implication is that DMUs under health maximized effectively the personnel cost releases for the payment of staff salary better than their counterparts under education.

The unspent personnel cost balances under education sector show that the sector is averagely efficient in the utilization of personnel cost resource. It is also an indication that the personnel cost releases to the DMUs in the sector were over and above the actual needs of the entities. The spread of average efficiency scores among the DMUs in the health sector are less marginally efficient and more skewed to full efficiency frontiers signifying an improved utilization of personnel cost allocations in the sector. The paper therefore concluded that only central authority's control, supervising ministries' effective monitoring of the personnel cost releases to the DMUs and the periodic appraisal of the personnel cost utilization by the Budget office of the federation in conjunction with the office of the Accountant-General of the federation can guarantee an improved efficiency performance and enhance optimum utilization of personnel cost allocations among the DMUs in the sectors.

Policy Recommendations: In order to enhance the DMUs' efficiency performance in the two sectors, the following recommendations must be in place: The budget office of the federation should set up the monitoring team to regulate the activities of all DMUs in the two sectors in terms of the personnel cost utilization vis-à-vis the size of the institutions' payroll. Henceforth, personnel cost allocations to the DMUs should be based on the degree of need as against political scheming which is presently the order of the day. Also, the central authority should make mopping up exercise on monthly basis whereby unspent personnel costs balances are mopped up and redirected to the areas of need among the DMUs. The supervising authorities of both health and education sector should enforce strict rules so that all DMUs will either adjust their personnel cost inputs or increase the size of the payroll to achieve full efficiency in line with personnel cost releases.

They should regulate the appointment processes in all DMUs in proportion to their personnel cost budget. All efforts should be on deck by the central authority to discourage the DMUs holding idle personnel cost balances as unspent from their personnel cost releases. All the chief executive officers should be made answerable to the available sticky personnel cost balances in the various accounts of the DMUs and proper investigation should be carried out on the judicious utilization of the personnel cost resource and any culprits should be brought to books. Appropriate financial appraisal techniques should be adopted in order to carry out the need assessment of the DMUs in both health and education sector to enhance accountability and efficiency. DMUs' budget estimates should be properly scrutinized before central authority approval. Personnel cost budget implementation's appraisal should be carried out on quarterly basis to confirm compliance with personnel cost appropriate disbursement.

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Investigating in the J-Curve Phenomenon in Tunisia- ARDL Bound Test Approach

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Abstract: This paper investigates the relationship between trade balance, real exchange rates, and incomes in Tunisia by adopting the autoregressive distributed model (ARDL) by using data over the period of 1980 to 2018. We also used the bound test cointegration between variables at a 10% significant level. Our findings show that the Tunisia economy does not match the Marshall-Lerner condition in the long run, that provides an accurate description of the particular situation for which a country currency devaluation or depreciation its currency under both fixed or floating regime is predicted to enhance the trade balance of a country, which means there is no j-curve phenomenon in the long run, which tries to differentiate between the change of short-run and long-run effects in the change of exchange rate on the trade balance. Our findings match the Marshall-Lerner condition in the short run and can confirm the existing j-curve in the case of Tunisia.

Keywords: *ARDL model, Exchange Rate, Income, J-curve, Trade Balance.*

1. Introduction

Tunisia was considered a blueprint of productive growth until the early 1980s, with a per capita income of $1,300 in 1980 (Ghose, Jamal, & Radwan, 2005). But by mid of the 1980S, the economic crises start to strike the country till now. As a developing country, Tunisia has many challenges that have to overcome and develops appropriate strategies to meet these challenges in the future, these challenges include political issue, instability increased rate of unemployment, poverty and income inequality (Achy, 2011; Ghose et al., 2005). Policymakers try to control financial and economic crises that hit Tunisia by making new regulations to help enhance the economy, increase trade openness, and economic growth (Jedidia et al., 2014). The recent data which are coming to Central Bank of Tunisia data show that there is a kind of deficit in the balance of external payments in recent years, as it rose to the limits of 11.2% of the gross domestic product during the year 2018, as a result of the country's political fluctuations and social pests represented In large numbers of unemployment, in addition to the decline in the volume of exports, as Tunisia lost foreign markets because it did not fulfill its pledges to export phosphates, oil, and oil as a result of the low investment activity in exploration for oil and natural gas which negatively affected the net assets of foreign currency (Braham, 2018). The trade balance has got the attention of policymakers due to its importance in the economy that's the surplus trade balance enhances the economy, where the export is considered as one of determining economic growth (Keho, 2015).

Both of the exchange rate and trade balance is considered a significant element of macroeconomic measures whose change can affect a country's economy positively or negatively (Necşulescu & Şerbănescu, 2013). The "competitive devaluation" whereby a country trading position can be improved by devaluing its currency has long take policymakers' concern. Throughout the Gold Standard of fixed exchange rates before the 1st World War, this idea was highly attractive, till now some countries could see currency devaluation as a benefit to their export markets. The condition "Marshall-Lerner" (M-L), named after Marshall and Lerner, this theory provides an accurate description of the particular situation for which a country currency devaluation or depreciation its currency under both fixed or floating regime is predicted to enhance the trade balance of a country (Bahmani et al., 2013). This study investigates in the relationship between exchange rate and trade balance and investigates in existing J-carve phenomenon in case of Tunisia by adopting an autoregressive distributed lag model (ARDL) also the study applied impulse response analysis to catch how the series reaction when a shock hitting the system and Variance Decomposition to show effect variance of the forecast error by employing vector autoregressive (VAR). Through this research, which focuses on Tunisian balance of payments, it is possible to come up with ideas for reforming monetary policy and attention to support the balance of services and thus reduce the impact of the trade balance deficit in Tunisia. The theory of elasticity states that the influence on trade balance of devaluation relies on elasticity of imports and exports.

The supporters of this theory claim that the change in the short-term in the exchange rate can be driven by transaction that could cause a drop in the trade balance. In the long run, exports and import quantities are adjusted in an increase in their elasticities and thereby trigger a quantity change. As quantity changes, the price of the country's export's product will decrease for the country which minimizes its currency but the price of goods which imported increase and hence lowers its demand (Eke et al., 2015). The theoretical model on which trade elasticity is estimated is an imperfect substitute model, the model supposes that exports and imports are incomplete substitutes for locally manufactured goods (Crane et al., 2007). The "Marshall & Lerner" (M&L) condition gives an accurate description of the circumstances in which a currency devaluation or depreciation is supposed to improve the trade balance of a country, briefly, a country's trade balance is the value of the country exports minus the value of the country imports, so the currency's country devalued leads the price to decrease and therefore the exports quantity should increase and the imports quantity decrease. But the trade balance enhancement cannot be done unless the quantity of export or quantities of import quantities react adequately to substitute the damage in price.

Thus, to meet Marshall–Lerner (LM) condition the total elasticities of imports and export demand price (in absolute value) have to be more than one (Aghevli et al., 1991; Bahmani et al., 2013; Cooper, 1992; Edwards, 1989). Therefore authority unwilling to decrease their currency in many countries to trade balance's improvement (Kyophilavong et al., 2013). The J-curve Phenomenon introduced by Magee, (1973), which tries to differentiate between the change of short-run and long-run effects in the change of exchange rate on the trade balance and it is based on an analysis of the dynamic effect of the exchange rate change on the trade balance, which appears when the Marshall condition is met, which states that if the sum of foreign and domestic elasticities of demand in their absolute value is greater than 1, the devaluation is likely to follow a decline in the trade balance then progress in the trade balance (Bahmani-Oskooee & Saha, 2017). The J-curve theorem suggests that the export goods should become cheaper for customers abroad after the decline of the currency of the country. Furthermore, other country products will also turn into an expensive product to import to local customers. Therefore, under this theory, the export of the country should be greater and less imported with a long-run depreciated local currency (Ongan et al., 2018).

Most of the studies that have assessed the relationship between exchange rate and trade balance have found different and not consistent findings of the effect of the exchange rate on the trade balance in the long-run and short-run. In this section, here, briefly review some studies about changes in the exchange rate and trade balance. Using the bilateral trade flows of about two-thirds of world trade in 33 countries Yazgan & Ozturk, (2019) have to reinvestigate the relationship among each of trade flows, incomes, and real effective exchange rates, the study used quarterly data overall the first quarter of 1981to second quarter of 2010 and reveals that the actual devaluation of the local currency in most countries has long-term positive consequences on the home country's trade balance. This long-term influence is expressed for a limited number of countries in the short term. Onakoya et al. (2019), investigate the effect of "J-curve" in Nigeria which is the relationship between trade balance and real effective exchange rate from 1980-2016, and showed empirical evidence that the relationship hasn't proved in long-run while the trade balance in the short-run benefit from devaluation. Suwanhirunkul & Masih, (2018), applied a novel approach (NARDL) in Thailand, and they confirmed existing long-run relationship among exchange rate and trade balance and find that the depreciation improves.

Trade balance for the whole country, but due to demand elasticity of export and import has mixed results for a different sector. The study denotes that there in the short-run and long-run a tradeoff between the exporting sector and importing sector. Hunegnaw & Kim, (2017) employed the ARDL model to examine the impact of exchange rate on trade balance for ten east African country over the period 1970 to 2013, the study's analysis showed that in long-run the depreciation affected positively on the trade balance for four-country, while there is no significant relationship in the short-run Arize et al. (2017). By using nonlinear auto-regressive distributed lag model (NARDL) for eight countries, the study investigates in the effect of real effective exchange rate on the trade balance, the paper indicates that exchange rate has an impact on trade when there a separation between depreciation and appreciation. The study indicates that in the long-run the reaction of the trade balance to depression more strongly than to appreciation. Fariditavana, (2016), Examine whether the influence of depreciation and appreciation of exchange rate on the trade balance is different, the study shows by using data for thirteen advanced and not advanced country that the effect is asymmetric in both to react to the real exchange rate's changes.

Concerning one trade partner a country's trade balance could improve while it could deteriorate to another trade, partner. Trinh, (2014), Investigates the short-run and long-run effect of exchange rate on the trade balance in Vietnam using the autoregressive distributed lag model the result shows that in the short-run and long-run the real exchange rate affects positively on the trade balance, thus including that an enhancement in the trade balance can be led by currency depression. More precisely, currency appreciation can contribute to trade balance breakdown. Moreover, the study result showed that the currency of vitamin is effectively pegged to the US dollar. It's clear that there are many ways to measure the influence of the exchange rate on trade balance either by employ trade statistic volume or by utilizing bilateral trade balance, previous studies had used a different model to conduct its studies. The findings of various earlier econometric studies support are different and sometimes contradictory, where Suwanhirunkul & Masih, (2018), Hunegnaw & Kim, (2017), Fariditavana, (2016), Trinh, (2014) indicates that there significant relationship on both long-run and short-run. Yazgan & Ozturk, (2019), Onakoya et al. (2019), Hunegnaw & Kim, (2017), suggest a lack or limited evidence for J-curve relationship term on short-run or long-run. This paper is structured as follows. Sections two provide empirical models and data, section three discusses the study's results, and section four shows our research conclusions.

