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Impact of Central Bank of Nigeria Interventions to Agriculture: Evidence From Anchor Borrowers Programme



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ABSTRACT

In an effort to boost agricultural production and non –oil export in the face of unpredictable crude oil earnings and its resultant effect on the revenue profile of Nigeria, the Central Bank of Nigeria (CBN) in line with its developmental function, established the Anchor Borrowers Programme. This paper assesses, the impact, state participation and season positions from inception of the programme. Destock review and indebt interview as well data generated were employed to assess the impact of the programme, Issues surrounding, the distribution model, risks mitigation and challenges of the scheme were also examined. The paper concluded that there is a significant impact of the programme on the agricultural output in Nigeria; and therefore recommended the expansion of the scheme in terms of budgetary allocation.

Keywords:

Anchor Borrowers Programme, Agricultural Output, Central Bank of Nigeria, Non-oil Export.

INTRODUCTION

Agriculture remains the major component of the Nigerian economy and has a great potential that can address the challenges of achieving food security and poverty reduction in the country. According to Eboh (2008), the division has contributed around 41% of the Nigeria GDP and utilized 70% of the dynamic populace. It was the key potential driver of development of Nigerian economy and a maintainable entrance for remote trade profit some time recently the fulfillment of freedom in 1960. Be that as it may, the sector's commitment to GDP and send out profit relentlessly declined from 1970s to late 2000s when the consideration was moved to petroleum investigation due to the expansive income determined from the oil sector. The Nigerian horticulture to a expansive degree still has the characteristics of laborer economy that was conspicuous within the pre-independence period (Adewumi and Omotosho, 2002). The nourishment created, generally at subsistence level by small-scale agriculturists is insufficient due to moo trim abdicate; whereas increments in nourishment generation have been accomplished generally through populace development and the cultivating of bigger regions of arrive, most likely by commercial ranchers instead of productivity-improving advances (Ayoola et al., 2011).

The declining commitment of Nigeria horticulture to both GDP and trade profit can be credited generally to moo efficiency and rural credit. Fund by and large plays pivotal part in agrarian sector's development and improvement. For occurrence, Philip et al. (2008) detailed that credit supply is broadly seen as an successful procedure for upgrading the expanded rural efficiency. Essentially, concurring to Nwaru et al. (2006), credit encourages appropriation of advancements driving to expanded cultivate efficiency and pay, energizes capital arrangement and moved forward showcasing productivity. Modernization of farming is additionally possible as it were in case there's sufficient credit bolsters to empower little scale ranchers receive modern generation innovations like made strides seeds and seedlings, fertilizers, chemicals and gear like tractors, furrows, harrows and other apparatus which decrease drudgery, progress convenience and proficiency of cultivate operations (Darma et al., 2020).

Agreeing to Singbo (2012), advancement of the cultivate efficiency might be accomplished through superior get to to agrarian credit, given that smallholders are destitute and frequently endure a need of regulation services. Agriculture division has been a major center of the mediations of the Central Bank of Nigeria (CBN) since 1970s. The intercessions

which are driven by improvement fund mission of the summit bank are persuaded by the basic parts agribusiness plays in financial development and advancement. These parts, to teacher Kinderberger; Todaro and Lewis, incorporate: supply of nourishment to the populace; supply of crude fabric for the non-agricultural sector; provision of work; arrangement of investible surplus within the shape of investment funds and charges; conjointly outside trade profit through export. Stressing the significance of agriculture to the financial development of Nigeria and subsequently the require for increment venture within the segment. Tolupope Odetola and Chinonso Etumnu, of the universal Nourishment Arrangement

In recent times, the most effort towards boosting production and enhancing farmers' access to credit in the country is through Anchor Borrowers Programme introduced in 2015 by President Muhammadu Buhari. Anchor Borrowers programme is a contract farmer concept which has been found to be effective in other countries like India (Bommanahalli and Rangappa, 2016).

2.0 Review of Related Literature

Given the near absolute importance of agriculture, there is plethora of literature on the subject matter, these are various performances undertaken by government to enhance agricultural production through this intervention policy by successive government. Some of these intervention policies are Operation Feed the Nation (OFN), Green Revolution, School to Land etc. On the part of CBN, Programme like Agricultural Credit Guarantee Scheme, Commercial Agricultural Credit Scheme, Agricultural Credit Support Scheme also received interventions.

2.1 Agricultural Credit Guarantee Scheme

The interventions of CBN in the agricultural division begun in 1977 with the presentation of Rural Credit Ensure Conspire Finance (ACGSF). The finance was planned to empower banks to loan to ranchers. Beneath the conspire, the CBN through the support ensures advances to agriculturists up to 75% of sum in default net of any security realized concurring to the information from CBN, the ACGSF since beginning till Walk 2021, has encouraged 1.180 millions advances esteemed ₦122.632 billion to agriculturists over the nation. This hence provide agriculturists opportunity to get to reserves and boosted agrarian division through satisfactory generation yield which progress financial development within the nation.

2.2 Agricultural Credit Support Scheme

Agricultural Credit Support Scheme (ACSS) was

introduced to empower ranchers to misuse the undiscovered possibilities of Nigeria's agrarian division, decrease swelling, lower the taken a toll of rural generation (i.e. nourishment things) create overflow for send out, increment Nigeria's outside profit s well as broaden its income base. ACSS reserves are dispensed to agriculturists d agro-allied business people at a single-digit intrigued rate of 8.0 percent. At the graduation of the venture bolster banks will give credits to qualified candidates at 14.0 percent intrigued rate. Candidates who pay back their offices on plan are to appreciate a discount of 6.0 percent, hence lessening the successful rate of intrigued to be paid by ranchers to 8.0 percent. This intercession by CBN had moreover go a long way in affected emphatically to the financial development, diminish swelling rate and make more business era.

2.3 Commercial Agricultural Credit Scheme (CACs)

In an effort to encourage commercial farming on a large scale, the CBN in collaboration with the Government Service of Agribusiness and water assets (FMA & WR) in 2009 built up the Commercial Rural Credit Plot (CACs) to supply back for the country's rural esteem chain to be specific generation, handling, capacity and promoting. The CBN said that expanded in generation emerging from the intercession direct inflationary pressure and offer assistance it to realize its objective of cost steadiness within the nation. Beneath the CACS advances are given to commercial ranchers at a maximum interest of a 9 (nine) percent. The plot moreover permit for ban within the advance reimbursement plan taking in to thought, the development period of the undertaking. Accessible record from CBN show that, as at January 2021, banks beneath this, disbursed up to the tune of ₦672.9 billion advances to finance 636 commercial ranchers projects while is the entire advance reimbursement stood at 443.9 billion. However, the Grapple Borrowers Program which the most center of this paper is the foremost

2.4 Anchor Borrowers Programme

Following the sharp decline in rough oil costs in 2014 and resultant decrease remote trade profit and saves, the CBN took radical measures to follow the tremendous nourishment purport charge as a implies of protecting the countries outside save. Hence in expansion to outside trade confinement put on 41 things (which were for the most part nourishment things) the CBN presents another intercession within the rural segment to boost nearby nourishment generation. Hence the birth of the Stay Borrowers Program (ABP) which was propelled by President Muhammadu Buhari in November, 2015

had moreover make opportunity to ranchers to get to stores through credit conspire to empower develop and extend their cultivate arrive in an exertion to yield more generation yield within the segment that can give nourishment security, and diminish over subordinate on the oil division of financial, as well as make business era for the Nigeria individuals.

Concurring to the CBN, ABP is expecting to form a linkage between grapple companies included within the preparing and little holders agriculturists (SHFs) of the desired key rural commodities. The program pushed of the ABP is the arrangement of cultivate inputs in kind and cash (for cultivate labor) to little holder ranchers to boost generation of these commodities, stabilize inputs supply to agro processors and address the country's negative equalizations of installments on nourishment. At harvest, the SHF supplies his/her create to the agro-processors (Grapple) who pays money comparable to the ranchers account.. Loans beneath this conspire are dispensed to the recipient agriculturists through store cash Banks, called, Improvement Back Institution (DFIs) and Smaller scale Back Bank (MFBs), which the program recognizes as Taking part Budgetary Teach (PFIs). According to the rules of the program, upon collect, the agriculturists reimburses their credits by taking collect to "anchors" who pay money comparable to

2.5.1 Distribution model of the ABP

Resulting from the fact that most Nigerian farmers do not keep farm records (Akinwale, cited Dudafa, 2013), the Participating Financial Institutions (PFIs) are obliged to verify eligible farmers and their farmland. This verification is necessary to guide the PFIs on the farmers' cash flow, loan capacity and ability to offset the loan from the proceeds from the farm. Interview of a farmer groups' representative indicates that this approach has made the loan to be administered to genuine farmers as oppose to some usual practice in the past, where non –farmers access with no intention to farm use. This development, political farmers who often use their influence to obtain such loans in the previous schemes have been cut off. To guarantee satisfactory credit execution, a check on each of the candidates is conducted on the National Collateral Registry (NCR). The NCR is an electronic open database that contains data on security interface in mobile property. The NCR's fundamental reason is to donate exposure to security interface that will exist in distinguished collateral and set up need of secured leasers concurring to the time of enlistment. The registry gives a stage for looks so that an interested party may discover out on the off chance that there are earlier enlistments against the resources advertised by the indebted individuals as

collateral for a advance. This stage is built into the ABP to guarantee that none of the bunch individuals is in default of any other credit office in any monetary institution. The meet with an official of CBN certifies that the Bank Confirmation Number (BVN) that's used within the NCR has guaranteed dispensing of advance to credit commendable members. Moreover, for ease of credit organization and disbursement.

2.5.2 Risk mitigation of Scheme

The scheme involves working with organised farmer cooperatives. Operating with these producer organisations is critical in farmers' selection, monitoring, distribution of information, agricultural extension services and loan disbursement (Cordaid, 2014). Against this backdrop, trainings on group dynamics are incorporated for the smallholder farmers. Being familiar with each other's farmers' organisations has the tendency to reduce risks from side-selling as well as to reduce the cost of doing business. From interview with key informants, the procedure of directly enlisting smallholder farmers by the anchor company (processor) has enhanced proper monitoring and effective loan utilisation. Similarly, farmers must be financially educated to perform their financial obligations responsibly. Towards this end, capacity building in the area of farming as a business is included in the module of trainings to the farmers. This is expected to sensitise the farmers to the modus operandi of managing financial transactions and risks.

Also, the provision of agricultural extension services is a crucial part of risk mitigation in the ABP. This involves trainings to ensure adherence to good agricultural practices. It is expected that adequate training on agronomic practices will increase farmers' yield and subsequently enhance loan repayment. Meanwhile, collateral in soft form involves a promise from the farmer to deliver the crop to the anchor company who then use the value to defray the farmer's loan. Also, farmers are expected to pay 5 percent of the value of the loan as equity before loan disbursement by the PFIs. Overall, the CBN guarantees 50 percent of the amount in default after satisfactory evidence that every means of loan recovery has been exhausted.

3.0 Methodology

The research design is largely descriptive; it relied heavily on documentary analysis of the published data. However, interviews were held with beneficiaries farmers, CBN Staff and policy makers to elicit responses from the respondents. In this report, primary data were generated and employed in the analysis are presented in descriptive statistic charts

including graphs and Pie-Chart. The results of the analysis are presented and interpreted subsequently.

4.0 Programme Impact

Agreeing to Central Bank of Nigeria (2017), the Stay Borrowers Program has accomplished point of interest victory in outreach and scope, making it one of the foremost colossal advancement back intercessions to Agrarian segment in Nigeria history. The report assist unveiled that as at 2017, around N45.5 billion (127 million USD) has been discharged through 13 PFIs to over 218,000 ranchers, for advancing nearby generation of rice, soybeans, sugar and other imperative rural create over 30 states. On the cutting edge of usage is Kebbi State, where the pilot venture was propelled by the Government of Nigeria in November 2015. The full whole of N16.4 billion (45.8 million USD) has been dispensed to around 78,000 wheat and rice provincial ranchers in Kebbi State from the program. The agriculturists were connected to coordinates rice mill operators as buyers to guarantee that there was as of now advertise for the create in put. There's a exceptional increment in abdicate as tall as 7.5 to 8.0 tons per hectare by the agriculturists as compared to less than 2.0 tons per hectare earlier to the mediation. Within the same vein, a add up to whole of N2 billion (5.6 million USD) has been discharged to almost 60,000 agriculturists in Kaduna State to develop maize, rice and soybeans (Actionaid, 2017). As at 2020, when amid the hail of the 2020 damp season collect conglomeration and dry input dissemination beneath the CBN, Rice Agriculturists Affiliation of Nigeria (RIFAN) Grapple Borrowers Program, Emefiele uncovered that a add up to of 2,923,937 agriculturists developing 3,647,643 hectares over 21 commodities through 23 participating money related educate had been financed within the 36 states of the alliance and the government capital domain from initiation till date.

The ABP has made a difference in expanding the notoriety of locally developed rice, and it is getting to be more favoured in numerous homes since of its higher dietary esteem compared to the imported rice. The victory of the ABP for rice was clear when the Lagos State Government brokered a Notice of Understanding with the Kebbi State Government for rice preparing and bundling. Kebbi State has the comparative advantage of creating nearby rice, whereas Lagos State has the comparative advantage of the advertise as the most commercial center of the nation. This collaboration delivered 'LAKE rice' towards the conclusion of 2016. In December 2016, LAKE rice competes positively well with imported rice and yields wide support, because it was sold at N12,500 (35 USD) per sack in

differentiate with N20,000 (56 USD) for imported rice. The victory of the ABP for rice generation incited Central Bank of Nigeria (CBN) to extend its scope to incorporate other crops and animals (Akinwale, 2021).

Besides, concurring to CBN (2017), the ABP has actually been switching the rural-urban movement that had for a long time put weights on major Nigerian cities. Sit out of gear Nigerians in states like Kebbi, Adamawa, Cross Stream, Ebonyi, Jigawa, Kaduna, Kano, Katsina, Niger, Level, Sokoto and Zamfara are progressively relocating to their individual towns to develop rice and wheat. This, to demographers, agreeing to Commerce Day Daily paper (2017), could be a implies of achieving idealize populace redistribution. In the mean time, a full implementation of the ABP is anticipated to form a boom within the Nigerian rural division. The animals, angle and other edit divisions will all be emphatically affected by the advantage to all partners and the country at huge. The agriculturists will encounter moved forward business, and processors will be able to create up to capacity, as their crude fabric prerequisite will be enough met.

Between 1999 and 2015, annually processed rice generation in Nigeria found the middle value of 2.4 million metric ton (mmt). But taking after the presentation of the ABP activity, generation rose from 3.9 mmt in 2015 to 4.5 mmt (15 per cent increment) in 2016, information distributed by the Joined together States Office of Horticulture (USDA) appears in 2017 and 2018, Nigeria's processed rice generation found the middle value of 4.5mmt, and rose to 5.0mmt (11 per cent increment) in 2019. In 2020, in the midst of the upsurge of the crown infection widespread and the annihilating impacts of climate alter and frailty, generation diminished to 4.8mmt but afterward rose to 5.0mmt in 2021 as appear below:

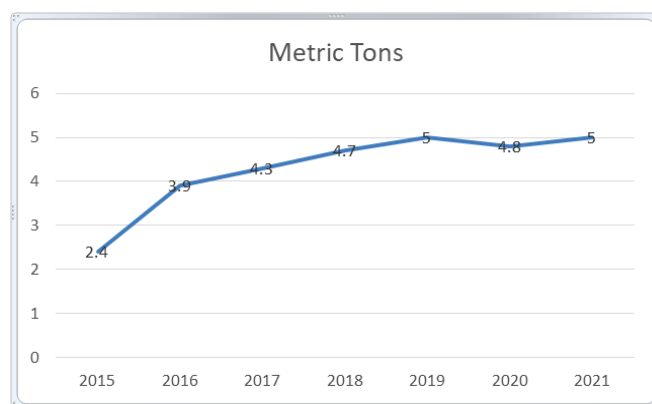
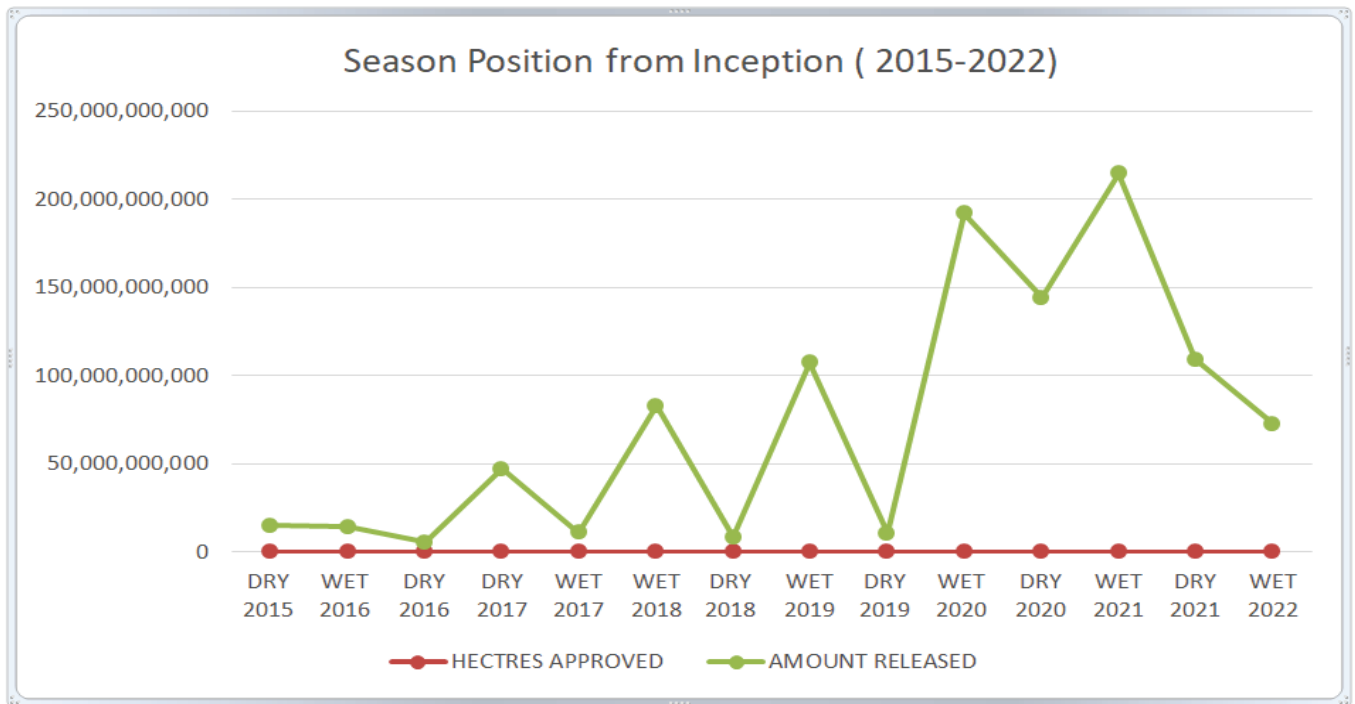


Figure 1: Graph of Agriculture Output
Source: Author's Computation from Data obtained from Premium Times Newspaper (2021).

Figure 1 shows that, from an output of 2.5mmt in 2015, output rose to 3.9mmt in 2016. The growth continue slowly to 2019 with output f 5mmt , and declined to 4.8mmt in 2020, in response to COVID-19 Pandemic from the figure, the growth rebounded

from 2021 peaking at 5mmt

To corroborate the above results, the relationship between farmers participation and farm cultivation in hectares is presented in figure 2

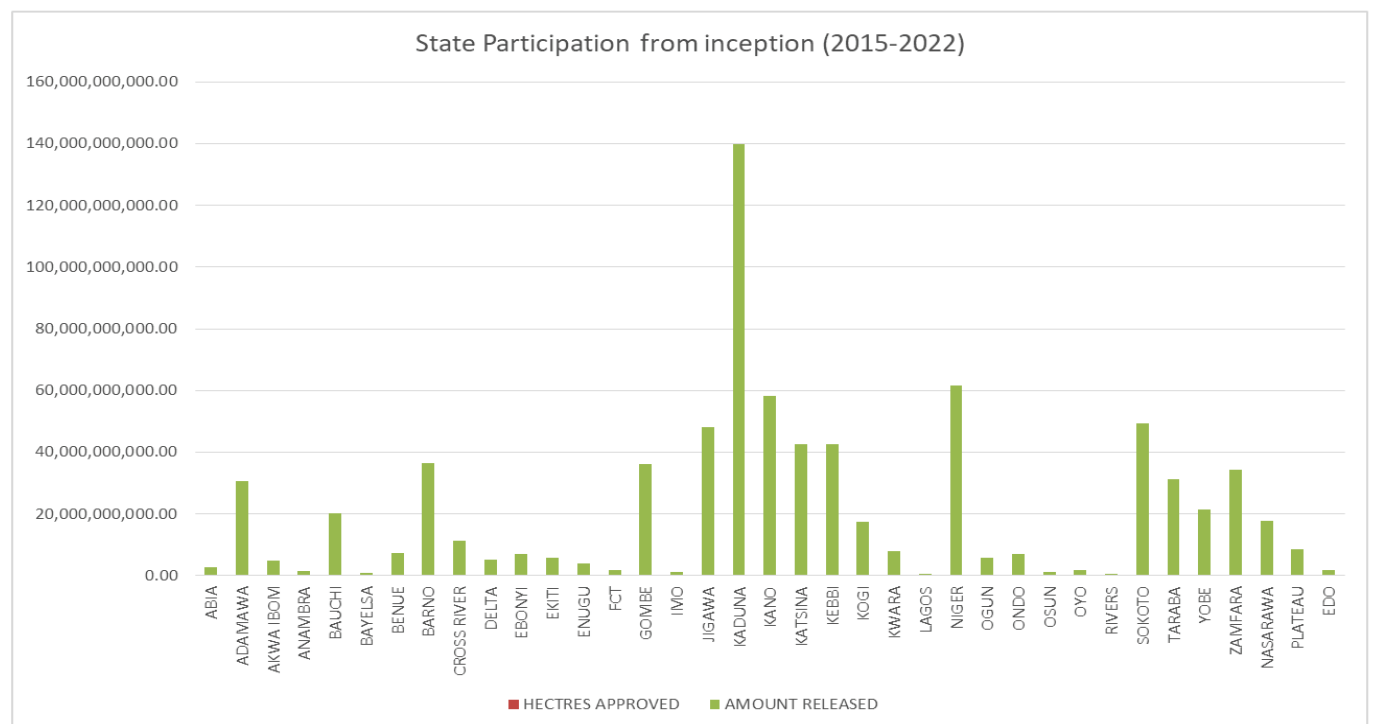


Author's computation from data obtain from CBN

Figure 2: This result shows that of all years in figure 2, 2016 received the highest intervention from CBN. In all, there is evidence of growing participation and

output base on the CBN intervention to the programme. See Appendix 1

Figure 3: State Participation



Source: Development Finance Department, CBN.