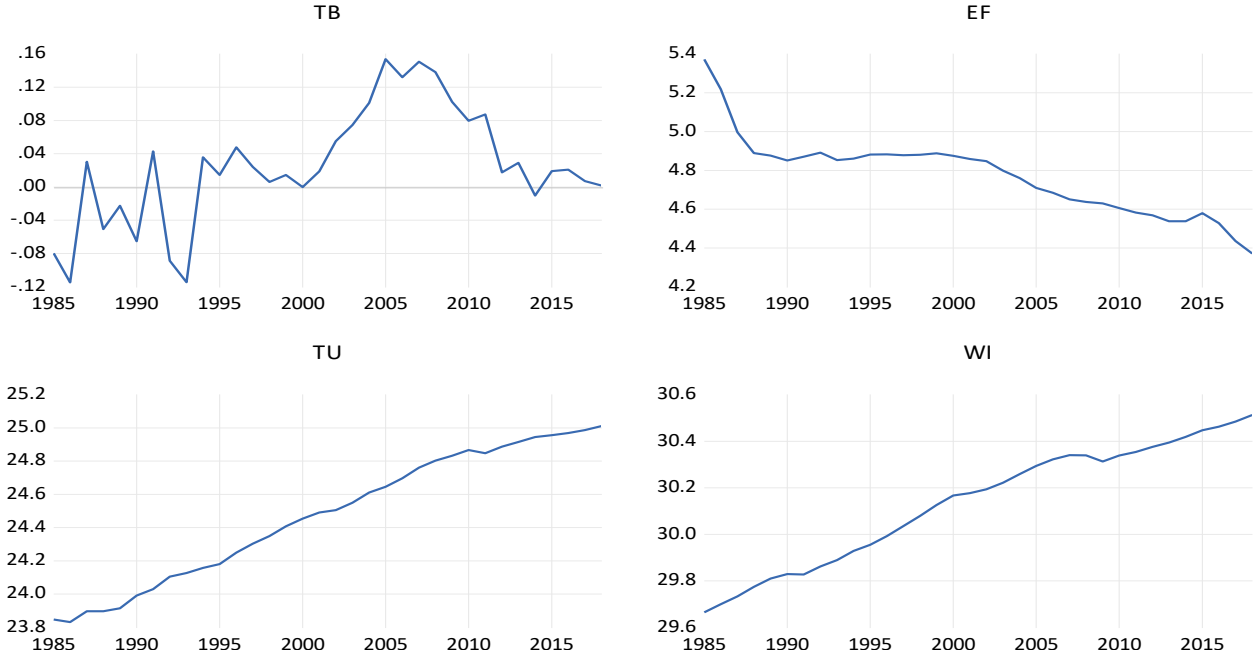
2. Methodology

Based on the previous discussion and to investigate in the existing j-curve phenomenon in case of Tunisia the study used trade balance as the dependent variable and effective exchange rate, Tunisia income, world income as the explanatory variable, the empirical equation is modeled as follows:

$$TB_t = \alpha_1 + \alpha_2 EF + \alpha_3 TU + \alpha_4 WI + \mu_t \qquad (1)$$

Where TB_t represents trade balance (log exports minus log imports), EF represents log effective interest rate, TU is the log real gross domestic product (GDP), and WI is representing world income. Log US GDP used as a proxy, all data series used in natural logarithms, the study uses annual observation for the period of 1980 to 2018. The data sources are from the World Bank. Plot. 1 shows the variables plot. The study employ econometrics technic to analyze the model and get better understanding about j-curve phenomenon, we employ unit root test to check stationary of the variable and breakpoint test to avoid biased in acceptance of unit root test and ensure robustness of series (SHARMA et al., 2019). Then we adopt ARDL model based on unit root test result to test the relationship between the study's variables. Last we use impulse response to test short-term dynamic interactions between the variables (Lütkepohl, 1991).

Plot 1: Variable of Study



Unit Root Test: Usually before starting analysis of cointegration the study check variable stationary, testing stationary for classical regression is important to get a valid result, where applying the analysis without testing the stationary may produce an incorrect result. Performing regression on such nonstationary tend to show high R2 as a result of spurious regression generated from using nonstationary series in the regression. The study tests the stationary of the variables using the most popular test which are Augmented Dickey-Fuller test (ADF), Phillips Perron (PP) test. The Augmented Dickey-Fuller test has the following model:

$$y_{t-1} = \psi y_{t-1} + \sum_{i=1}^{n} \alpha_i \, \Delta y_{t-1} + u_t \qquad (2)$$

Where, $y_{t-1} = y_{t-1} - y_{t-2}$, n refers to lags number, ψ is a parameter of y_{t-1} and it represents the drift, u_t is white noise. The null hypothesis of the test is existence of unit root, the alternative hypothesis is there's no unit root. Both (ADF) and (PP) produce an identical result (Brooks, 2019), but the last handle the serial correlation without adding lagged difference through using non-parametrical analysis, the Phillips Perron (PP) test is performed as follows: $\Delta Y_t = \alpha + \theta t + \lambda Y_{t-1} + u_t$ (3)

The null hypothesis is the series is not stationary, that is λ=0, the alternative hypothesis that the series Y is stationary (Beik & Wardhana, 2011).

ARDL Bound Test: The study used the ARDL bounds in testing the relationship between the study's variables; this approach developed by Pesaran et al. (2001), this approach has become common as it crushes the conventional cointegration test that required the study's variable to be integrated with the same order and non-stationary. This approach has many advantages comparing to other cointegration techniques, these advantages including that the order of integration of the variables are varied or unknown (Sam et al., 2019), also this approach assess simultaneously the effects of a particular variable on the other in both short-run and long-run in addition to detach effects of each short run and long run (Bentzen & Engsted, 2001). To carry out the bounds testing cointegration the study employs standard log-log functional specification as follow:

$$\Delta \ln TB_t = \alpha_0 + \sum_{i=1}^{\rho} c_i \, \Delta lnTB_{t-i} + \sum_{i=1}^{\rho} d_i \, \Delta \ln EF_{t-i} + \sum_{i=1}^{\rho} e_i \, \Delta \ln TU_{t-i} + \sum_{i=1}^{\rho} f_i \, \Delta lnWI_{t-i} + \pi_1 lnTB_{t-1} + \pi_1 lnEF_{t-1} + \pi_1 lnTU_{t-1} + \pi_1 lnWI_{t-1} + \upsilon_{it} \qquad (4)$$

Where Δ represents the first different operator, the drift component represented by α_0, t denotes to time trend and υ_{it} is the error term and has to be white noise. The maximum lag length selected by the Akaike Information Criterion (AIC) and represented by ρ. The ARDL bound test conduct by estimating F-statistics and comparing its value with two critical values (upper bound and lower bound). The absence of long relationship denoted by the null hypothesis for $(F_{TB}(TB/EF, TU, WI))$ is (H_0: $\pi_1 = \pi_2 = \pi_3 = \pi_4 = 0$) against ($H_1$: $\pi_1 \neq \pi_2 \neq \pi_3 \neq \pi_4 \neq 0$). The null hypothesis of no cointegration will be rejected if the F-statistic has a value greater than the upper bound if F-statistic value lower than the lower limit then we accept the alternative hypothesis of no cointegration, but the decision is rendered inconclusive if the value of F-statistic lie between upper and lower limit (Kyophilavong et al., 2013). To assess the short-run parameters using the error correction model (ECM), the sign of the lagged error correction term (ECMt − 1) coefficient has to lie between 0 and 1 and must be negative and also statistically significant (Tursoy, 2019).

Impulse Response: ARDL cointegration is followed by an impulse response analysis to examine the dynamics of the financial time series. The impulse response is used as a tool for analyzing short-term dynamic interactions between the variables and has an advantage for its ability to measure how a standard deviation shock to a component in the system is transferred over time to other variables. The zero value of impulse response indicates the absence of the dynamic causality between the variable (Lütkepohl, 1991).

3. Results and Discussion

Normally we star analysis by conducting unit root test, in case of using ARDL model we conduct unit root test to avoid the spurious result in F-test that occur when the variable is stationary at I(2) (Ouattara, 2004). Table 1 shows the Perron, (1988) unit root test. It shows that the trade balance and effective interest rate I(0) Without Constant & Trend while other variables are integrated at the first difference I(1).

Table 1: Phillips-Perron (1988) Unit Root Test

		TB	EF	TU	WI
With Constant-I(0)	t-Statistic	-2.27	-1.00	-1.21	-1.72
With Constant-I(1)	t-Statistic	-9.84***	-2.81*	-6.45***	-4.07***
With Constant & Trend -I(0)	t-Statistic	-2.72	-1.89	-0.657	-1.01
With Constant & Trend-I(1)	t-Statistic	-9.92***	-2.75	-6.56***	-4.13**
Without Constant & Trend -I(0)	t-Statistic	-2.28**	-2.78***	9.47	7.90
Without Constant & Trend -I(1)	t-Statistic	-9.95***	-2.51**	-2.61**	-1.75*

Note: *Denote significant level at 10%, ** at 5% and *** at 1%.

'The conventional unit root tests are biased towards a false acceptance of stationarity when the data exhibits trend stationarity with a structural break. Therefore, researchers estimated structural breaks to ensure the robustness of the series' (SHARMA et al., 2019, p 53). The study has employed Quandt-Andrews Breakpoint Test as show Table 2 there is a breakpoint in 2005, for this, the study used dummy variable in 2005.

Table 2: Quandt-Andrews Breakpoint Test

F-Statistic	Value	Break Date
LR	11.96***	2005
Wald	35.90***	2005

Note: ***Indicates a significant level of 1%.

The optimal lag length was selected based on the Akaike Information Criterion (AIC), Table 3 shows the ARDL cointegration test. By comparison of F-statistic (3.65) with a critical value of upper bound (3.454) at a significant level 10%, can reject the null hypothesis of no cointegration and conclude that there long-run cointegration between variables at significant level 10% as reported in Table 3.

Table 3: Result of Bound Test

F-Statistic: 3.652293, K:3	
sig. level at 10% for finite Sample: n=40	
upper bound	3.454
lower bound	2.592
R-squared	0.81
Adj R^2	0.72

The coefficient of the ARDL model in the long run and short run are reported in Table 4. The result indicates that in the long run that real income has a negative relationship with trade balance but insignificant. The relationship between trade balance and the effective exchange rate is positive but insignificant, also positive with world income but significant. The result of the long-run model as shown indicates that the Marshall Lerner condition does not exist in Tunisia in the long-run. These results are consistent with a study by Onakoya et al. (2019) and Duasa, (2007) who found that there is no relationship in the long run.

Table 4: Long-Run and Short-Run Coefficient

Variable	Coefficient	t-Statistic
Long-run results		
EF	0.306725	1.143
TU	-1.233408	-1.638
WI	2.046655	1.830*
C	-32.78677	-1.960*
Short-run results		

D(TB (-1))	-0.317601	-2.751**
D(EF)	0.333684	1.709
D(EF(-1))	-0.616320	-2.690**
D(EF(-2))	0.513451	2.746**
D(TU)	-0.257547	-0.888
D(TU(-1))	-0.433536	-1.745*
D(WI)	-1.038886	-2.404**
DU05	0.092373	2.203**
CointEq(-1)	-0.397127	-4.630***

Note: *Denote significant level at 10%, ** at 5% and *** at 1%.