Arising from figure 3 above, it is discernable that some State namely, Abia, Anambra, Bayelsa, Imo, Lagos, Oyo, Osun River, Edo and FCT have low participation, while some State like Adamawa, Gombe, Jigawa, Kaduna, Katsina, Kebbi, Niger, Kano, Taraba, Zamfara and Sokoto have substantial participation. This may be due to several reasons of which include poor awareness and occupational preference. As can be seen in Appendix 2.

5.0 Challenges of ABP

ABP, lofty, and impactful as the programme has been, numerous challenges militate against the desired impact envisaged. Federal Government and CBN among the challenges of an default, insecurity, illiteracy of beneficiaries farmers, inadequate supervision and delay in farm input supply.

The Overseeing Executive and Chief Official Officer, Bank of Farming (BOA), Alwan Ali, said amid a open hearing by the House Committee on Rural generation and administrations on the utilization of reserves dispensed to grapple companies beneath the ABP said, portion of the challenges confronted is the lack of concern to obligation benefit by recipients who never planning to pay back the credits was a risk to the program. Cable News (2021).

The case of insecurity such as attacks by criminal herdsmen, armed robbery, and kidnapping had made it difficult for farmers to concentrate on their farms.

Again, natural disasters with cases of farm loss due to flooding, early cessation of rain, and drought also pose serious challenges to the scheme.

Evbuomwan and Okoye (2017) have observed some challenges to the ABP, which include: inadequate extension services, side-selling of produce by farmers, distribution of inferior agrochemicals and non-viable seeds by agro-input dealers, involvement of many stakeholders with duplication of roles and sharp practices among PFIs staff. From the interview conducted, regular late arrival of production inputs was considered as implementation challenge by the smallholder farmers. As agricultural production is time-bound, late arrival of production inputs could significantly affect the yield and price levels of the farmers.

Also, cost of trainings and monitoring of the smallholder farmers by the processor was deemed as the implementation challenge by the anchor companies. As this activity is to ensure strict adherence to good agronomic practices by the farmers, the anchor companies should not be solely responsible to bear this cost.

6.0 Conclusion and recommendations

Going by the analysis, the key findings which include: positive impact of the ABP on farm output due to increasing participation and hectares cultivated, disproportionate participation on geographical location and several challenges which include, loan default, farm input delay etc. And having identify the intervention by Central Bank of Nigeria to Anchor Borrower Program in order to boost agriculture, engender food security, stabilise the economy, create employment and reduce reliance on crude oil earnings is quite commendable. This value chain financing has bridge the gap in finances for smallholders recorded significantly improvement the level of rice production and others farms crops.. The paper recommends the following base on the findings and challenges confronting the programme thus:

1. CBN should sustain and expand the budgetary provision so as to continually drive output will contribute to GDP growth, enhance food security and boost employment in the agricultural value chain.
2. After the participatory expansion of the programme, CBN should liaison with State Government to mount extensive awareness among target farmers, particularly in State with dismally low participation such as Abia, Anambra, Bayelsa, Imo, Lagos, Oyo, Osun, Rivers, Edo and FCT.
3. CBN should considerably improve on supervision and close monitoring to ensure that loans are repaid promptly. It is expected that as the security situation improve, the major challenge will be loan default. This act may stifle the programme as fewer funds will be available to initiate new production cycles towards expanding the programme to intending beneficiaries.
4. Funds disbursement and quality farm inputs to beneficiaries should be timely to avert poor farm yield due late plating as observed by farmers during the interviews.
5. Also, cost of trainings and monitoring of the smallholder farmers by the processor was deemed as the implementation challenge by the anchor companies. As this activity is to ensure strict adherence to good agronomic practices by the farmers, the anchor companies should not be solely responsible to bear this cost. The smallholder farmers must be willing to pay for the services enjoyed to improve their production performance.

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Appendix 2**Table 2: State Participation From 2015 - 2022**

S/N	STATE	FARMERS APPROVED	HECTRES APPROVED	AMOUNT RELEASED
1	ABIA	8,152	12,154.67	2,667,280,025.77
2	ADAMAWA	317,513	177,243.72	30,689,136,345.08
3	AKWA IBOM	24,273	22,954.50	4,967,631,861.87
4	ANAMBRA	6,647	7,467.68	1,433,836,747.68
5	BAUCHI	95,5111	128,836.24	20,174,900,401.82
6	BAYELSA	3,272	3,154.40	809,755,043.49
7	BENUE	36,636	42,000.02	7,402,667,894.14
8	BARNO	177,752	185,904.08	36,481,832,906.49
9	CROSS RIVER	47,669	58,009.08	11,279,341,247.20
10	DELTA	14,667	19,662.42	5,227,683,275.40
11	EBONYI	31,749	35,242.34	7,019,036,352.53
12	EKITI	20,730	89,724.24	5,681,191,541.37
13	ENUGU	15,082	18,680.12	3,962,829,338.45
14	FCT	7,644	39,682.97	1,891,108,823.04
15	GOMBE	138,549	209,461.73	36,106,156,831.24
16	IMO	4,081	4,415.81	1,075,304,299.44
17	JIGAWA	175,685	345,757.40	48,140,567,890.52
18	KADUNA	510,664	894,562.53	139,943,521,742.18
19	KANO	322,452	350,779.52	58,179,594,685.99
20	KATSINA	195,959	239,732.55	42,490,684,849.97
21	KEBBI	172,471	215,418.64	42,603,519,863.05
22	KOGI	61,372	88,757.72	17,377,632,965.29
23	KWARA	40,601	42,387.56	8,030,251,919.99

24	LAGOS	2,460	2,342.75	482,999,863.93
25	NIGER	287,044	331,367.50	61,752,127,477.29
26	OGUN	19,396	63,021.22	5,890,139,974.24
27	ONDO	20,836	36,024.82	7,122,635,261.62
28	OSUN	4,621	5,959.52	1,264,771,152.07
29	OYO	6,216	9,400.78	1,667,021,903.76
30	RIVERS	1,862	1,656.00	503,955,026.00
31	SOKOTO	179,914	227,621.17	49,250,428,301.58
32	TARABA	154,407	161,574.28	31,104,128,694.78
33	YOBE	94,372	122,173.09	21,550,201,095.48
34	ZAMFARA	115,894	194,265.04	34,456,248,606.40
35		952,916	1,064,677.02	183,478,055,145.53
36	Blank	347,944	36,7620.00	74652547771.60
37	NASARAWA	79,911	90,378.23	17,820,904,210.78
38	PLATEAU	34,103	40,713.03	8,487,151,390.37
39	EDO	4,357	9,084.09	1,736,043,466.92
Grand Total		4,554,983	5,959,868.50	1,034,854,826,194.35

Electronic Money and Economic Growth: What Implications for e-Naira Policy Adoption in Nigeria?



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ABSTRACT

This study examines the potential economic implications of the e-Naira policy in Nigeria. Employing the autoregressive distributed lagged model in evaluating quarterly data from 2009 to 2020, the study found that there is a long-run relationship between electronic transactions and economic growth. This implies that in the long-run, adopting the e-Naira policy will significantly impact economic growth. The study suggests that there is urgent need to adopt both technological and monetary apparatus to ensure the e-Naira policy efficacy in Nigeria.

Keywords:

e-naira, growth, policy, monetary, cashless

JEL Classification:

G20, G21, G23, E58, E51

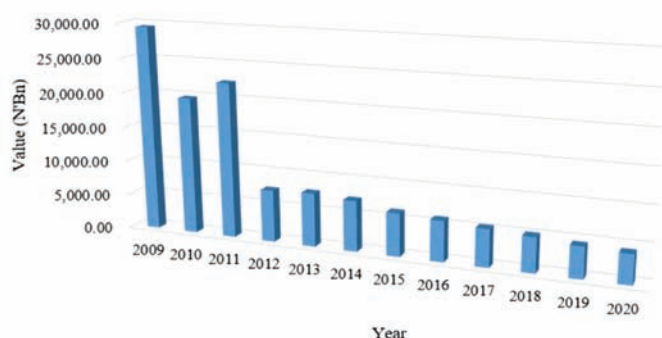
INTRODUCTION

With advancements in technology in the global financial sphere, the drive to digitise financial transactions has been studiously pursued. Several forms of electronic currencies have been adopted in business operations. For instance, in recent years, the use of cryptocurrency such as Bitcoin, Ethereum, Dash, Litecoin, and Monero has been on the increase (Sovbetov, 2018; Giudici, Milne & Vinogradov, 2020; Mikhaylov, 2020). Such financial instruments are now being considered stable against inflation and market volatilities. They have created an economic climate where economic agents are insulated against wide market swings since the deflationary trends of such financial instruments hedge against inflation.

The economy also has its fair share of electronic money. The Nigerian economy has been caught in the “electronic money syndrome” web, with several electronic platforms emerging in recent years. This trend is evident in the decline in both volume and value of cheque transactions between 2009 and 2020. This decline is depicted in Figure 1. The economy experienced a decline of over 85.6 per cent in the value of cheque transactions between 2009 and 2020. Specifically, the value of cheque transactions dropped from N29.4 billion in 2009 to N6.2 billion in 2015. The value stood at N4.5 billion in 2019 (Central Bank of Nigeria, 2020).

It is worth to note that the decline in the use of cheques in recent years is due partly to increased sensitisation of electronic medium of financial transactions. This can be seen in the proliferation of PoS terminals in virtually every parts of the country. Financial transactions have been made easier and faster. This has led to an increase in the volume of electronic transactions.

Figure 1: Financial Transactions in Cheques (2009-2020)

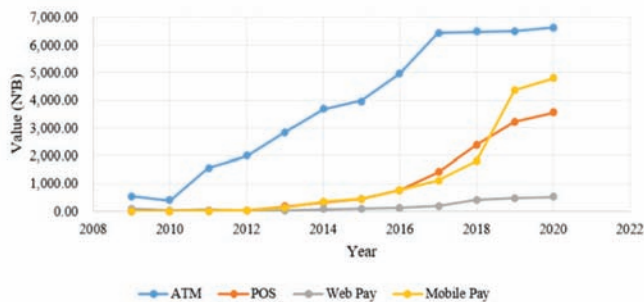


Source: Central Bank Statistical Bulletin (2020).

The implication of this trend is that economic agents are resorting to other forms of financial transactions. This can be seen in the exponential increase in electronic financial transactions such as Webpay, Mobile Pay, Point of Sales (PoS), ATM, among others. Between 2009 and 2020, the volume and value of

PoS transactions increased drastically as observed in Figure 2. This is evident in the widespread of PoS terminals across the country.

Figure 2: E-Money Operations in Nigeria



Source: Central Bank Statistical Bulletin (2020).

With an increased demand in the provision of these instruments, it is not surprising that the monetary authorities proposed the adoption of the e-Naira policy. The e-Naira is proposed to be the digit form of the paper naira currency. Both forms of currency are proposed to have the same “parity of value” and exchange value, although the e-Naira is designed not to earn interest for its holders. In other words, the e-Naira is proposed to be the electronic variant of the paper naira currency. It is seen as a central bank digital currency pegged to the naira and will be less volatile as other forms of electronic money in Nigeria since it will be backed by legislature, subjected to banking laws. As with other electronic currencies, the proposed benefits of the e-Naira range from integrating unbanked Nigerians into the financial sector, boosting transparency since the monetary authorities are better poised to monitor currency transactions, boosting remittances from diaspora by enhancing direct remittance payments, increasing states' financial accountability by closing up “leakages”, reducing cost of physical currency printing, to curbing black market supremacy (Wulandari et al., 2016; Hasan et al. 2012; Oyewole et al., 2013; Zandi et al., 2013).

It is arguably too early to ascertain the effects of the e-Naira policy, especially on economic growth since the debate of the e-Naira being a stable currency is currently raging. A stable currency should be backed by reserves. That implies that such currencies should be backed by holding an equivalent of fiat money. Such fiat money such as the US dollars has a stable exchange value. In the case of the e-Naira, the currency is supposed to be linked to the naira. The pending issue is if the e-Naira will be a stable currency given unstable nature of the naira. There is also the issue of interest rate control by the monetary authorities as well as a potential rise in endogenous financial instability arising from increased elasticity of private money production

(Ezuwore-Obodoekwe et al., 2014). Despite these pending issues, much is left to be seen as to the economic effects of the e-Naira.

Basically, there are no conclusive evidences of the impact of electronic money on economic growth. There are scores of empirical studies on the impact of electronic money on economic growth across countries and regions. While some of the studies established that electronic money exerts negative impact on economic growth, the reverse was the case for others. Possible reasons for such diverse conclusions might be (i) country-specific factors; (ii) scope of study; (iii) instruments employed; (iv) methodology employed; among other factors. For instance, Aldaas (2021) found no concrete evidence that is country-specific of the impact of electronic money on economic growth. In some cases, positive impact was captured (Mensah & Jumah, 2021; Wong et al., 2020; Hock-Han & Hway-Boon, 2016; Zandi, et al. 2013; Oyewole et al., 2013; Hasan et al., 2012), while in other cases, adverse effects were observed in terms of reduction of monetary authorities' span of policy control, bankruptcy, as well as a window for corrupt practices (Ezuwore-Obodoekwe et al., 2014; Noordin et al., 2012; Park, 2012).

Studies such as Oginni et al. (2013) argued that for a country such as Nigeria, the high transaction costs of electronic financial transactions outweigh any potential economic benefits. In the same vein, Indrawati et al. (2019) seek to appraise the impact of electronic money on the effectiveness of monetary policy in Indonesia. Employing a Bayesian estimation on quarterly data between 2009 and 2017, the study found that electronic money adversely impact growth overtime by resulting in increased inflation rates and driving down credit growth. The result was that in spite of massive electronic money adoption, the country's financial system instability remains unperturbed.

Thus, the drive of this paper is to study the impact of electronic money on economic growth with a view to establishing the economic implications of the adoption of the e-Naira in Nigeria. Specifically, the study will examines the impact of several cash-less payment on economic growth. There are basically three reasons why this study is worth investigating in the Nigerian economy. First, in recent times, there has been an increase in mobile broadband penetration in Nigeria. Individuals living in rural or other remote communities now have an increase possibility of being inclusive in financial transactions. This high level of inclusiveness, *ceteris paribus*, has the potential to stimulate economic growth.

Secondly, in recent times, there have been an upsurge in the adoption of digital currencies as

means of business transactions. Such currencies are gaining groups in countries such as Japan, China and Germany as legal currencies. These currencies are fast becoming the 21st century's legal tender and means of payment (Narayanan, 2020; Saito & Iwamura, 2019; Rose, 2015; Wu & Pandey, 2014). Policy implications drawn from this study will form a viable basis for adjudging the possible implications of the e-Naira in Nigeria. Thus, an examination of the economic effects of existing forms of electronic currencies in Nigeria will provide gleams of the potential effects of the e-Naira policy, as well as, provide a basis for policy options to ensure the efficacy of the policy. This paper will thus, examine the impact of electronic money on economic growth in Nigeria with the ultimate goal of examining the potential economic effects of the e-Naira.

Following this brief introductory section, Section 2

presents the methodology and the empirical results are discussed in Section 3; while Section 4 concludes the study through policy implications and recommendations. The findings of the study will equip fiscal and monetary authorities in the formulation of policies that would harness the potential benefits of the e-Naira policy.

2. Methodology

2.1. Model Specification

The study modified the model adopted by Oyewole et al. (2013) in which GDP was estimated as a factor of PoS terminal, Webpay, Mpay, ATMs, interest rate and cheques. The study estimated the following expression:

$$GDPG = f(WPGDP, MPGDP, ATMGDP, \text{ and } PoSGDP) \quad (1)$$

The variables in equation (1) are defined in Table 1:

Table 1: Definition of variables and sources of data

Variable	Definition	Sources
GDP growth (GDPG)	Growth in gross domestic Product measured in percentages.	Statistical Bulletin
Webpay (WPGDP)	Value of Online Payment - GDP ratio	Statistical Bulletin
Mpay (MPGDP)	Value of mobile payments - GDP ratio	Statistical Bulletin
ATM (ATMGDP)	Value of cash withdrawals from ATMs - GDP ratio	Statistical Bulletin
PoS (PoSGDP)	Value of cash withdrawals from PoS - GDP ratio	Statistical Bulletin

Sources: Authors' computation

As in any conventional time series analysis, the data will be examined to establish stationarity or otherwise (Gujarati, 2003). This is essential since the utilisation of non-stationary data will result in spurious results and inferences drawn from its analysis misleading. Immediately it is established that none of the variables is stationary at the second difference level, the autoregressive distributed lagged (ARDL) model below will be estimated:

$$\begin{aligned}
 GDPG_t &= \beta_0 + \beta_1 GDPG_{t-1} + \beta_2 WPGDP_{t-1} + \beta_3 MPGDP_{t-1} \\
 &+ \beta_4 ATMGDP_{t-1} + \beta_5 POSGDP_{t-1} \\
 &+ \sum_{i=1}^n \delta_1 \Delta(GDPG)_{t-i} + \sum_{i=0}^n \delta_2 \Delta(WPGDP)_{t-i} \\
 &+ \sum_{i=0}^n \delta_3 \Delta(MPGDP)_{t-i} + \sum_{i=0}^n \gamma_4 \Delta(ATMGDP)_{t-i} \\
 &+ \sum_{i=0}^n \gamma_5 \Delta(POSGDP)_{t-i} + \mu_t \quad (2)
 \end{aligned}$$

Where β and μ represent the short-run and long-run coefficients of the model respectively; n is the maximum lag of the regressor; t is the time period and μ is the white-noise error term.

2.2. Data Scope and Source

The study utilised quarterly data between 2009 and 2020 on the following variables: Gross domestic product growth (GDPG), Value of Online Payment, Value of mobile payments, Value of cash withdrawals from ATMs, Value of cash withdrawals from POS. Data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and Annual Reports.

3. Empirical Estimation and Results

3.1. Descriptive Statistics

The economic variables employed in the study are GDP growth (GDPG), value of WebPay transactions

(WPGDP), value of Mobile Pay transactions (MPGDP), value of ATM transactions (ATMGDP), and value of PoS transactions (PoSGDP). The explanatory variables are adjusted by the GDP value. The

summary statistics in Table 2 reveal some key characteristics of the variables. The dataset was a balanced one with the variables having non-zero standard deviation values.

Table 2: Summary of descriptive statistics of the variables

Variable	Obs	Mean	Std. Dev.
GDPG	48	4.1578	2.3987
WPGDP	48	31.7459	7.4924
MPGDP	48	14.4914	6.1094
ATMGDP	48	43.4256	9.1143
P oSGDP	48	15.4117	5.8391

Sources: Authors' computation

3.2. Unit Root Analysis

Conventionally, it is essential to establish the stationarity of time series data. Table 3 provides the results of the Augmented Dickey–Fuller (ADF) test. All the variables are found to be stationary after the first

difference. The adaptation of the autoregressive distributed lagged model is supported by the unit root test results presented in Table 3. The coefficients reported showed that the variables were integrated of order one and zero.

Table 3: The augmented Dickey–Fuller test results for stationarity

Variable	Stationarity (levels)	Stationarity (1 st differences)	Status
GDPG	-2.5362**	-6.9031***	I(0)
WPGDP	-0.2451	-2.0043**	I(1)
MPGDP	-5.4901***	-11.7287***	I(0)
ATMGDP	-1.9562*	-3.0542***	I(0)
P oSGDP	-0.2792	-2.4846**	I(1)

Sources: Authors' computation

Note: p values of coefficients: *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.1$

3.3. Bound F-test Results

Having established that the variables were integrated of order zero and one, the bounds testing

is conducted through the F-test. This test establishes the joint significance of coefficients of the lagged variables in the model. The results of the F-test is presented in Table 4:

Table 4: Bound F-test results

F-statistic value	Significance level	Bound critical values	
		1(0)	1(1)
15.0754	10%	1.67	2.76
	5%	2.19	3.08
	2.5%	2.28	3.36
	1%	2.58	3.91

Source: Authors' computation

The computed F-statistics is 15.08 as presented in Table 4. This statistic exceeds the upper bound critical values at the 10 per cent, 5 per cent, 2.5 per cent and 1 per cent levels. This implies that the autoregressive distributed lagged model is appropriate in establishing the short-run and long-

run effects of the explanatory variables on economic growth. In other words, the F-test shows that there is a co-integrating relationship among the variables in the model. The ARDL model is expressed thus, and the results are presented in Table 5:

Table 5: ARDL estimation results for the effects of e-money on economic growth (long-run)

Variable	Coefficient	Std. Error	t-statistic	Prob.
GDPG(-1)	0.3114	0.1442	2.1588	0.0418
GDPG(-2)	0.4305	0.1655	2.6011	0.0200
WPGDP	-0.2708	0.1769	-1.5307	0.3081
WPGDP(-1)	-0.4388	0.0898	-4.8814	0.0001
WPGDP(-2)	-0.0625	0.0457	-1.3667	0.1714
MPGDP	-0.0015	0.0040	-0.3721	0.7201
MPGDP(-1)	-0.2515	0.3935	-0.6392	0.1162
MPGDP(-2)	-0.0096	0.0027	-3.5218	0.0035
ATMGDP	0.1028	0.0416	2.4674	0.0310
ATMGDP(-1)	0.0500	0.0129	3.8509	0.0022
P oSGDP	0.0321	0.0305	1.0517	0.4113
P oSGDP(-1)	0.1822	0.0371	4.9103	0.0001
P oSGDP(-2)	0.2547	0.0657	3.8775	0.0018
C	-11.4969	2.1632	-5.3147	0.0000
R-squared	0.8409	Mean-dependent var		6.7902
Adjusted R-squared	0.6108	S.D.-dependent var		3.1070
S.E. of regression	1.5779	Akaike info criterion		3.6553
Sum squared resid	25.7501	Schwarz criterion		5.9034

A close examination of the long-run estimation showed that WPGDP and MPGDP impact economic growth negative in both lagged one and two time period. ATMGDP and PoSGDP are found to be positive in all time period. The model is highly explanatory with an adjusted R-squared value of 61.08 per cent. The model is adequately specified as seen in the significant F-statistic value of 9.91 and the model is void of autocorrelation as indicated by the

Durbin-Watson statistic of 2.09.