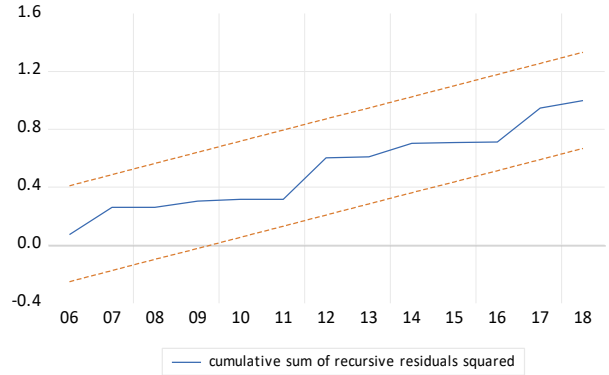
The result also shows that the speed of adjustment (-0.397127) is negative and statistically significant at 1%, which implies that variation in the short-run is corrected by -0.40 in the long run. In the short run, the lagged one year of the real income and world income has a significant and negative relationship with trade balance. The result also shows that the one year lag of effective exchange run indicate that the trade balance will be destroyed by a devaluation of local currency since it has a negative and statistically significant impact trade balance in the short run, anyway two years lagged of the effective exchange rate has a statistically positive significant impact also the dummy variable significant at 5%, the world economy has a negative significant impact at significant level 5%. The short-run result confirms of existing of the J-curve phenomenon in case of Tunisia. The result of the short-run consistent with Trinh, (2014) for Vietnam regarding the short run and consistent with Onakoya et al. (2019) for Nigeria regarding exiting of J-curve phenomenon in short-run and absence this phenomenon in long run. There are many additional diagnostic tests suggested by B. Pesaran & Pesaran, (2010) including serial correlation tests, function form, normality, and heteroscedasticity, also they suggest conducting cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) tests based on the recursive regression residuals. The study applied diagnosis tests to fill the specification of the model suggested by B. Pesaran & Pesaran, (2010) which mentioned before. Table 5, shows diagnosis test, the result confirms adequacy of the model.

Table 5: Diagnosis Test

	F-Statistic	**Obs*R^2**
Serial correlation test	0.667285	2.151129
	P, F(2,21) = 0.5236	**P**(χ^2) = 0.3411
Heteroskedasticity Test	1.158268	13.56050
	P,F(12,23) = 0.3659	**P**(χ^2) = 0.3296
Ramsey RESET Test	0.768075	1.235407
	P,F(1,22) = 0.3903	**P**(χ^2) = 0.2624
Test of normality	Jarque-bera=1.257	P = 0.533

To assess stability and constancy of the model parameter, the cumulative sum of recursive residuals (CUSUM) and cumulative sum of recursive residuals squared tests (CUSUMSQ) which develop by Brown et al. (1975) has been used. Plot 2 represents CUSUM and CUSUMSQ.

Plot 2: CUSUM and $CUSUM_{SQ}$



The area within Orange dashed lines indicates a significant area at 5% plot 2. This indicates that CUSUM and $CUSUM_{SQ}$ plots locate within critical bounds which mean that the study parameter is stability and constancy over the sample period. Variance Decomposition result reported in Table 6. It shows that the trade balance till 10th period explained by each of effective exchange rate, Tunisia income and world income of 6.188%, 1.362%, and 40.966% respectively, the other 51.484% clarified by its self-innovations. The trade balance, Tunisia income, and world income explain 12.381%, 3.967%, and 3.107% respectively of the effective exchange rate. The trade balance, effective exchange rate has a negligible portion of explanation Tunisia income while the world income explains 53.320% of Tunisian income shocks. The trade balance, effective exchange rate, and Tunisia income explain 9.847%, 1.093%, 19.132% respectively of world income shocks. The world income the most variable contributes to the explanation of trade balance while the other variables have a negligible portion. The percent of explaining shocks in trade balance by effective exchange rate increasing over time, while the percent of explaining shocks by its innovations decreasing which is consistent with study result.

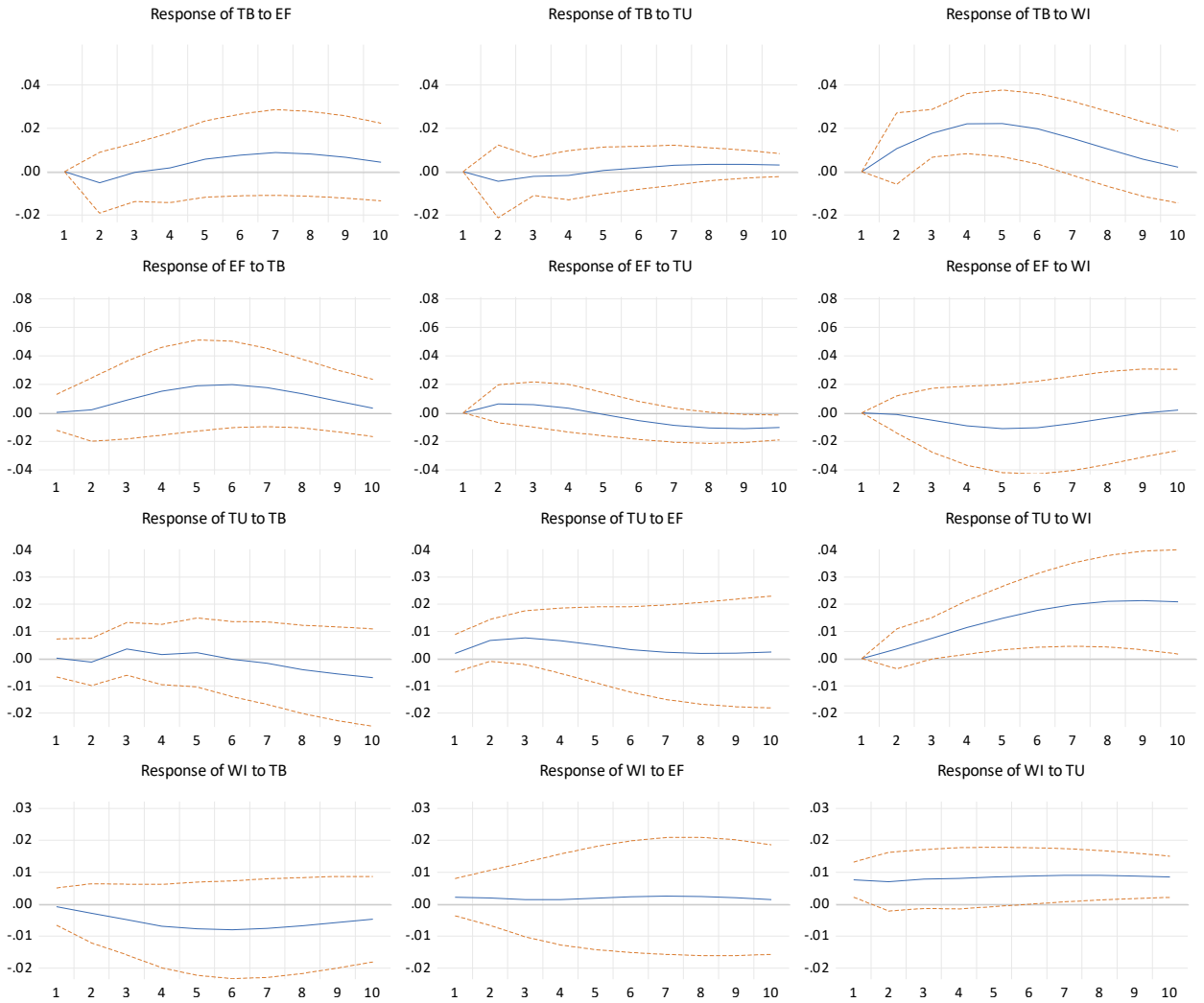
Table 6: Variance Decomposition

Period	TB_t	EF_t	TU_t	WI_t	Period	TB_t	EF_t	TU_t	WI_t
TB_t:					**TU_t**				
1	100.000	0.000	0.000	0.000	1	0.010	0.816	99.174	0.000
2	93.501	1.053	0.825	4.621	2	0.228	7.050	90.849	1.873
3	84.078	0.864	0.839	14.219	3	1.386	10.304	81.686	6.625
4	72.171	0.826	0.800	26.202	4	1.204	10.805	73.619	14.372
5	62.743	1.546	0.702	35.010	5	1.201	9.755	65.701	23.342
6	57.012	2.662	0.691	39.635	6	0.957	8.252	58.313	32.477
7	53.729	4.039	0.820	41.412	7	0.881	6.886	51.848	40.385
8	52.286	5.149	1.004	41.561	8	1.205	5.798	46.523	46.474
9	51.668	5.876	1.203	41.253	9	1.804	5.007	42.495	50.695
10	51.484	6.188	1.362	40.966	10	2.606	4.459	39.614	53.320
EF_t					**WI_t**				
1	0.008	99.992	0.000	0.000	1	0.196	1.506	18.572	79.727
2	0.110	98.965	0.895	0.030	2	1.125	1.093	13.749	84.033
3	1.101	97.579	0.960	0.360	3	2.480	0.808	12.989	83.723
4	3.134	94.915	0.842	1.108	4	4.413	0.699	12.927	81.961
5	5.969	91.217	0.755	2.059	5	6.140	0.715	13.503	79.642
6	8.896	87.333	0.949	2.822	6	7.639	0.810	14.410	77.140
7	11.082	84.235	1.518	3.165	7	8.696	0.936	15.545	74.823

8	12.194	82.278	2.344	3.185	8	9.376	1.038	16.771	72.816
9	12.469	81.195	3.216	3.120	9	9.732	1.090	17.993	71.185
10	12.381	80.545	3.967	3.107	10	9.874	1.093	19.132	69.900

Plot 3 shows the impulse response of the variable. It's clear that the trade balance has a negative shock due to an effective exchange rate at less than -.02 S.D and after that positive response, this confirms the result of the existing J-curve phenomenon in Tunisia in the short run, and similar to results of variance decomposition. Almost the same response to local income while it has a positive response to world income and increasing till about .021 S.D and then start decreasing. Regarding the effective exchange rate, it has a positive response to trade balance, positive and negative response to shocks in Tunisia income, and negative response to the world economy. Tunisia income has a positive response to the effective exchange rate and world economy and a positive and negative response to the trade balance. The world income has a negative response trade balance and positive response to effective exchange rate and Tunisia income.

Plot 3: Impulse Response



Response to Cholesky 1 S.D. (d.f. adjusted) Innovations ± 2 S.E.

4. Conclusion

This study examines the relationship between trade balance and exchange rate over the period 1980-2018 in Tunisia, and test for existing j-curve phenomenon in case of Tunisia, the study employs econometrics technic which includes unit root test, breakpoint test, ARDL model, Variance decomposition and impulse response. The main study finding confirms existing of long run cointegration by using bound test. The coefficient of Variable is not all significant in long run. The exchange rate is not significant in long run so there's no relationship in long run which indicates that there is no J-Curve in case of Tunisia in long run. This result goes in the line with Duasa, (2007) and Onakoya et al. (2019). The relationship between study variables and trade balance is significant in short run. The relationship between trade balance and exchange rate in the short run have both positive and negative statistically significant at lag one and two respectively, the result confirms of existing of the J-curve phenomenon in case of Tunisia, and consistent with study of Fariditavana, (2016); Hunegnaw & Kim, (2017); Suwanhirunkul & Masih, (2018) and Trinh, (2014) the result shows that devaluation of Tunisia currency will enhance the trade balance in short run, which matches Marshall-Lerner condition. The depreciation of Tunisia Currency enhances the trade balance thus, the policies aimed at improving trade balance in short term should focus on evaluating the currency in the short-run this leads to improving the export side. The exchange rate still most important tools by the policymaker, use of exchange rate to deal with the economic issue should be done by a balance between long-run and short-run effect.

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Anchoring among German Financial Analysts: An Empirical and Background Analysis

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Abstract: The paper investigates whether financial analysts in Germany were subject to cognitive and emotional constraints. The focus was on the heuristic of anchoring. An evaluation based on 224 individual forecasts for seven DAX-listed companies for the period from 2011 to 2018 with respect to the earnings per share of the current business year was done. Three issues were analysed in particular: Whether anchoring was found at all, to what extent anchoring has led to a deterioration of the forecast quality and if the effect of anchoring was still measurable shortly before the incurred earnings had been announced. For the assessment of the data, descriptive statistical measures, and tests such as the non-parametric Wilcoxon rank-sum test or the parametric t-test were used. For the German capital market there are currently very few empirical behavioural studies dealing with the forecast quality of financial analysts. This study is aiming to close this gap by investigating to what extent behavioural aspects have led to a significant deterioration in the forecast quality of financial analysts for the German stock market. The quality and reliability of analysts' forecasts is of high relevance to the capital market, since the assessments of financial analysts are used as a basis for investment decisions by private and institutional investors and are thus essential for a high degree of efficiency in the allocation of capital in a financial system.

Keywords: *Behavioural Finance, Financial analysts, Forecasting, Anchoring, Herd behaviour.*

1. Introduction

Financial analysts for stocks act as information intermediaries between companies, shareholders and other stakeholders. The quality and reliability of analysts' forecasts is of high relevance to the capital market, since the assessments of financial analysts are used as a basis for investment decisions by private and institutional investors and are thus essential for a high degree of efficiency in the allocation of capital in a financial system (Hollie et al., 2017, Wichels, 2001). One would expect that these professionals do their assessments and forecasts in a highly rational manner on the basis of quantitative models and the processing of qualitative information, which is carried out at great expense. In fact, however, a number of earlier studies show that this is not always the case and that also financial analysts deviate from the principle of rationality, and are subject to cognitive and emotional limitations (Hirshleifer et al., 2018, Daxhammer & Facsar, 2017). They also use heuristics to simplify their information and decision-making process, and to reduce their personal professional risk. This non-rational behaviour of financial analysts can lead to systematic distortions and misjudgements in their analyses and reduce the quality of their work. The most important indicator estimated by financial analysts to determine the value of shares is the future earnings per share.

A number of empirical studies have shown in the past that forecasts of earnings per share in particular are systematically distorted on average. An important cause of these distortions can be the anchoring heuristic (Cen et al., 2013, Campbell & Sharpe, 2009). There are very few empirical studies for the German capital market dealing with the influence of behavioural aspects on the forecast quality of financial analysts. Therefore, this study aims to investigate to what extent behavioural aspects have led to a significant deterioration in the forecasting quality of financial analysts for the German stock market. For this purpose, the forecast of 224 analysts for seven DAX stocks were statistically evaluated for the period from 2011 to 2018. A special focus was placed on the anchoring heuristic as the cause of systematic distortions in financial analyses. This study is structured as follows: The second chapter is devoted to the function of financial analysts as information intermediaries, their analysis processes and conflicts of interest, as well as the behavioural anomalies to be assumed in their work. The third chapter is devoted to the empirical analysis, consisting of a description of the data and methodology used and a presentation of the results found.

2. Financial Analysts and their Forecasts: A Theoretical Consideration

The Importance of Financial Analysts for the Financial System: Financial analysts are highly relevant for the capital market as a link between companies and other capital market participants. They procure, review, process and interpret the information published by the company, as well as publicly available information, and thus play a central role in information processing (Göres, 2008). Both potential and existing investors need continuous corporate information in order to be able to make decisions on the efficient allocation of their capital. However, since both the scope and complexity of the available information is extremely high and the expertise of investors is often insufficient to correctly evaluate and interpret this information, financial analysts play an important role. The results of financial analysts are used by private and institutional investors such as asset managers of funds, client advisors and portfolio managers of banks.

Financial analysts have the task of transforming the complex information about financial markets into a usable and comprehensible form supported by analytical methods (Whitehouse, 2017). Financial analysts can be differentiated into sell-side analysts, buy-side analysts and independent analysts. Buy-side analysts are usually employed by institutional investors such as corporations, insurance companies and investment and pension funds. Sell-side analysts work primarily for universal and investment banks as well as brokerage houses. Their analyses, assessments and investment recommendations are addressed to a broad external circle, consisting of private and institutional investors as well as business journalists and information service providers. Sell-side analysts therefore maintain a large number of relationships with a wide variety of capital market players and thus have a strong multiplier effect, since their studies are also available to the general public (Hobbs, 2015). The focus of this paper will be on sell-side analysts.

The Analysis Process of Financial Analysts: The analytical process of financial analysts can be divided into three main areas: information collection, processing and distribution. In gathering information, the focus is on receiving appropriate information about the company to be analysed, the respective industry and the overall economic environment. The subsequent information processing comprises the preparation and processing of the information by means of sound methods and ultimately leads to analytical results which are distributed to interested groups within the scope of information distribution. In order to obtain valuation-relevant information on the respective companies, financial analysts have various sources of information at their disposal. The primary sources include all information published either directly by the company or by special institutions such as the European Central Bank, economic research institutes, ministries or the governmental statistical offices (Whitehouse, 2017). Secondary sources are also used, which include all information that is publicly available or has been published by independent institutions.

Primary sources include quarterly, half-yearly and annual reports, ad hoc announcements, discussions with management and analysts' conferences, while secondary sources include journalistic publications, publications by management consultants or institutions and studies by industry associations as well as other financial analysts. Numerous empirical studies indicate that personal discussions with management, information from external accounting departments and analysts' conferences are the most important sources of information for financial analysts, while secondary sources are attributed less importance. However, the assessments of other analysts represent an important secondary source for financial analysts. A survey study by Kajüter (2009) showed that the forecast reporting of companies is considered to be very relevant, as the information requirements of financial analysts with regard to future-oriented assessments are very high. The uncertainty of financial analysts can be significantly reduced by the business reports of companies. These reports contain management assessments on future net assets, profits, and also statements on the overall economic and company-specific development (Amir et al., 2003).

Furthermore, quarterly reports in particular are used by analysts to continuously review their assessments in the course of a business year and to adjust them to internal and external developments (Paarz, 2011). On this basis, relevant performance indicators such as future earnings per share are forecasted and the value of a company is determined. According to Palepu and Healy (2012), information processing can be divided into three steps. First, a strategic analysis of the company is carried out with a view to determine the success factors and risks of a company, named the business strategy analysis. On the basis of studies of the industry-specific and competitive environment, possible future profit potentials for the company are to be estimated.

In the second step, the actual economic situation of the company is analysed with accounting methods on the basis of published company reports (Fried & Givoly, 1982). Subsequently, in the third step of the process, an analysis of the cash flows, as well as the fundamental key company figures is carried out.

To assess the company's past performance, current assets, and financial and earnings situation. This is the main part of the financial analysis (Ballwieser, 2011). Finally, in the prospective analysis, which is based on the previous process steps, the analysts forecast key earnings and risk figures to determine the fair value of the company (Fried, 1982). The information processing concludes with the comparison of the calculated fair value with the market value of the company, so that financial analysts can make a buy or sell recommendation for investors.

Conflicts of Interest in the Working Environment of Financial Analysts: Financial analysts act as information intermediaries in an environment of complex relationships, so that conflicts of interest may arise, which are characterised by corresponding obligations and incentives. The companies to be analysed, the employer and potential investors are important counterparts for the financial analyst and may cause conflicts of interest. These conflicts of interest can lead to a change in the behaviour of analysts and systematic distortions of forecasts and recommendations (O'Brien et al., 2005, Mehran & Stulz, 2007, Brunnberg, 2018). The management of a company can influence the assessment of an analyst in its favour because the analyst depends on it as a significant source of information. Financial analysts therefore often try to establish a personal and positive relationship with management representatives in order to obtain information as early as possible and to ensure a continuous exchange of information. In return, the management of the company to be analysed expects a fair and, in case of doubt, rather optimistic and market value-enhancing assessment from the analysts. This results in a cheaper and enhanced access to the capital market and higher remuneration for managers. It has already been demonstrated that financial analysts with a personal relationship.

To the management are more likely to give assessments that are positively biased on average (Hodgkinson, 2001, Lim, 2001, Darrough & Russell, 2002). Although the management of an analysed company expects financial analysts to give optimistic assessments in return for providing information, the management must at the same time ensure that the expectations of the capital market are not too high. Otherwise, the company could have difficulties in meeting expectations with negative price reactions as a consequence (Cotter et al., 2006). The management has a clear incentive to influence analysts' expectations by selectively providing information (Richardson et al., 2004). This is known as expectations management. The management compares the analysts' estimates with its own forecasts so that there is a continuous interaction between the management and financial analysts, named "earnings game" (Collingwood, 2001). The analysts' forecasts are initially optimistic in order to ensure that the management provides the relevant information. Over the course of the fiscal year, the optimistic forecasts are adjusted step by step, supported by the regular reporting of the management so that the forecasts become more accurate. Shortly before the publication of the actual results the forecasts of the financial analysts usually show a slight pessimism.

Which is deliberately aimed for by the company, so that in the end the capital market expectations can be met or even exceeded in the hope of a positive reaction of the share price? It could be shown that analysts' forecasts were lowered by an average of 12% in the course of the fiscal year after a rather optimistic forecast at the beginning and then becoming slightly pessimistic at the end of the year. In this way, the companies were often able to meet or exceed the expectations of the market (Bartov & Cohen, 2009). The expectation management of the companies is also advantageous for the analysts because it allows them to reduce their forecast error by adjusting their estimates in a way that they do not deviate by too much from the performance of the company. In this way they secure their reputation (Cotter et al., 2006). As mentioned, sell-side analysts work mainly for universal and investment banks or brokerage houses that provide further consulting and banking services for the company under analysis. These business relationships may distort the objective research of the financial analysts due to pressures from employers. This pressure is reinforced by the fact that financial analysts make their results available free of charge so that they do not directly generate their own income. Their task is to contribute indirectly to the profits of their employer (Dugar & Nathan, 1995). It was found in other research that the forecasts of financial analysts had a significantly positive bias if the company to be analysed had a close business relationship with the employee (Chan et al., 2007).

Anomalies in the Conduct of Financial Analysts: The quality of analysts' forecasts was also influenced by behavioural aspects (Kent Baker et al., 2017). Particularly in complex situations humans tend to rely on heuristics to promote easy and rapid decision-making (Kahneman & Tversky, 1974). Financial analysts are faced with the challenge of filtering out the information relevant to valuation from an extremely large quantity of information and evaluating it under time constraints. Therefore, despite their high level of expertise, they are likely too subject to cognitive and emotional limitations. This includes anchoring (Amir & Ganzach, 1998). Numerous research findings show that when making estimates, people tend to start out from an initial or reference value, a so-called anchor, and only adjust over time if at all (Kahneman & Tversky, 1974). This adjustment happens too slowly and too limited in terms of size which gives the initial value too much weight in the forecast. A systematic distortion of information processing and assessments may be the consequence. For financial analysts, anchor values are often those values that were last observed as market prices or profits. However, numerical values do not necessarily have to be used as anchors. The opinions and attitudes of other market participants or experts can also serve as anchors (Cen et al., 2013). Moreover, by focusing on the status quo, the bandwidths of forecasts are set too narrowly, which means that the probability of extreme deviations is underestimated (Ricciardi, 2008).

Some empirical studies have examined the anchoring heuristic for the US market. While Cen et al. (2013) found that financial analysts tend to base their forecasts on the median of EPS estimates for companies in an industry, Campbell and Sharpe (2009) showed that analysts are too strongly oriented towards historical values. In their work, they defined the existence of an anchoring as a prediction that is too close to a starting value. In addition, the authors found evidence that the consensus earnings forecasts of analysts anchor to the most recent earnings figures. Another potential cognitive heuristic of financial analysts could be selective perception of information. They tend to prefer information for their analysis that is consistent with their own ideas and expectations. At the same time, information that does not reflect their opinion is faded out or underweighted (Hirshleifer & Hong Teoh, 2003). In doing so, they concentrate on information that is in line with previously made forecasts in order to avoid cognitive dissonance and to avoid having to change their statements too often, which could jeopardise their reputation.