3.4. Short-run Model (Error Correction Model)

To establish the short-run effects of the different electronic money on economic growth, an Error Correction Model was estimated. The results of the estimation are presented in Table 6.

Table 6: Error Correction Model Results (Short Run)

Variable	Coefficient	Std. Error	t-statistic	Prob.
D(GDPG(-1))	0.2615	0.0406	6.4378	0.0000
D(WPGDP(-1))	-0.0672	0.0505	-1.3319	0.1293
D(MPGDP(-1))	-0.0023	0.0022	-1.0287	0.4310
D(ATMGDP(-1))	0.7244	0.2755	2.6291	0.0130
D(P oSGDP(-1))	0.3407	0.0763	4.4634	0.0001
ECT(-1)	-0.2164	0.0886	-9.1811	0.0000

Source: Authors' computation

The results revealed that WPGDP and MPGDP negatively affect economic growth although the effect is insignificant. The results however showed that ATMGDP and PoSGDP are both significant and positively affect economic growth. In addition, the results from the error correction model showed that the economic growth is relatively unstable given the relatively low value of the ECT(-1) variable. Although the variable is both statistically significant and

negative, the value of the ECT(-1) showed that in the event of an economic deviation from equilibrium, only 21.64 percent of the deviation will be corrected within the first year.

The results of the specified model holds several implications for the e-Naira policy in Nigeria. For one thing, the Nigeria economy has several electronic medium of financial transactions. In recent years,

the level of sensitisation on the adoption and utilisation of these financial tools has received a positive boost as can be seen the volume of PoS transactions. Thus, the adoption of the e-Naira is worth considering using the behavioral trend in existing electronic financial tools. By employing econometric techniques, an examination of other existing electronic financial transaction medium such as Webpay, Mpay, PoS and ATM show that e-Naira policy has the potential to stand the test of time in Nigeria if monetary authorities conscientiously apply supporting measures in its execution. It is interesting that although WPGDP and MPGDP negatively affect economic growth, the effect is highly insignificant. The variables ATMGDP and PoSGDP both, however, significantly and positively affect economic growth. The variables of interest as regard the e-Naira policy are Webpay and Mpay. This is because ATM and PoS operations require more local banking interventions. However, Webpay and Mpay perfectly reflect some characteristics of the e-Naira.

The findings of this paper clearly show that with little intervention on the part of monetary and fiscal authorities in terms of technological advancement and sensitisation of potential e-Naira users, the policy will achieve tremendous success. The e-Naira policy will definitely benefit from the ever-expanding mobile broadband penetration as well as increased sensitisation of mobile financial transactions across the country. The expansion in adoption of a cryptocurrency such as bitcoin is a proof to this fact.

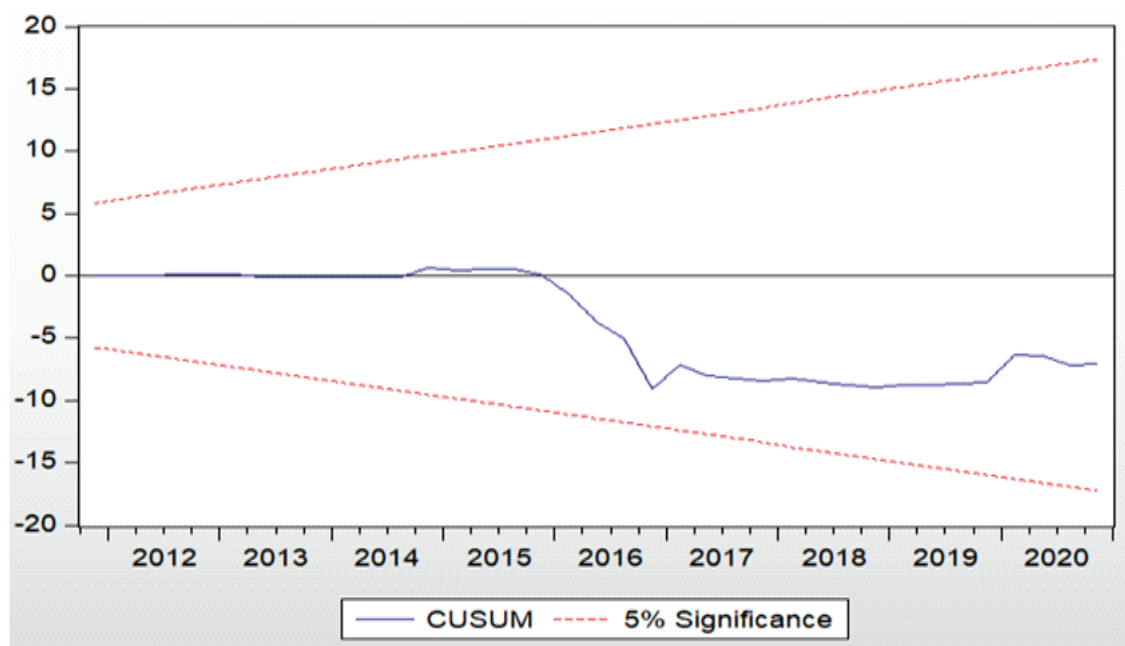
Despite warnings from monetary authorities of the volatility, as well as, the potential of collapsing, the volume in the trading in cryptocurrency keeps increasing.

The above scenario underscores the high potentials of the e-Naira in Nigeria. This is especially essential in a country, which strives to reduce the cost of monetary operations. The policy may also be a viable policy tool to check illicit financial flows in the economy as long as the process is made transparent. That also requires that the technological apparatus should be in place to ensure the smooth operation of the policy. The adoption of the e-Naira will expand the operations of monetary authorities with the ultimate of achieving a cash-less economy. With individuals opening wallets with the central bank, monetary authorities will exert more control over monetary instruments. In addition, the rising tide of illicit financial flow in Nigeria will gradually halt. With inflation and interest rates oscillating at moderate levels due to the efficacy of the e-Naira policy, economic growth will be boosted in Nigeria.

3.5. Stability test

The cumulative sums (CUSUM) was adapted to establish stability of the model. Figure 3 showed that the coefficients were stable over the period of analysis since the short-run coefficient lies within the 5 per cent significance level.

Figure 3: CUSUM Test



Source: Stata 14 Output

3.6. Diagnostic Tests

Several diagnostic tests were carried out to establish the reliability of the findings of the model. As presented in Table 7, the model is not affected with

the issues of heteroskedasticity. The model also passed the normality test in that the residuals were normally distributed. The R-square showed that the model is highly fitted and adequately explain the dynamics of economic growth.

Table 7: Diagnostic test results performed on the ARDL model

Test	Diagnostic Test	p values	Status
Heteroscedasticity	Breusch –Pagan–Godfrey Test	0.33871 (0.8254)	No Heteroskedasticity
Goodness of Fit	R-Square Test	0.8409	Model well fitted
Normality	Jarque–Bera Test	1.3873 (0.5132)	Normal Residuals

Source: Authors' computation

1. Conclusion

This study examined the economic effects of existing forms of electronic financial transactions in Nigeria with the aim to garnering gleams of the potential effects of the e-Naira policy in the Nigerian economy. From an appraisal of existing forms of electronic financial transactions in terms of their economic relevance, the study found that the e-Naira policy is a viable monetary policy that will achieve economic growth. As such, the e-Naira adoption will reduce opportunity and transactional costs through a boost in cash-less transactions in the economy, thus improving the flow of goods and services since such transactions can be carried out more efficiently, effectively and conveniently. In addition, government revenue base will increase since taxes can efficiently be collected and remitted. Such smooth process will ensure that developmental programmes and projects are embarked upon with positive externalities in the local economy. It is apparent that e-Naira will also stimulate external trade since the tenets of the policy has the potential to facilitate external and internal trade.

Drawing from the above, there is urgent need to support the adoption of policies that will enhance the e-Naira. Commercial banks could create a more convenient market environment for electronic payment with incentives for customers to readily participate. Such value-added services will boost trust in the e-Naira policy. There is also need for a radical sensitization of the average citizen on the need to achieve a cashless economy and the benefits therein for the economy at large and the citizenry in particular. This can be achieved using the local news media. The target should largely be section of the population residing in rural communities that might not have much knowledge of electronic financial transactions.

The need to improve on the technological structure of Nigeria cannot be overemphasized. Infrastructural facilities such as electricity and roads can make mobile broadband penetration faster and with such penetrations, accessibility to electronic banking transactions becomes more readily available. Encouraging a wider acceptance of e-Naira policy will boost economic growth and ceteris paribus eradicate monetary frictions in Nigeria.

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Impact of Goods and Money Market Indicators on Stock Market Index in Nigeria



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ABSTRACT

This study examines the influence of goods and money market indicators on the performance of the Nigerian stock market index from 1985 to 2021 using Autoregressive Distributed Lag model. The findings demonstrate that goods market indicators such as domestic savings and government spending have a strong positive effect on the performance of the stock market index, but domestic investment has a negative influence on the performance of the stock market index. This is because majority of the investors in goods market are financially excluded and have no access to formal financial system. The results of the money market reveal that there is a considerable positive relationship between interest rates and the stock market index. This study recommends that domestic savings and government expenditure should be increased. Further, the regulatory agency should raise interest rate to a level that benefits both investors and financial institutions.