The heuristic of herd behaviour was also observed among financial analysts. Herd behaviour occurs when individual analysts base their forecasts on the forecasts of other analysts with a good reputation. This can result in an increase in the forecast error (DeBondt & Forbes, 1999). Herd behaviour also leads to a reduction in the dispersion of forecasts, as analysts adjust their forecasts in the direction of the consensus. In addition, the mean value of the distribution rises as analysts tend to adjust their forecasts to the consensus. This is particularly true for those who had a below-average forecast. This can be again explained by the fact that rather optimistic assessments lead to better relations with the management of the company. In addition, with positive assessments higher trading turnover can be achieved which is positive for the employer of the analyst. Another strong incentive for herding behaviour among analysts is that it can help to protect their personal reputation in the case of a major misjudgement, so that the analyst avoids being alone with the forecast error (Hirshleifer & Hong Teoh, 2003).

Other Factors Influencing Forecast Quality: In addition to the factors already described, the quality of analysts' assessments can be influenced by the analyst`s working environment, as well as company-specific and institutional factors. The more companies and sectors a financial analyst has to work on, the less accurate the estimates of the financial analysts become (Malloy, 2005). The size of the analyst`s employer plays a negative role as well (Clement, 1999). Company-specific factors such as earnings volatility, capital structure, the industry and market environment of the company, as well as the shareholder group and the current situation of a company, play a role in the forecast quality (Zhang et al., 2019). The more these factors increase the uncertainty for the analyst, the more likely the analyst is to use the heuristics outlined above, in particular anchoring and herd behaviour, in order not to jeopardise his reputation. In addition, disclosure requirements, accounting standards and legal and tax systems can influence the forecasting errors of financial analysts, which will not be discussed in detail here. Instead, reference is made to Baldwin (1984) or Elliot and Philbrick (1990).

3. Empirical Investigation of the Impact of Behavioural Biases on Analysts' Forecasts

As explained in the theoretical part of this paper, both the working environment of financial analysts and behavioural aspects can be supportive for anchoring earnings estimates and negatively affect the quality of analyst forecasts. Therefore, it will be empirically investigated whether financial analysts base their estimates on anchored EPS values of the previous business year and whether the use of these anchor values results in a higher forecast error and thus a deterioration of the quality of analysts' forecasts. Since analysts continually update their forecasts during the year and adjust them to new information, the analysts' forecasts at the beginning of the fiscal year show the highest degree of uncertainty.

Thus, the influence of behavioural aspects should be most pronounced at this point. The consideration of new information that analysts receive during the year in quarterly and other business reports reduces this uncertainty accordingly. Analysts' forecasts could be expected to become more accurate shortly before the end of the fiscal year. Therefore it is interesting to see whether the anchoring effect is still measurable at the end of a fiscal year. The anchor value, however, may have changed in the meantime. Instead of the results of the past business year the new anchor values are likely to be derived from recent quarterly business reports or management statements. The bias of the forecasting error tends to be negative in this case because the expectation management of companies aims to direct the forecast of analysts somewhat too negatively to be able to surprise the market to the positive at the date of the earnings announcement. The following hypotheses were formulated and tested on this basis:
H1: A systematic anchoring to the most recent past value of corporate earnings per share by financial analysts can be observed.
H2: The anchoring of the forecasts at the previous year's EPS leads to a higher forecast error by analysts.
H3: The anchoring effect is persistent over the entire forecasting period although analysts have the chance to adjust their forecasts in the meantime and the anchor value does change. The bias of the forecasting error tends to be negative.

Data and Methodology: This empirical study requires a homogeneous group of companies with a high analyst coverage rate as the forecast quality is higher for companies with a higher analyst coverage than for companies with a lower one (Lehmann, 2014, Hope, 2003). The seven companies selected for this study were all listed on the DAX and had to meet extensive reporting requirements. For the period under review from 2011 to 2018 at least 29 active analysts reviewed each company. In total, 224 individual forecasts were used in this study. The analysed data set consisted of the previous year's earnings per share, the analysts' forecasts for EPS in the current fiscal year and the actual EPS for the same fiscal year. The period of investigation excluded the financial and economic crisis of 2008/2009 as the forecast quality was significantly weaker during this period than usual (Ruhwedel et al., 2009). The companies investigated were Adidas (37), BMW (32), Beiersdorf (33), Lufthansa (29), Daimler (32), BASF (31) and Bayer (30). The number in brackets is indicating the number of financial analysts who reported on the respective company. The companies were selected to represent different industries to avoid any kind of industry bias. All the data was taken from Bloomberg and then further processed with respect to the purposes of this paper. This is true for all the tables and statistics to follow. In order to test hypothesis 1, the differences between the anchor values and forecasts.

As well as between forecasts and incurred EPS were first determined for all companies. Then the standard deviation of the two groups of data was calculated and compared with each other. It was assumed that the forecasts were anchored if the standard deviation of the differences between anchor values and forecasts was smaller than the one of the differences between forecasts and incurred EPS. The second hypothesis is tested by dividing the analysts' forecasts into two groups, depending on whether the analysts' forecasts have anchored more or less strongly to the previous year's EPS. In order to be able to make this distinction, it was assumed that a stronger anchor was present if the difference between the anchor value - the last year's EPS, and the forecast value was systematically smaller than the difference between the forecast value and the incurred EPS. This, of course, also meant a significantly higher forecast error of the group which tended more towards anchoring. Subsequently, the non-parametric Wilcoxon rank-sum test was used to check whether the mean values of the two groups differ significantly from each other to assess whether the group distinction was justified. To test for the third hypothesis, it was analysed whether the estimated earnings forecasts

differed significantly from the incurred earnings shortly before their announcements. In addition to a simple statistically descriptive procedure a parametric t-test was applied to verify the findings.

4. Empirical Results

The test results for Hypothesis 1 showed that the standard deviation of 0.3744 from the differences between the anchor values and forecasts for all companies in the years 2011 to 2018, was smaller than the standard deviation of 0.6017 from the differences between forecasts and incurred EPS. The hypothesis that financial analysts anchor their EPS forecasts for the coming business year to the EPS of the previous business year was confirmed.

Table 1: Proof for the Anchoring Effect Based on Different Standard Deviations between Past and Forecasted Values and Forecasted and True Values

Company	Year	Anchor	Difference Anchor and Forecast	Difference Forecast and True Value
Adidas	FY 18	6,624	1,479	0,338
Adidas	FY 17	4,995	0,813	0,816
Adidas	FY 16	3,269	0,726	1,000
Adidas	FY 15	3,382	0,002	0,111
Adidas	FY 14	4,010	0,308	0,936
Adidas	FY 13	3,790	0,485	0,265
Adidas	FY 12	3,200	0,504	0,086
Adidas	FY 11	2,710	0,434	0,056
BASF	FY 18	6,440	0,146	0,716
BASF	FY 17	4,830	0,299	1,311
BASF	FY 16	5,000	0,753	0,583
BASF	FY 15	5,431	0,034	0,465
BASF	FY 14	5,365	0,544	0,478
BASF	FY 13	5,712	0,265	0,612
BASF	FY 12	6,259	0,488	0,059
BASF	FY 11	5,701	0,293	0,265
Bayer	FY 18	6,633	0,144	0,549
Bayer	FY 17	7,204	0,452	1,023
Bayer	FY 16	6,800	0,517	0,113
Bayer	FY 15	5,925	0,886	0,011
Bayer	FY 14	5,526	0,267	0,132
Bayer	FY 13	5,267	0,531	0,272
Bayer	FY 12	4,756	0,118	0,393
Bayer	FY 11	4,123	0,271	0,362
Beiersdorf	FY 18	2,969	0,452	0,251
Beiersdorf	FY 17	3,214	0,086	0,331
Beiersdorf	FY 16	2,910	0,139	0,165
Beiersdorf	FY 15	2,547	0,201	0,162
Beiersdorf	FY 14	2,354	0,226	0,033
Beiersdorf	FY 13	2,070	0,329	0,045
Beiersdorf	FY 12	1,913	0,074	0,083
Beiersdorf	FY 11	1,782	0,039	0,170
BMW	FY 18	11,652	1,017	0,185
BMW	FY 17	10,450	0,331	1,533
BMW	FY 16	9,700	0,105	0,855
BMW	FY 15	8,873	0,610	0,217
BMW	FY 14	8,102	0,632	0,139
BMW	FY 13	7,629	0,147	0,326
BMW	FY 12	7,450	0,018	0,161
BMW	FY 11	4,910	0,789	1,751

Lufthansa	FY 18	4,397	0,009	0,012
Lufthansa	FY 17	2,976	0,731	3,050
Lufthansa	FY 16	2,766	0,051	0,261
Lufthansa	FY 15	1,021	0,754	0,991
Lufthansa	FY 14	1,386	0,481	0,846
Lufthansa	FY 13	2,074	0,778	0,090
Lufthansa	FY 12	0,594	0,128	1,608
Lufthansa	FY 11	1,529	0,043	0,892
Daimler	FY 18	9,779	0,426	1,967
Daimler	FY 17	8,934	0,590	1,435
Daimler	FY 16	8,279	0,372	0,283
Daimler	FY 15	6,083	1,031	1,165
Daimler	FY 14	4,139	1,836	0,108
Daimler	FY 13	5,369	0,722	0,508
Daimler	FY 12	5,320	0,025	0,024
Daimler	FY 11	5,280	0,985	0,055
Standard Deviation			**0,374**	**0,602**

To test for the second hypothesis all forecasts that were identified as rather anchored were assigned a, dummy variable of 1 and all forecasts that were identified as not so much anchored a dummy variable of 0. The distinction was made according to the method described in chapter 3.1. In order to check which prerequisites exist for the use of the possible significance test procedures, the data was first examined for variance homogeneity using the Levene test modified by Brown and Forsythe. The presence of a normal distribution of the samples was then tested using the Shapiro-Wilk test. The data was homogeneous in terms of variance, but did not show a normal distribution, so the nonparametric Wilcoxon rank-sum test was used (appendix 1). To be able to make a statement about whether the difference between the mean values of the two groups was significant, the significance level was set at 0.05.

Table 2: Wilcoxon Rank-Sum Test for the Impact of Anchoring on the Forecast Quality at the Beginning of a New Business Year

Dummy	Observation	Rank Sum	Expected Value
0	25	421	712.5
1	31	1175	883.5
Combined Results	56	1596	1596

Unadjusted variance: 3681.25 / Adjustment for ties: 0.00 / Adjusted variance: 3681.25.
H0: (Dummy 1 = 0) versus (Dummy1 = 1), z = -4.804 / Prob > I z I = 0.0000.

The results show that the forecasting error is significantly larger for rather anchored forecasts than for less anchored ones shortly after the release of last business year´s earnings (p-value: 0.0000 < 0.05). Therefore, the null hypothesis that anchoring did not negatively affect the quality of the forecast was rejected. The empirical results for testing hypothesis 3 show that 62% of the forecasts were too pessimistic shortly before the end of the business year and 37.5 % of the forecasts were too optimistic. The median of the forecasts was -5% compared to the EPS that actually occurred. Therefore the statistical findings seem to support hypothesis 3. To underline the validity of these findings, their statistical significance was analysed by using the parametric t-test. The existence of a normal distribution was supported by the Shapiro-Wilk test (appendix 2). The results show that the forecasting error is significantly larger for rather anchored forecasts than for less anchored ones shortly after the release of last business year´s earnings (p-value: 0.0000 < 0.05). Therefore, the null hypothesis that anchoring did not negatively affect the quality of the forecast was rejected.

Table 3: The Parametric T-Test for the Impact of Anchoring and the Negative Forecast Bias Shortly Before the Announcement of the Current Business Year Results

Variable	Observations	Mean	Std. Error	Std. Dev.	95% Con. Interval Lower & Upper Value	
Est. Mean-Y	56	5.274608	0.3427596	2.564978	4.587702	5.961513
Comp. EPS	56	5.397661	0.347562	2.600916	4.701131	6.094191
Difference	0	-0.123053	0.0537478	0.402212	-0.113429	-0.153399

Mean (difference) = mean (EstMean_Y – Comp_EPS) t = -2.2895
Ha: mean (difference) < 0 Ha: mean (difference) = 0 Ha: mean (difference) > 0
Pr(T<t) = 0.0130 Pr(ITI > ItI) = 0.0259 Pr(T>t) = 0.9870

Here, the persistence of the anchoring heuristic until the end of the current business year was proved by the t-statistic of t = -2.2895. This is clearly significant although analysts had access to a lot of additional relevant information from the quarterly reports at that time. The anchor value had changed as the forecasted earnings switched to a negative bias (Pr(T<t) = 0.0130 < 0.05 for mean(difference) < 0). Thus, shortly before the publication of the annual report for the past fiscal year, an on average pessimistic distortion of the analysts' forecasts compared to the realised EPS was demonstrated - driven by the expectation management of the companies. A lack of adjustment of anchor values to available information could have been caused as well by selective perception or herd behaviour as described in chapter 2.4.

Comparison of Empirical Findings with Existing Literature: The first empirical finding of this paper was that analyst forecast values had a standard deviation with past values that were almost half as high as the values that really occurred. This was a significant proof that anchoring was taking place. This result was backed by the study of Ricciardi (2008) which showed that analysts were focusing too much on the status quo and thereby setting the bandwidths of forecasts too narrowly. In addition, there was a high accordance with the study of Campbell and Sharpe (2009) who concluded that analysts are too strongly oriented towards historical values and due to the existence of anchoring their predictions were too close at the starting values. Specifically the authors found evidence that consensus earnings forecasts of analysts anchor to the most recent earnings figures which match exactly the results of this paper. The second empirical finding of the paper was that highly anchored values had a significantly higher forecast error than less anchored values. Kent Baker (2017) also came to the conclusion that the quality of analysts' forecasts was influenced by behavioural aspects.

Closely related to that is the outcome of the study by Hirshleifer & Hong Teoh (2003) that analysts tend to prefer information that is consistent with their own ideas and expectations and do not sufficiently reflect information that is contradicting their opinion. In doing so, they concentrate on information that is in line with previously made forecast values in order to avoid cognitive dissonance. Finally it was found that analysts were systematically too optimistic at the beginning of a business year and anchoring on the values of the past business year. Furthermore, they tended to be slightly too pessimistic at the end of a business year by anchoring their expectation on the recent guidance of the companies which have an incentive to surprise the market on the positive side. This pattern was also observed by Cotter et al. (2006) and Bartov and Cohen (2009). The intention of corporations to take advantage of the management of analysts` expectations was well documented by the studies of Richardson et al. (2004) and Collingwood (2001). Overall, the findings of this paper were well backed by existing literature. Analysts do not come up with pure rational results. They are affected by psychological traits such as anchoring and herding behaviour. This issue is constraining the efficiency of financial markets and the whole financial system as analysts have an important intermediary function with respect to the provision of information between investors and corporations.

5. Conclusion and Recommendations

Financial analysts are of high relevance to capital markets because their work can contribute significantly to a reduction of information asymmetries and the associated agency costs as well as to an increase in the information efficiency of financial markets. Therefore, this study aimed to investigate whether financial analysts were subject to cognitive and emotional constraints. The focus was on the heuristic of anchoring. The empirical study was based on 224 individual forecasts for seven DAX-listed companies for the period from

2011 to 2018. It was empirically found that the analysts' forecast values had a standard deviation with past values that were almost half as high as the values that really occurred. This was a clear proof that anchoring was taking place. In a second step it was shown that highly anchored values had a significantly higher forecast error than less anchored values. Finally it was found that both shortly after the publication of the previous year's annual report, and also at a later stage, just before the actual business year of companies ended and the true EPS figures were released, that the predictions for the remaining short period were still affected by the anchoring of analysts whereas the anchor values had changed.

This was surprising since the analysts had a great deal of information from the quarterly reports available to them at that point of time. In both cases, the forecasting errors increased due to the anchoring effect. However it should also be noted that in addition to anchoring, other behavioural factors such as herd behaviour or selective perceptions also seemed to have had a negative impact on the quality of analysts' forecasts, which had been not the primary focus of this study. A few recommendations can be derived from this paper: it is important that investors know the psychological biases of analysts described in this paper to incorporate them into their assessment about the outlook for expected earnings and risks. This could help to improve the information efficiency of financial markets and was one of the reasons to write this paper. In addition, the results of this paper suggest that the independency of analysts should be strengthened versus the brokerage or investment banking business of the firms they work for. Finally one could think of compensation schemes for analysts that reward independent forecasts and that are forgiving in case that an assessment was wrong. This could be supportive to reduce the biases of anchoring and herd behaviour among analysts. It would be useful if more research was done in this direction.

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Appendixes: Appendix 1

Table 4: Levene-Test According to Brown and Forsythe for Variance Homogeneity with Respect to Hypothesis 2

Dummy 1	Mean	Standard Deviation	Frequency
0	0,0388	0,0342	25
1	0,3081	0,6386	31
Total	0,1878	0,4911	56

W_0 = 6,767 df(1, 54) Pr > F = 0,0119
W_{50} = 2,933 df(1, 54) Pr > F = 0,0925
W_{10} = 3,244 df(1, 54) Pr > F = 0,0773

Levene's robust test statistic W_0 tests the equality of the variances between the two groups (anchored and non-anchored) and the two statistics proposed by Brown and Forsythe, which replace the mean in Levene's formula with alternative location estimators. The first alternative W_{50} replaces the mean by the median. The second alternative replaces the mean with the mean reduced by 10% (W_{10}). The alternative W_{50} is usually used as the relevant threshold level in such tests. The Levene test statistic for the comparison of the medians of both groups was above the significance value of 0.05 for W_{50} and can therefore be considered as fulfilled.

Table 5: Shapiro-Wilk w Test for the Normal Distribution of the Data with Respect to Hypothesis 2

Variable	Observations	w	v	z	Prob. > z
Drel1a_0	25	0,8489	4,198	2,933	0,00168
Drel1a_1	31	0,4252	18,724	6,070	0,00000

Drel1a_0 stands for the average relative absolute forecast error of the non-anchored EPS forecasts. Drel1a_1 stands for the average relative absolute forecast error of the anchored EPS forecasts.

Appendix 2

Table 6: Levene-Test According to Brown and Forsythe and Shapiro-Wilk-Test with Respect to Hypothesis 3

Dummy 2	Mean	Standard Deviation	Frequency
0	5,2746	2,565	56
1	5,3977	2,601	56
Total	5,3661	2,572	112

W_0 = 0,0031 df(1, 110) Pr > F = 0,9557
W_{50} = 0,0029 df(1, 110) Pr > F = 0,9575
W_{10} = 0,0026 df(1, 110) Pr > F = 0,9595

The Levene test statistic for the comparison of the medians of both groups was again above the significance value of 0.05 for W50 and can therefore be considered as fulfilled.

Table 7: Shapiro-Wilk W Test for Normal Distribution of the Data with Respect to Hypothesis 3

Variable	Observations	W	v	z	Prob. > z
Est.Mean C_Y	56	0,8489	4,198	2,933	0,00168
Comp_EPS	56	0,4252	18,724	6,070	0,00000

EstMeanC_Y stands for the financial analysts' consensus forecast for the EPS of the current fiscal year. Comp_EPS stands for the actual EPS for the past fiscal year.

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The Polity of Regional Integration Development and the Challenges Hampering Southern Africa Economic Growth

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Abstract: This paper explored the polity of regional integration development and the challenges hampering the southern Africa economic growth. The study finds that the design and structure of the African regional development within the integration schemes is around inward-looking industrialization that is intended to facilitate economic costs of participation for member states. This often remains unevenly distributed among member states. Most countries in Africa linger highly reliant on agriculture and yet suffer from high levels of unemployment and food insecurity in the continent. In these situations, it is logical for one to expect the "African regional integration in the Southern African Development Community (SADC) sub-regional schemes to be most focused on developing whatsoever synergies that may exist to promote both socio-economic development and regional security across borders, which may hamper the policy implementation through good governance and ethical valued approach. Qualitatively, this paper collected data and analysis them based on content, using secondary sources from different domains, including Google scholars, Scorpius repositories.

Keywords: *Economic development, continental identity, insecurity, SADC integration.*

1. Introduction

Africa has the potential to develop its continent by looking at its fastest rate of demographic growth in the world. Africa seems to be at a "crossroads", and the question is whether its growing working population can drive to promote a much-anticipated demographic dividend. There have been several calls to Africa leaders to develop the strategies that promote good governance for both regional and continental development, as it is paramount in the 21st century (Enaifoghe, 2019). The New Partnership for Africa's Development (NEPAD), attempted to chart a new course of good governance and effective development for the continent. Africa development has received many articulations with the need for a broader, emerging and incipient unanimity or agreement on deliberate strategic policies for a long-term economic reawakening. Based on the analyses of every economic management by Africans and non-Africans, Enaifoghe (2019), it is clear that Africa has not been promoting moral ethics in governance to achieve the desired socio-economic development. Africa is caught up in the global ideologies – they often subscribe to the global ideas of development.

Which not directly apply Africa ideology, unless begin to think inward development by adopting afro-global in the pursuit of its socio-political and economic development; the continent will remain an outward global resource system for outsiders. This means that Africa will remain a resource that provides resources including the human capacity to develop other regions. Afroglobal is a system where individual, group or organization can appreciates or subscribe to foreign ideologies but apply that idea to the local or immediate environment. In 2010 the McKinsey Global Institute (MGI) described the probable and the development growth of African economies as "lions on the move" (World Economic Forum, 2016: 6). Despite the breakdown of global service prices and political shocks that have slowed growth in North Africa, Africa's economic lions are still moving forward (Leke and Barton, 2016). This article assesses the extent to which Africa countries have improved concerning the various calls and the target set by a different international organisation on the African development process.

2. Methodology

This study is qualitative research which used secondary resource content data analysis method, this method allows researchers to study, and thereby making sense of written documents, which may be available either in the public or private domain (Mogalakwe, 2006). This means that the researcher determines the relevance of the documents that they consult based on their significance to the study. Qualitatively, data were collected primarily through secondary sources, which include, the Internet sources, books, reports, periodicals, policy

briefs, journal, articles, news bulletins and official documents on the African integration agenda as well as the Southern African sub-regional integration implementation.

3. Literature Review Consideration

Over 100 literature were sourced in the different domain using advanced searches from Google scholars and Scorpius on the subject. The collected data were analysed based on content and relevance, but only 40 literature were used that were found relevant to inform the study. The African continent has overall achieved average real annual GDP growth of 5.4% between 2000 and 2016, adding $78 billion annually to GDP (in 2015 prices). The growth slowed to $69 billion (3.3%), a year between 2010 and 2015 (Leke and Barton, 2016). The question is, has the glory come off Africa's growth story? Though the new research from the MGI answered the above as no, it is clear that the continent's growth story has become a more nuanced one (Leke and Barton, 2016). In line with this, foremost global conferences and dialogues have called on individual countries not only to prepare but as to implement the "National Strategies for Sustainable Development" (NSSD). The launch of "regional economic blocs not only strengthens member countries' positions on the global political landscape and bargaining power on international issues but also enables countries to collectively grapple with the region's economic progress" (Enaifoghe & Adetiba, 2018). Matthews (2003) thought, "Individual countries within any given economic bloc cannot deal with the economic challenges single-handedly; hence the mooting of the idea of regional economic integration". Chingono & Nakana (2008) state, that regional integration has become increasingly accepted as an essential key component in facilitating both economic and political development. Considering the African experience of regional integration schemes in sub-Saharan Africa, the regionalism in Africa has always had a strong political motive.