Keywords:

Goods market, money market, stock market performance, ARDL

JEL Classification Code:

B22, E44

INTRODUCTION

Macroeconomic stability is one of the objectives that each economy strives to achieve, and it is reflected in the behavior of macroeconomic indicators. These indicators are interconnected and independent of one another because they provide the context or framework for researching and assessing the nature and depth of nexus and interactions across different sectors. Such economic nexus and interactions will help in the formulation of economic policies and programs (Dwivedi, 2012). Macroeconomic stability occurs when fundamental economic variables such as domestic demand and output, the balance of payments, fiscal revenues and spending, and savings and investment, are in balance. These linkages, however, do not have to be perfectly balanced. There are two types of macroeconomic indicators: goods market variables and money market variables. Among the goods market variables are GDP, aggregate savings, aggregate investment, total government expenditure, total exports, and total imports. On the other hand, money market indicators include the quantity of money provided, demand for money, interest rate (lending rate), exchange rate, balances of payment, and so on.

However, the nature of such variables gauges or measures the power of any economy. They have a significant impact on the performance of the agricultural, manufacturing, oil and gas, and financial sectors, among others. The stock market, as a component of the financial sector, is not immune to such impact. As noted by CBN (2017) the Nigerian financial system is composed of financial markets (money and capital markets), financial institutions (such as regulatory and supervisory bodies), development finance institutions (such as the Urban Development Bank and Nigerian Agricultural and Rural Cooperatives Bank), and other financial institutions (such as insurance companies, pension funds, finance companies, bureaus de change, and primary mortgage institutions), among others. It however provides financial instruments such as treasury bills, treasury certificates, central bank certificates. Conversely, the stock market plays an important role in changing economic growth and development through alternate sources of funding, risk diversification, capital investment stimulation, and management of banks financial crises (Izuchukwu, David & Akinwunmi, 2019). Furthermore, the stock market enhances investor trust and provides enterprises with different means to obtain sufficient and necessary capital to properly execute their investment choice.

Studies on the subject were conducted in Nigeria by Yaya and Shittu (2010), Asaulu and Ogunmuyiwa

(2011), Osad and Evbayiro-Osagie (2012), Micheal and Babatunde (2014), and Ahmad et al., (2015) in an effort to offer some policy proposals on the approaches to enhance the better performance of stock market index. Previous research neglected to look at the distinct effects of goods and money markets indicators on the performance of the stock market index in Nigeria, instead concentrating primarily on the relationship between macroeconomic factors and stock market performance. As a result, this study contributes to previous research by investigating the impact of commodities (goods) and money market indicators on the performance of the Nigerian stock market index. It also aimed to determine which market had the most influence on the stock market index. As a result, knowing the distinct effects of goods and money market macroeconomic factors on the stock market would assist the regulatory agency in identifying the areas of importance in implementing the policy aimed at making Nigeria's capital market the most developed in Africa.

The remainder of the paper is divided into five sections to achieve the set objectives. Part two discusses review of literature, part three presents method used in data analysis. Part four contains empirical results and discussion. Part five concludes the paper with research findings and policy recommendations.

Literature Review

The theory underpinning this study is the arbitrage pricing model introduced by Stephen Ross in 1976. When pricing the return on an asset, the theory took into account a number of variables or factors. The theory goes on to say that there is a direct relationship between the asset's predicted return and various macroeconomic variables that reflect market risk. These characteristics influence businesses' discount rates and their capacity to generate cash flows and future surplus payments (Ross, 1976). As a result, macroeconomic variables become risk factors in the stock market.

However, there are several empirical studies on the subject. For instance, Adam and Tweneboah (2008) used quarterly dataset from 1991Q1 to 2006Q4 to evaluate how macroeconomic factors impact stock price movement in Ghana. Their findings demonstrate that while inflation has a negative impact on stock price volatility, other macroeconomic factors like interest rates and exchange rates have a favorable impact on stock price movement. Similarly, by using the Johansen cointegration, the Vector Error Correction Model (VECM), and an annual time series dataset for the years 1986 to 2007, Asaolu and Ogunmuyiwa (2010)

examined the relationship between macroeconomic indicators and stock market index in Nigeria. Their findings showed that while inflation, investment, and interest rate have little bearing on stock market movement, there is a considerable positive association between exchange rate and stock market index movement. Similar to this, Yaya and Shittu (2010) used a monthly dataset from 1991 to 2008 to examine the effect of inflation and exchange rate on conditional stock market volatility in Nigeria. In their investigation, the authors utilized the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model, and the findings show that while exchange rates have large positive impact on conditional stock market volatility, inflation has a considerable negative impact.

Kuwornu and Victor (2011) used a monthly time series dataset from January 1992 to December 2008 to investigate the nexus between macroeconomic factors and stock market outcomes in Ghana. The authors used complete information maximum likelihood estimate, and the results show that while the exchange rate has a large negative impact on stock market returns, inflation has a considerable positive impact. Furthermore, Hsing (2011) examined the link between macroeconomic factors and stock market return in Bulgaria using the GARCH model and quarterly dataset from the fourth quarter of 2000 to the third quarter of 2010. The findings reveal that real GDP and money supply have significant positive impact on stock market return, but real interest rate, exchange rate, and inflation rate have significant negative impact.

Hussain (2012), on the other hand, used monthly data from 2008:1 to 2009:12 to evaluate the link between macroeconomic indicators and stock market values in the Kingdom of Saudi Arabia and the United Arab Emirate (UAE). According to the study, the exchange rate has negative effect on stock market values, but interest and inflation have no meaningful affect. In a related development, Osad and Evbayiro-Osagie (2012) used annual time series dataset for the years 1975 to 2005 to analyze the impact of macroeconomic factors on the stock market index in Nigeria. By using the Vector Error Correction Model (VECM), the results show that the money supply has a big negative impact on a stock market index while the exchange rate has a significant positive impact on stock market return. The results also demonstrate that a stock market index is not much impacted by interest rates, inflation rate and GDP.

Talla (2013) used a monthly time series dataset from 1993 to 2012 to assess the influence of macroeconomic factors on the Stockholm stock market using Ordinary Least Square (OLS). According to the findings, the inflation rate and exchange rate

have negative influence on the stock market, although the money supply and interest rate have no significant affect. In addition, Ouma and Muriu (2014) used Ordinary Least Square (OLS) regression to examine the association between macroeconomic factors and stock returns in Kenya from 2003 to 2013. According to the findings, the money supply and inflation rate have considerable positive influence on stock market return, but the exchange rate has a significant negative influence. The findings also indicate that interest rates have no effect on the rate of return of the stock market. Furthermore, for the years 1985 to 2015, Evbayiro-Osagie and Kehinde (2015) used annual time series dataset and the GARCH model to study the correlations between Nigeria's inflation rates, financial openness, currency rates, and stock market volatility. Their findings imply that while the inflation rate has a negative impact on stock market return volatility, the exchange rate has a positive effect on return volatility of stock market.

Using a monthly time series dataset covering the period from January 2008 to November 2016, Amith and Gebriele (2018) used Pooled Mean Group Estimator (PMGE) to analyze the impact of macroeconomic factors on the stock markets in India, China, and Japan. The findings imply that while inflation has a no impact on the stock market, the exchange rate has a positive impact. Last but not the least, Celebi and Honig (2019) used a quarterly time series dataset from the first quarter of 1991 to the second quarter of 2018 to investigate the effect of macroeconomic conditions on the German stock market. The results of an Ordinary Least Square (OLS) regression reveal that whereas GDP, gross investment, and money supply have negative impact on stock market return, exchange rate and interest rate have positive impact.

Data and Methodology

This study used annual time series dataset from 1985 to 2021 sourced from the Central Bank of Nigeria Statistics database and the World Development Indicators database published by the World Bank to examine the effects of goods and money markets indicators on stock market performance. The time period chosen is accompanied by several economic difficulties and changes in government policies affecting Nigeria's stock market as well as the country's money and commodities markets. The indicators are divided into two categories: indicators derived from the goods market and indicators derived from the money market. Gross domestic product, domestic savings, domestic investment, and government spending are the goods market indicators. The indicators affecting the money market, however, are the money supply, money demand, interest rate, and exchange rate.

While demand for money is calculated as the money supply divided by price, or M2/P as used by Nakorji and Asuzu (2019), domestic investment is assessed as gross capital formation in this study, which is the sum of the change in the value of fixed assets plus the change in stocks (CBN, 2018).

Additionally, because of its impact on the economy, the inflation rate served as a control variable in both models. The following are the functional models capturing the effect of goods and money markets indicators on stock market index in Nigeria:

$$\begin{aligned}
 ASI &= f(GDP, SAV, INV, GEXP, INF) \dots\dots\dots 1 \\
 ASI &= f(MS, MD, INT, EXR, INF) \dots\dots\dots 2
 \end{aligned}$$

The following are the econometric equations for the

$$\begin{aligned}
 ASI_t &= \beta_0 + \beta_1GDP_t + \beta_2SAV_t + \beta_3INV_t + \beta_4GEXP_t + \beta_5INF_t + \mu_t \dots\dots\dots 3 \\
 ASI_t &= \beta_0 + \beta_1MS_t + \beta_2MD_t + \beta_3INT_t + \beta_4EXR_t + \beta_5INF_t + \mu_t \dots\dots\dots 4
 \end{aligned}$$

two aforementioned functions:

In equation 3, which represents goods market indicators, ASI stands for all share index, which is a proxy for stock market performance, GDP stands for gross domestic product, SAV stands for domestic savings, INV stands for domestic investment, GEXP stands for government expenditure, and INF stands for the Nigerian inflation rate. Similarly, equation 4 expresses money market indicators, including explanatory variables such as money supply (MS), money demand (MD), interest rate (INT), and exchange rate (EXR). In equations 3 and 4, the coefficients of the dependent variables range from β_0 to β_5 , while μ is the error term. However, for normalization, the variables were changed to natural logarithms and equations 3 and 4 are estimated using the Autoregressive Distributed lag (ARDL) technique developed by Pesaran, Shin, and Smith to capture both short-run and long-run effects (2001). As a result, the equations become:

$$\begin{aligned}
 \Delta ASI_t &= \beta_0 + \sum_{i=j}^p \beta_1 \Delta ASI_{t-i} + \sum_{i=j}^p \beta_2 \Delta GDP_{t-i} + \sum_{i=j}^p \beta_3 \Delta SAV_{t-i} + \sum_{i=j}^p \beta_4 \Delta INV_{t-i} + \\
 &\sum_{i=j}^p \beta_5 \Delta GEXP_{t-i} + \sum_{i=j}^p \beta_6 \Delta INF_{t-i} + \alpha_1 ASI_{t-1} + \alpha_2 GDP_{t-1} + \alpha_3 SAV_{t-1} \\
 &+ \alpha_4 INV_{t-1} + \alpha_5 GEXP_{t-1} + \alpha_6 INF_{t-1} + \mu_t \dots\dots\dots 5 \\
 \Delta ASI_t &= \beta_0 + \sum_{i=j}^p \beta_1 \Delta ASI_{t-i} + \sum_{i=j}^p \beta_2 \Delta MS_{t-i} + \sum_{i=j}^p \beta_3 \Delta MD_{t-i} + \sum_{i=j}^p \beta_4 \Delta INT_{t-i} + \\
 &\sum_{i=j}^p \beta_5 \Delta EXR_{t-i} + \sum_{i=j}^p \beta_6 \Delta INF_{t-i} + \alpha_1 ASI_{t-1} + \alpha_2 MS_{t-1} + \alpha_3 MD_{t-1} \\
 &+ \alpha_4 INT_{t-1} + \alpha_5 EXR_{t-1} + \alpha_6 INF_{t-1} + \mu_t \dots\dots\dots 6
 \end{aligned}$$

Where ρ stands for optimum lag, β_1 to β_6 are the coefficients of the short-run parameters, and α_1 to α_6 are the long-run coefficients of the variables in the equations and Δ is the first difference operator.