However, the call for Pan-Africanism is the manifestation of "continental identity and coherence, distinguishes regional integration in Africa from other regions in the developing world" (McCarthy, 1995). Nevertheless, the usual economic arguments often put forward for "regional co-operation" are "particularly strong given the small size of many sub-Saharan Africa countries in economic terms". Furthermore, the report of the FAO (2003) saw most African countries to have remained highly dependent on agriculture and suffered from high levels of both social, political and economic insecurity in the continent. In these situations, one would expect that the "African regional integration schemes" to be focused on developing whatsoever synergies that may exist within the region (Matthews 2003); to promote both social, political and economic development. After the wave of independence that flounced the African continent in the 1960s and beyond, integration arrangements had increasingly become a significant contrivance for smoothing and promoting "economic growth and development in the then recently decolonised African economies" (SAHO, 2015: 1). The African development agenda was pioneered by some African visionary leaders in the likes of Ghana's Kwame Nkrumah who advocated for full "continental integration" which he saw as a necessary means to guarantee that Africa is taken seriously "on the world stage, especially as it prepared to take its place as an independent actor in the global economy" (SAHO, 2015: 1). Integration was regarded vital to address and streamline the "skewed neo-colonial relationships and trading practices" which according to Abraham (2008) had in the "past, maintained Africa's overreliance on primary commodity exports".

The above perception was the central motivation for the setting up of the "Organisation of African Unity (OAU) in 1963, Spartan restrictions and Constraints within the OAU also meant that it was only about being able to fulfil its primary mission to ensure liberation on the continent before it was disbanded and replaced by the African Union in 2002" (SAHO, 2015). The Organization of African Unity (OAU) made few major moves towards "the goal of regional economic integration in 1991". The organisation embraced the "Treaty Establishing the African Economic Community (AEC), also known as the Abuja Treaty", which was aimed at primarily promoting the continental unity of all African nations through a harmonised "economic and security policies within Africa's regional economic communities" (RECs) (Enaifoghe, 2019). Nevertheless, the Abuja Treaty was embraced by the new organisation after dissolving the OAU to establish the new 'African Union (AU)', which then deliberated the "regional economic integration' to be a flagship project in driving African political and economic development". According to the AU organisation, they consider (Enaifoghe & Asuelimen, 2018). Regional integration as the process where two or more countries in a particular area voluntarily join together to pursue common policies and objectives in matters of general economic development or a particular economic field of common interest to the mutual advantage how is a mutual

advantage" (Enaifoghe & Asuelimen, 2018). The question is in which form would they also be any form of documents that these countries have to sign to state their agreements and benefits? How does it work for all the partaking States? The Abuja Treaty, on regional and economic integration is envisaged to be realised in stages as follows:

Stage 1*: creating new RECs (Regional Economic Commission) and strengthening existing RECs (by 1999).*
Stage 2*: stabilizing barriers to regional trade (by 2007).*
Stage 3*: establishing a free-trade area (FTA) and a customs union for each REC (by 2017).*
Stage 4*: coordinating tariff and non-tariff systems among RECs (by 2019).*
Stage 5*: establishing an African Common Market and common policies among RECs (by 2023).*
Stage 6*: establishing an African Central Bank, creating a continental monetary union and electing the first Pan-African Parliament (by 2028) (Asante, 1997).*

The Abuja Treaty framework provided the existence of eight "Regional Economic Communities (RECs) in Africa's five sub-regions; the Arab Maghreb Union (AMU), the Common Market for Eastern and Southern Africa (COMESA), the Community of Sahel-Saharan States (CEN-SAD). The East African Community (EAC), the Economic Community of Central African States (ECCAS), the Economic Community of West African States (ECOWAS), the Inter-governmental Authority on Development (IGAD) and the Southern African Development Community (SADC)" (Asante, 1997: 37). Furthermore, with the Abuja Treaty, the new regional organisation (AU) in 2001 adopted the New Partnership for Africa's Development (NEPAD), which was invented and not innovative by former South African President Thabo Mbeki, whose aim was to "reposition Africa in the global stage, eradicate poverty and placing Africa on the road to sustainable development" (United Nations Department of Economic and Social Affairs Division for Sustainable Development (2011). In line with the former President's Mbeki's vision, NEPAD provided a framework which underpinned the imperative role, that is to be played by the aforementioned Regional Economic Commissions' effort to address development and integration challenges issues incontinent. Equally the RECs are reflected as the primary proxies voted to implement the NEPAD's agendas and plans. Furthermore, NEPAD emphasises the position of African "ownership and leadership, based on a neo-liberal framework" which therefore encourages "privatisation, liberalisation and deregulation".

More so, the NEPAD commission strives for economic development through the pull of foreign direct investment (FDI) from highly developed nations around the world (UNCTAD, 2019)). In ensuring the effective running of the NEPAD, the African Union institution is to act as the principal vehicle for the development of regional integration in Africa, it was expected to promote Africa's integration into the international economy. However, according to Gibb (2009), the success in this undertaking has been "slow and marred by delay and stagnation". Enaifoghe & Adetiba (2018), noted that certain "RECs have made progress in some priority areas such as the establishment of FTas in ECOWAS, ECCAS, COMESA and the EAC, and the launch of customs unions in the EAC and COMESA, the benefits of integration have not been achieved as timeously as was intended". In that regards, there are quite a number of elucidations as to why Africa has had misfortune in integrating the continent economically. These factors or setbacks range from the confidence or acceptance that the "inherited structures of the AU subject the institution to the limitations of its predecessor" (UNCTAD, 2020; SAHO (2015: 1). This is in the form of established weakness and (Enaifoghe & Asuelime, 2018), shortages in resources, and the lack of "political will on the part of REC member States" to want to relinquish some level of control of their State sovereignty to a regional body like the African Union. Just as it was within the European Union (EU) during the integration of Europe, which is seen as one of the best in the world (Enaifoghe & Asuelime, 2018).

Africa's Regional Integration Efforts in Promoting Economic Development: Since independence, several attempts has been made to industrialize efficiently, using import-substitution have failed, giving rise to the concept of regional integration as a way of promoting systemic change in Africa. As a result, most African countries have embraced regional integration as a crucial aspect of their sustainable development, driven mainly by overarching framework for addressing the limitation of small and rotational economies operating in isolation. (United Nations, 2018). Numerous pan-African organizations have worked sequentially to establish and advance economic, social and political cooperation and integration of the continent. Several colonial cross-border agreements have remained in place since independence and have served the regional integration agenda. The ECA (2018a) noted several prime examples relating to "the previous 'African

Financial Community (CFA) zone, consisting of the West African CFA franc and the Central African CFA franc.' Other realistic examples include the West African CFA franc, which was eventually incorporated into the West African Economic and Monetary Union (WAEMU) in the territory of ECOWAS". According to the United Nations Economic Commission for Africa (2018), the "Central African CFA franc is set to join the Economic and Monetary Union of Central Africa (CEMAC) in the ECCAS region" (ECA, 2018a). Similarly, in Southern Africa, the Southern African Customs Union (SACU) and its related monetary union, there is a shared currency region to be incorporated into the SADC electoral district.

However, the sub-region is yet to achieve this agenda of single currency implementation. Nevertheless, in line with the regional integration proceedings on the continent, there are "various pan-African organizations, which are through different mechanisms established to promote sustainable economic growth and development in the continent, where the key factor of regional integration is present in their workings". The ECA is such that was established by "the Economic and Social Council of the United Nations in 1958 as one of the five regional commissions of the United Nations that, together with partners and member States, consecutively work towards sustainable development in Africa" (United Nations, 2018). The economic commission for Africa is meant to provide technical assistance by conducting research and policy analysis to improve the capacity of regional integration institutions, including the African Union, regional economic communities and the Member States. (ECA, 2018b). The ECA (2018b), states that the key priority of ECA is to target "Africa's development challenges, particularly in the context of poverty eradication, to ensure sustainable growth and good governance on the continent and thus promote international cooperation for Africa's development". The commission has since the 1960s, recommended "the creation of sub-regional groupings in Africa to serve that purpose".

Just about the same time, UNECA (2017), noted that the "Heads of State and Government of 30 of the 32 independent African nations gathered to establish. The Organization of African Unity (OAU) at the Conference of Independent African States on 25 May 1963". Matthews (2003) articulated that apart from the liberalization efforts of colonization and apartheid, the main objectives of OAU were: to promote unity and solidarity among the African States; to organize and strengthen cooperation for development on the continent; to protect the sovereignty and territorial integrity of its member states, and to encourage international cooperation as outlined by the United Nations. The establishment of the African Development Bank Group (AfDB) was parallel to the formation of the OAU. It was founded following an agreement signed by 23 founding Member States on 14 August 1963 in Khartoum, Sudan (UN 2018). The Group comprises two other bodies, "with AfDB as the parent organization – the African Development Fund, which was set up on 29 November 1972 by the AfDB and 13 non-African countries; and the Nigeria Trust Fund, which was set up in 1976 by the Federal Government of Nigeria" (UN 2018). The African Development Bank (AfDB) Group was set up as a "financial institution" to respond to the need for enhanced cooperation on public and private capital investment in projects likely to contribute to the economic and social development of the continent.

4. SADC Economic Development and the Challenges Hampering Integration

Discussing regional integration in Africa is a complex topic and extremely difficult, and this difficulty and complexity have led to disagreements, frustration and confusion (Thonke & Spliid, 2012). The complexity and difficulty of regional integration in the African context can be partly traced to colonisation, which Africa underwent; and the adoption of colonial partitioning of African borders. This was largely made by colonists and the lack of ethical practices in governance and high levels of corruption among African leaders. This, therefore, raises a need to complete a decolonisation agenda by redrawing the African political map (Moyo, 2018). Further, the need is raised to recognise the contexts which African regions face, which are different from other regions in the world although there are similarities. Oloruntoba (2018) argue that the maintenance of colonial borders thwarts human mobility, therefore thus thwarts the objectives of regional integration. The partitioning of Africa borders at the Berlin Conference; and the subsequent maintenance of them by post-independence African governments have thwarted human mobility. Hence it can be deduced that the development of adequate infrastructure across the continent should be of paramount importance to cater.

To or accommodate human mobility across the borders has been limited (Enaifoghe, 2019). This means that the complete improvement of its infrastructure should be facilitated by the end of 2020, as it will improve the economy in Africa, and apart from infrastructural development, other matters and resources that need to be improved. However, in the meantime more than concentrating on human mobility and African borders to improve the economy while establishing policies and infrastructure for African borders, include technology advancement and well-developed open market. Braude (2012), noted that the "current pace of globalization gives no choice to small developing countries: they must integrate into world markets if they wish to succeed because Africa has more than its fair share of small poor economies as a result of fragmentation that it inherited from European colonizers". This making Africa the continent most prone to ethnic-based conflicts, yet, African countries impose the heaviest artificial barriers around their borders on top of this. It's time to change this. Africa can adopt a Sub-continental approach, Coulibaly (2017), highlighted that except for the two dominant economies, which are South Africa and Nigeria– the continent is made up of countries with small domestic markets.