The constant here is β_0 , and the error term is μ . Equations 3 and 4 define all other variables. Equations 5 and 6's error correction representation is written as:

$$\Delta ASI_t = \beta_0 + \sum_{i=j}^{\rho} \beta_1 \Delta ASI_{t-i} + \sum_{i=j}^{\rho} \beta_2 \Delta GDP_{t-i} + \sum_{i=j}^{\rho} \beta_3 \Delta SAV_{t-i} + \sum_{i=j}^{\rho} \beta_4 \Delta INV_{t-i} + \sum_{i=j}^{\rho} \beta_5 \Delta GEXP_{t-i} + \sum_{i=j}^{\rho} \beta_6 \Delta INF_{t-i} + \Omega ECM_{t-1} \dots \dots \dots 7$$

$$\Delta ASI_t = \beta_0 + \sum_{i=j}^{\rho} \beta_1 \Delta ASI_{t-i} + \sum_{i=j}^{\rho} \beta_2 \Delta MS_{t-i} + \sum_{i=j}^{\rho} \beta_3 \Delta MD_{t-i} + \sum_{i=j}^{\rho} \beta_4 \Delta INT_{t-i} + \sum_{i=j}^{\rho} \beta_4 \Delta EXR_{t-i} + \sum_{i=j}^{\rho} \beta_4 \Delta INF_{t-i} + \Omega ECM_{t-1} \dots \dots \dots 8$$

Where ECM is the error correction term derived from the ARDL models and is the ECM coefficient expressing the pace of return to equilibrium in the event of an economic distortion. The Augmented Dickey-Fuller (ADF) and Phillips-Perron unit root techniques were used in this study to prevent spurious regression and make sure that no I(2) series was incorporated into the models. ARDL technique allows only mixture of order of integration including I(0) and I(1).

Result and Discussion

It is necessary to ascertain the underestimating behavior of the variables while estimating time series data in order to select the sequence of integrations. The results are shown in Table 1 and were obtained using ADF and P-P testing techniques.

Table 1: Unit Root Test (Augmented Dickey-Fuller and Phillips -Perron)

Variables	ADF		P -P	
	I(0)	I(1).	I(0)	I(1).
LASI	-0.8315	-5.1987***	-0.6658	-4.9886***
LGDP	-1.8565	-3.0014**	-1.7525	-3.0379**
LSAV	0.7290	-4.4118***	-1.2114	-4.4165***
LINV	-1.6573	-2.9067	-2.5353	-5.0846***
LGEXP	-0.8303	-10.4403***	-0.9155	-11.9775**
LMS	0.3335	-43105***	0.3335	-4.2726***
LMD	-0.6296	-4.9564***	-0.4302	-5.1562***
INT	-4.4361***	-6.5513	-3.2606**	-6.5910
EXR	-2.2399	-4.2604***	-1.3197	-4.0943**
INF	-2.8686	-4.1145**	-2.8781	-6.3264***

Note: ***, ** and * specify significant at 1%, 5% and 10% respectively.

The results in Table 1 reveal that, with the exception of interest rate, all variables in the model are stable (stationary) after the first difference. Furthermore, the results demonstrate that investment is not stationary in the ADF test, either at the level value or after the first difference, while it is stationary after the

first difference in the P-P test. Given that there is no I(2) series among the variables, we infer that ARDL is appropriate for estimation. As a result, the study goes on to estimate the bound test for cointegration because the mixture of order of integration includes I(0) and I(1).

Table 2: Bounds Test for ARDL Model

Null Hypothesis: No levels of relationship					
Test Stat.	Goods market	Money market	Significance	I(0)	I(1)
F-statistics	5.97	6.42	10%	2.08	3.00
K	5	5	5%	2.39	3.38
			1%	3.06	4.15

According to the bound test results in Table 2, F-statistics of 5.97 and 6.42 for goods and money markets indicators respectively, are more than or equal to the upper critical value boundaries of 4.15 at a 1.0 percent level of significance. This indicates

that the variables have a long-run relationship. Because there is evidence of cointegration among the series in both the goods and money markets, as shown in Table 2, the study goes on to examine the series' influence on stock market index.

Table 3: The long run dynamics of the models

Goods Market indicators			Money Market indicators		
Dependent Variable: LASI					
Variables	Coef	P -val.	Variables	Coef.	P -value
LGDP	0.0968	0.8707	LMS	-1.0000	0.3150
LSAV	0.6670	0.0270	LMD	1.3169	0.1168
LINV	-1.7954	0.0000	INT	0.1390	0.0255
LGEXP	0.7065	0.0013	EXR	0.0075	0.2240
INF	0.0381	0.0000	INF	0.0372	0.2678
C	52.9225	0.0000	C	9.1580	0.0013

The findings in Table 3 show the long-term impact of the Nigerian stock market's performance on both goods and money markets indicators. From the goods market indicators, the findings suggest that the performance of the Nigerian stock market index is unaffected by the goods market's gross domestic product. According to the findings, Nigeria's stock market index throughout the study period was unaffected by GDP. This is consistent with Osad and Evbayiro-(2012) Osagie's conclusion that GDP has no appreciable impact on a stock market index. The results, however, are at odds with those of Hsing (2011), who finds that GDP positively affects the performance of stock market index.

Savings, on the other hand, have a considerable beneficial influence on stock market index at a 5% level, according to the findings. This means that a 1% increase in savings will result in a 0.67% gain in stock market index. According to the findings, a rise in savings will result in an increase in the performance of the Nigerian stock market index. Domestic investment is also said to have a substantial detrimental impact on stock market index. According to the findings, a rise in domestic investment in the products market will result in a decline in the performance of Nigeria's stock market

index. A 1% increase in domestic investment will result in a 1.79% decline in stock market performance. The result is in contrast to Asaolu and Ogunmuyiwa's (2010) conclusion that investment has no discernible impact on stock market movement and is consistent with Celebi and Honig's (2019) finding that there is a strong negative link between gross investment and stock market returns. According to Table 3's findings, at a 1% level, government spending significantly improves stock market index. Over the course of the research, a 1% increase in government spending will result in a 0.71% improvement in stock market index. The findings imply that improved stock market index in Nigeria will come from increased government spending. The findings also show that, at a 1% level, inflation significantly improves stock market index. The outcome also suggests that stock market index will increase by around 0.04% when inflation rises by 1%. The inflation discovery backs up the findings of Ouma and Muriu (2014) and Kawormu and Victor (2011), who discovered a substantial positive link between inflation and stock market index. It contradicts the findings of Hsing (2011), Yaya and Shittu (2010), Talla (2013), and Evbayiro-Osagie and Kehinde (2015), all of whom found a negative nexus between inflation and stock market index.

The results of the empirical investigation of the money market indicators demonstrate that money supply has a negative but insignificant impact on stock market index. This is accurate since rising prices for goods and services will result from an increase in the amount of money in circulation. Consumers' budgets will move from investments to consumption as a result of price changes, which will have a detrimental impact on stock market indexes. As a result, the conclusion is statistically insignificant and shows that the money supply had little to no impact on the performance of the Nigerian stock market throughout the research period. The results are in contrast to those of Ouma and Muriu (2014), who find that the money supply has a positive impact on stock market index and in conformity of Talla (2013) who found that the money supply has no impact on the stock market index.

The outcomes from the money market also show that the stock market's index is not much impacted by the demand for money. This suggests that during the research period, the performance of the Nigerian stock market index was unaffected by changes in the demand for money. According to Table 3, the findings demonstrate that, at 5% level of significance, interest rates have a positive impact on stock market index. According to the findings, a 1% increase in interest rates will cause the Nigerian stock market index to perform slightly better to 0.13%. The

findings are consistent with those of Adam and Tweneboah (2008) and Celebi and Honig (2019), who discovered a positive link between interest rate and stock market return. The conclusion also contradicts the findings of Hsing (2011), Talla (2013), and Asaolu and Ogunmuyiwa (2010), who conclude that interest rates have no influence on stock market performance.

According to the findings in Table 3, the exchange rate has no impact on stock market index. This study contradicts the findings of Asaolu and Ogunmuyiwa (2010) and Vickram and Sampagnaro (2018), who discovered a positive link between the exchange rate and stock market movement. Finally, the findings reveal that inflation has no significant impact on stock market index. When examined from the monetary viewpoint of the economy, the results further imply that a rise or drop in inflation would not significantly affect the performance of the stock market index in Nigeria throughout the research period. The findings of Ouma and Muriu (2014) and Kawormu and Victor (2011), who indicate a considerable positive link between inflation and stock market performance, do not support this conclusion. Additionally, the result differs with those of research by Hsing (2011), Yaya and Shittu (2010), Talla (2013), and Esther and Enemi (2015), which found a substantial inverse nexus between inflation and stock market movement.

Table 4: The short run dynamics of the models

Goods Market indicators			Money Market indicators		
Dependent Variable: $\Delta(\text{LASI})$					
Variables	Coef.	Prob.	Variables	Coef.	Prob.
$\Delta(\text{LGDP})$	0.8161	0.5040	$\Delta(\text{LMS})$	-0.1634	0.5421
$\Delta(\text{LSAV})$	0.9224	0.0307	$\Delta(\text{LMD})$	0.3125	0.0344
$\Delta(\text{LINV})$	1.0777	0.0014	$\Delta(\text{INT})$	-0.0172	0.1496
$\Delta(\text{LGEXP})$	-0.0248	0.9134	$\Delta(\text{EXR})$	-0.0045	0.0141
$\Delta(\text{INF})$	0.0078	0.0617	$\Delta(\text{INF})$	0.0076	0.2281
ECM (-1)	-0.4403	0.0002	ECM (-1)	-0.3155	0.0000
$R^2 = 0.99$, Adj. $R^2 = 0.99$, DW = 2.58, F-sta. = 367.17 (0.0000)			$R^2 = 0.99$, Adj. $R^2 = 0.98$, DW = 2.30, F-sta. = 163.35 (0.0000)		

As shown in Table 4, the short-term results from the goods market indicators indicate that while domestic savings, domestic investment, and inflation have a positive and statistically significant impact on stock market index in Nigeria, GDP and government spending have no impact. According to the money market side of the study, money demand has a considerable positive impact on stock market index whereas money supply, interest rates, and inflation have no impact. The findings also

point to a strong short-term negative impact of the exchange rate on Nigeria's stock market index. The error correction terms for the models have negative signs, less than one, and significant at the 1% level, as would be predicted. Accordingly, between 44.03 and 31.55 percent of mistakes may be fixed annually. Additionally, the error correction model suggests that, in the event of an economic distortion, investments in the products market can help the economy recover more rapidly than those

in the money market. This is because it takes approximately two years and four months (2 years, 4 months) to restore the economy to equilibrium with investment in a good market, while it takes approximately three years and three months (3

years and 3 months) to correct the economy back to equilibrium with investment in the money market. This implies that the goods market is more robust in restoring the economy to equilibrium.