Restricted economic diversification and generally low connectivity to neighbouring countries. Reduced Proximity between economic operators within Africa and across Africa and the rest of the world (Coulibaly, 2017). The response of the international community (specifically advanced economies and multinational corporations) to assistance to Africa has so far been essentially country-specific and globalising regional fires: genocides, pandemics, religious wars, etc. – Coulibaly (2017). This method has merit, but a continent chronically suffering from the triple disadvantages of low economic density, long-distance to markets, and deep divisions require a different strategy. This research suggests that it will benefit greatly from a regional strategy, as argued in the 2009 World Development Report. One way to do this is by providing preferential access to the region to the world's leading markets, as provided for by the African Development Potential Act (AGOA) and All But Weapons (EBA), two preferential agreements extended by the United States and the European Union, respectfully, since 2001 (Coulibaly, 2017). However, it is clear that not all African countries, including West African countries, have benefited from this access. Surprisingly, West Africa is home to two of the most advanced regional economic cultures.

The West African Economic and Monetary Union (WAEMU) shares a shared monetary policy that has kept inflation low and is a customs. Union with a compensation mechanism to maintain the Common External Tariff (Coulibaly, 2017). The Economic Community of West African States (ECOWAS) maintains a regional military force and exerts peer pressure that has forced out military coups in its member countries. Oloruntoba (2018) thus assert that intra-African trade has been severely affected by poor infrastructure, trading with outside countries and outward-looking trade policy. The author concludes that two regions in Africa, namely ECOWAS and SADC has made progress in developing infrastructure, in the form of constructing roads across their regions, although such progress is inadequate. African trade is less than 2% of the total global trade, and that 2% constitutes about half of the GDP in most African countries (Geda & Seid, 2015). This is in agreement with the statement by Rekiso (2017) in that African markets are small and fragmented. Further, the colonial legacy, which prohibited colonised States from industrialisation and developing manufacturing sector proves to be one of the major impediments for regional integration in Africa.

When colonisation ended, most African States were dependent on agriculture and mining, and they were largely characterised by low levels of education for the masses, poor infrastructure and poor technical change; and largely intrusive policy frameworks and structures (Rekiso, 2017). From the regional integration perspective, this implies that most of the African economies rely on exporting natural resources and agricultural products, and this implies that development and manufacturing are very limited in Africa. As African economies specialise in exporting raw materials, Rekiso (2017) argue that capitalising on raw materials is tantamount to specialising in poverty, outdated economic models which produce no formal employment opportunities. The author then concludes that technological advancement in the absence of manufacturing sector will push down the export prices, which will then lower the living standards in the raw material dependent economy. This further implies that African markets will remain small, even though regions integrate. There is also a general perception that the African States do not have clearly defined trade interests. The multiplicity of these trade interests makes full integration a difficult endeavour to implement. Geda and Seid (2015) posit that 35% of the African population from one-thirds of African economies are

landlocked, therefore their trade and development is largely dependent on the goodwill of their coastal neighbours.

Further, most African States are small and have limited prospects to bargain independently on the international stage. Being a landlocked economy correlates with more costs. When it comes to bilateral trade as there are higher logistics costs to be incurred to access the sea (Geda & Seid, 2015). Geda and Seid (2015) conclude by stating that transport costs in Africa are 65% higher than in developed countries, considering that 35% of the African population is in landlocked countries in contrast with the average of about 1% globally. The deduction can be made that for African landlocked countries to minimise the effects of being landlocked and improve their socio-economic development, regional integration must be pursued vigorously, and this will serve to minimise relative remoteness of landlocked countries to world markets. Kayizzi-Mugerwa, Anyanwu, and Conceição (2014) opine that being landlocked correlates with being relatively remote from international markets. Further, this would enable African countries to bargain as a region in the global markets and this would greatly benefit African economies (Muzee & Enaifoghe, 2019). Thonke & Spliid (2012) state that regional integration would create new and bigger markets in Africa, which would increase capital inflow. Increased capital inflow would increase investments and increase the competitiveness of trade, and later improved socio-economic benefits.

Although African economies are small, and some economies relatively remote from international markets. African countries still largely trade and depend on developed countries for the supply of manufactured goods (Geda & Seid, 2015). This is partly due to a failure to industrialise and liberalisation of trade that began in the 70s which was forced by global financial institutions and found most African countries dominantly dependent on agriculture which implied that African fragile manufacturing sector was to face competition from developed countries, thus forcing most African economies to rely on agriculture as a comparative advantage (Rekiso, 2017). Although Africa faces poverty, African states need to develop manufacturing sector as it involves all the features of the economic sector and serves as learning apparatus for the economy through the diffusion of technological progress and its capacity to produce inputs for other sectors in the economy. Rekiso (2017), argued that there is no empirical evidence of the economy that developed without manufacturing or industrial base. However, as the world is moving from industrialization to a more technological advanced revolution, for Africa to move with the trend and remain competitive, it has to try and bridge some of the economic frontiers and in the current 4th industrial revolution (4IR). This will help further prepare for the 5th industrial revolution and move with the train of technological advancement. Apart from the smallness of African markets, there is a general perception that African Stock Markets may be segmented from global stock markets and this perception is usually attributed to political instability, investment barriers, weak accounting standards and information asymmetries that have plagued many African countries (Boamah, Watts, & Loudon, 2016).

This further makes it more challenging to integrate African stock markets to achieve full regional integration. Further, the unwillingness of African governments to cede macroeconomic sovereignty to a regional body; unwillingness to face high costs that may arise due to importing from a high-cost member state; and unwillingness to discontinue existing relations with non-member state impede both economic and regional integration (Geda & Seid, 2015). For regions to benefit from their stock markets, there is a need to harmonise their stock market policies to reduce fragmentation and improve accounting standards and information symmetry, unfortunately, this is currently not happening in the SADC countries. Africa faces the challenge of poverty, which is directly linked to colonialism and failure for African economies to industrialise after independence. This then leads to a challenge whereby African RECs depend on international donors for funding and technical assistance, especially those from the West and Europe; and this hinder integration as donor bodies have their demands and criteria (Bilal, Byiers, & Vanheukelom, 2015). Rekiso (2017) assert that regional integration has implications and effects that come with it; in that, the production of certain exports would shift from one Member State to another, from a high-cost member to a low-cost member, therefore trade will be created; and product origins will shift from a high-cost member to a low-cost member, which will create trade diversion. Scholars argue that trade creation will improve the welfare of the members, while trade diversion can reduce the welfare of the members (Muzee & Enaifoghe, 2019). But an argument can be made that trade diversion will develop new markets where they did not exist before and allow innovation which will contribute to trade and further allow the opening of new markets.

For African regional integration to ensure more inclusive socio-economic development, it needs to be, people-driven. Moyo (2018) laments on how African regional integration mechanisms marginalise non-state actors, with a specific reference to informal cross-border traders, as regional integration is driven by elites. The exclusion of non-state actors can be observed from regional policies, in that the SADC Protocol on Trade excludes cross-border traders, even though informal cross-border traders do move goods and services across borders and integrate economic activities, although informally (Moyo, 2018). Oloruntoba (2018) posit that if activities of the informal cross-border trading were factored in, one would get a different picture of intra-African trade; hence there is a need to rethink theories, policies and programmes and governance approaches to regional integration. The author further state that activities by the informal cross-border traders do contribute to poverty alleviation, despite being pushed to the margins (Oloruntoba, 2018). Jordaan (2014) posit that other scholars have a different perspective on regional integration, as they differentiate it into policy-induced integration and market-induced regional integration. The former was driven by policymakers while the latter is driven by the private sector. Empirical evidence shows that for a region to integrate more properly, it is more preferable to integrate through the markets then later through the policies. This can be linked to the argument by Moyo (2018), that African states tend to marginalise non-state actors, especially informal cross-border traders as they are made invisible by policies relating to regional integration; even though they integrate economic activities informally. Further, Jordaan (2014) asserts that Africa's progress on regional integration is further slowed by lack of support from the private sector and the non-implementation of liberalisation schedules.

Security Challenges Hampering Regional Integration: Africa has multiple security threats that can be solved through regional integration, as regional integration will develop early warning systems and instruments to deal with security threats in African regions (Wachira, 2003). West Africa as a region is faced with security threats in a form of organised cross-border criminal networks. This is amplified by the proliferation of small arms and light weapons, which is linked to civil wars, conflicts and Boko Haram terrorism (Okeke & Odubajo, 2018). The authors state that although West Africa is faced with security threats, it has one of the most sophisticated peace and security arrangements. The SADC region differs from other regions in Africa in that some of the States were settled by colonialists and established white supremacist rule in Rhodesia (today Zimbabwe), Namibia and South Africa. It made it a unique region, with a different power configuration compared to other regions in Africa. This led to the history of the Southern African region being dominated by destabilising attempts by South Africa as it aimed to preserve white minority rule. The other countries in the region resisted the destabilising forces by South Africa and assisted the helping hand to liberation movements from both South Africa and Zimbabwe. Further, South Africa's destabilising tactics in the region cost an estimated $62.42 billion and more than half a million fatalities, and this legacy will always be a mark when it comes to integrating the region. South Africa provided military and other forms of assistance to rebel forces in Angola and Mozambique which further destabilise the region.

States in Southern Africa formed Southern Africa Development Coordinating Conference (SADCC) in 1980 to counter apartheid, South Africa. When Zimbabwe obtained independence in 1980 it also joined, so did Namibia in 1991. Anti-apartheid movements namely the ANC and PAC were observers in the SADCC. The formation of the SADCC greatly diminished the power by apartheid South Africa to destabilise the region (Okeke & Odubajo, 2018). It is from this history that the SADC emerged, and this history will be a major factor of the region for some time. The destabilising tactics by apartheid South Africa did hinder economic development in the region and did push some economies to the margins. Okeke and Odubajo (2018) posit that the political changes of the 1990s globally, as well as the transition of South Africa towards a majority rule, changed the arrangements of SADCC into Southern Africa Development Community. Further, 1994 marked the change in SADC as South Africa became democratic and joined SADC. Further, it changed its foreign policy stance, thus the security dynamics of the region changed considerably. The change in the security dynamics does not imply that the region is spared from security threats; the region still has security threats to contend with, albeit not military. SADC is faced with the challenges of human security that emanate from illegal migration, the prevalence of HIV/AIDS, cross-border criminal activities, human trafficking, piracy on the seas, poverty and political instability (Okeke & Odubajo, 2018). Security challenges that SADC face affects all member states, albeit unequally. They further hamper development and economic growth as they are leaks to the financial resources that can be invested to develop the economies in the region.

5. Conclusions and Recommendations

In conclusion, Africa has the potential to develop its continent looking at its fastest rate of demographic growth in the world. The call for African Development and good governance strategies for both regional and continental development is truly paramount in the 21st century as stated above. This article assessed African development concerning the various calls and the target set by a different international organisation on the African development process. While most countries are increasingly smearing the principles of "multi-stakeholder participation and ownership, sound leadership and good administration of governance, ethics and value in all aspect of governance, the progressively, ministries accountable for states planning and finance have subsequently played key roles in the NSSD course of development. Africa should create a strategic development planning processes that will provide the socio-economic support require to foster development in the continent through the integration of Africa continentally. The Southern African sub-region has an environment that is "ideal for interstate trade and forging of economic links" between members.

It further discussed the economic challenges the SADC regional grouping has encountered in its effort to nurture a sub-regional integration, by engaging in the debate around the importance of regional integration and the reasons behind the challenges. There are numerous reasons for the past lack of success of African regional groupings, and of course few successes. This article, therefore, recommends the need for African states to recognise the capacity of the private sector to generate wealth and induce development, and to recognise the capacity of the informal sector as an absorber to extreme poverty. This recognition will improve the socio-economic status and induce more intra-regional trade and more so foster development. For regional integration to be transformative, it requires States to be at similar levels of economic development, therefore, it will be beneficial to member States. Further, States need to have a solid industrial base to ensure healthy regional integration. For economic regional integration to function, countries need to be on a similar level of economic development and industrialisation, this can be achieved through open market and trade integration among members.

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