Table 5: Results of the Diagnostic Tests

Good Market diagnostic tests			
Serial Correlation Test			
F-Statistics	1.4501	Prob. F (2, 18)	0.2761
Heteroscedasticity Test			
F-Statistics	0.4318	Prob. F (6, 12)	0.9468
Normality Test			
Jarque -Bera	0.7604	Prob.	0.6837
Good Market diagnostic tests			
Serial Correlation Test			
F-Statistics	2.4060	Prob. F (2, 18)	0.1186
Heteroscedasticity Test			
F-Statistics	0.8650	Prob. F (6, 12)	0.5779
Normality Test			
Jarque -Bera	0.2317	Prob.	0.8906

In order to avoid having and interpreting wrong results, this article additionally performed post-estimation tests such as serial correlation LM test, heteroscedasticity test, and normality test. The findings in Table 5 demonstrate that there are no concerns with serial correlation or heteroscedasticity, and they also confirm that the model is normally distributed. The paper also conducted stability tests using cumulative sum

(CUSUM) of residual and cumulative sum of recursive residual (CUSUMSQ) tests in order to identify the stability of the models and the estimated parameters. The results presented in Figures 1 and 2 revealed that both models and estimated parameters pass both CUSUM and CUSUMSQ tests. This is evident from both the CUSUM and CUSUMSQ lines that fall within the two critical lines of the tests.

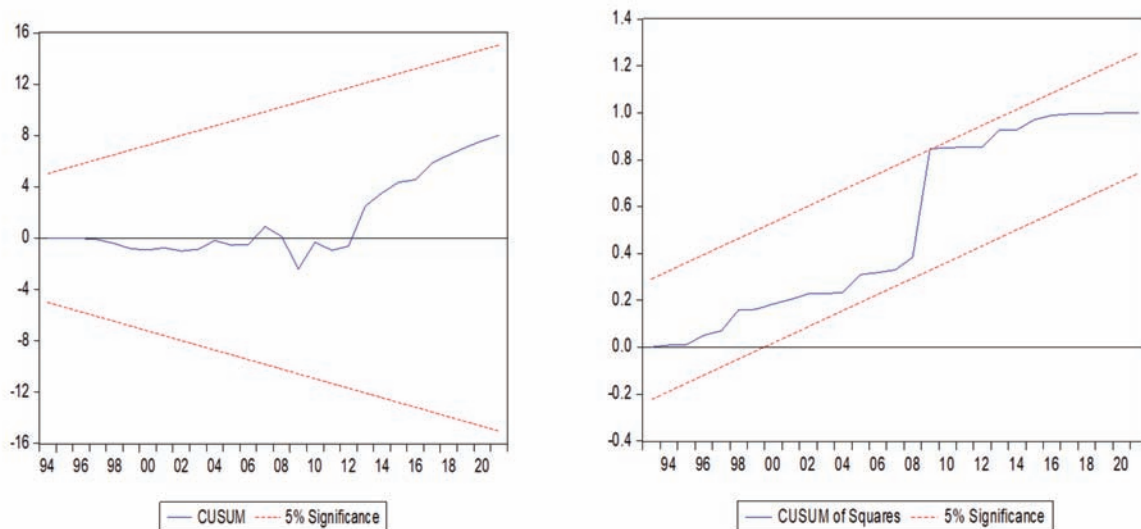
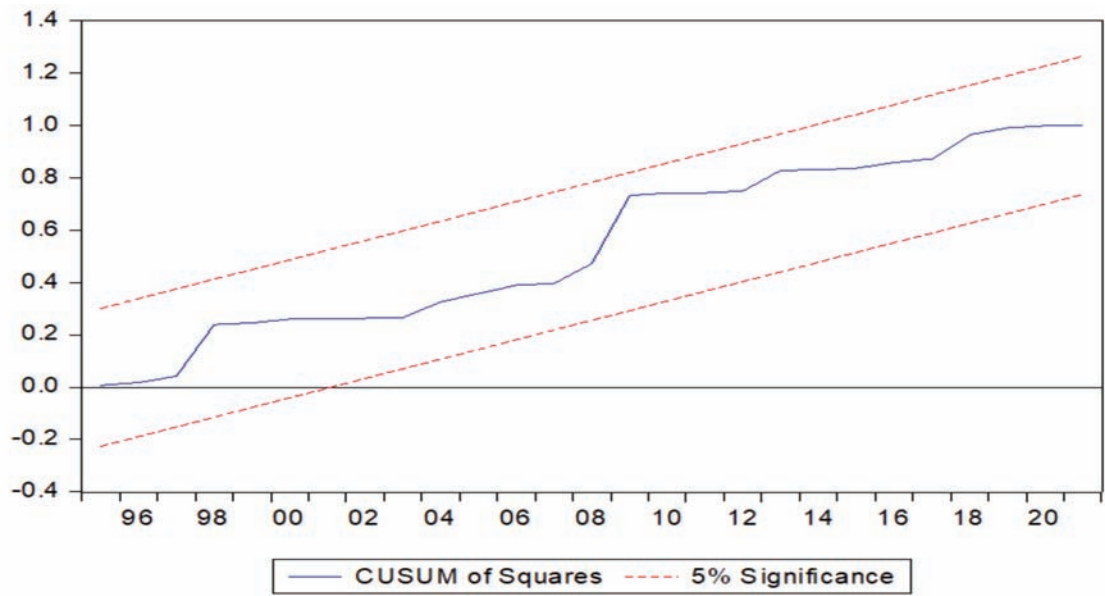
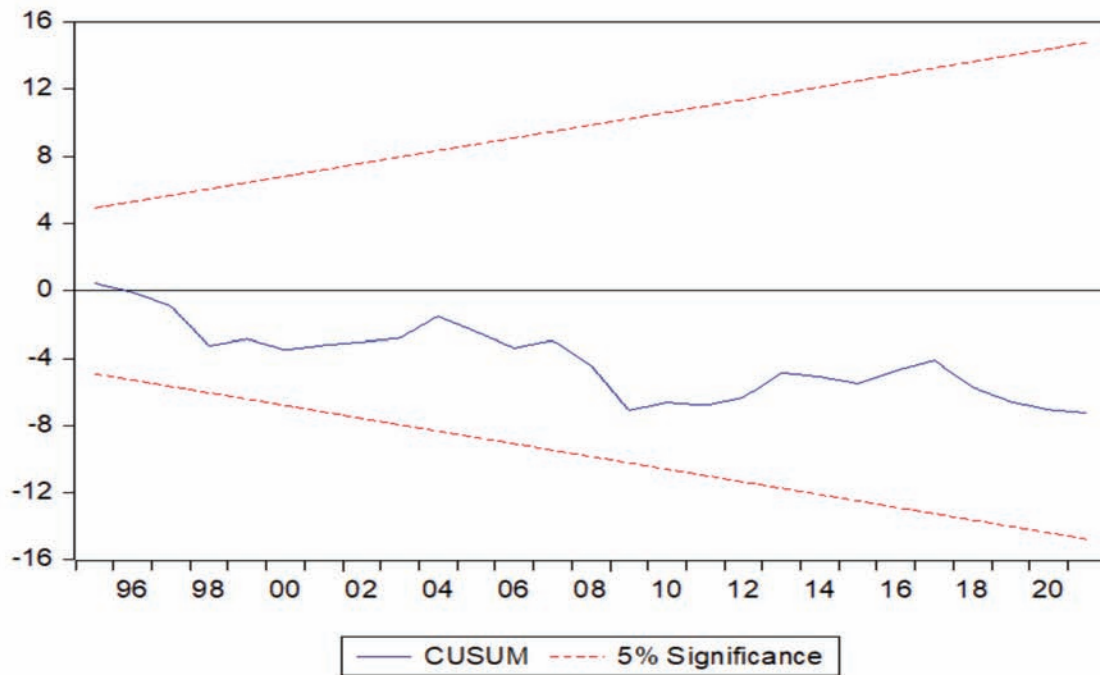


Figure 1: Goods Market Stability Test



5. Conclusions and Recommendations

Based on the results, this study draws the conclusion from the goods market indicators that while domestic investment has a negative impact on stock market index, domestic savings, government spending, and inflation rate, have significant positive impact. From the money market, it can be inferred that the stock market's performance is significantly and positively influenced by interest rates while money supply, money demand, and exchange rate remained insignificant. In light of the empirical results, this study makes the case for increased domestic savings and public investment, particularly on capital projects, in order to improve the economy's ability to produce goods and services vis-à-vis the performance of stock market index. The

study also suggests that the government and monetary institutions coordinate the functions of fiscal and monetary policies in order to sustain moderate inflation, which is desired for economic growth and stock market growth. This study recommends that the Central Bank of Nigeria should expand its financial inclusion efforts in order to reduce the economy's informal investment operations. As a result, it will encourage easy access to financial products that are directly or indirectly related to stock market operations. Finally, in order to optimize the stock market operations, an optimum level of interest rate need to be determined that will benefits both investors and financial institutions.

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Effective Performance Appraisal, Trustworthiness and Employees' Engagement in Deposit Money Banks



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ABSTRACT

This study examined the mediating role of trustworthiness (ability, integrity, and benevolence) on the effective performance appraisal (EPA)-employee engagement, relationship in deposit money banks in Nigeria. A survey was conducted on a sample of 149 deposit money bank employees, and a Hayes' three-way parallel mediation was used in testing the study hypotheses. We found that EPA significantly influence (positive) employee engagement, and that integrity and benevolence significantly mediates the relationship between EPA and employee engagement, whereas, ability does not mediate this relationship. These finding have implications for policymakers and managers of deposit money banks in Nigeria.

Keywords:

Effective Performance Appraisal; Ability; Integrity; Benevolence; Employee Engagement

JEL:

[M1, M12, M120]

INTRODUCTION

Employees' engagement is crucial in every organization because many important aspects of an organization like profitability, revenue, turnover, etc., are dependent on the engagement of the employees with the organization (James et al., 2003). Employees' engagement has been presented to be particularly essential in the field of management (Kahn, 1990; Kolomiets, 2016), and organizations that have large numbers of engaged employees perform better and are often successful with regard to boosting their teams and the outcomes of their organizations (Mahoon et al., 2014). Hence, it is important to understand the factors that influence the mental strength and emotional connection that employees feel toward the work they do, their teams, and their organization.

Several possible factors that might influence employees' engagement with an organization exist in the management literature; perhaps, one that appears to have been understudied is Effective Performance Appraisal (EPA) (Ajibola et al., 2020). Performance appraisal refers to a system that enables management to identify and gauge the strengths and weaknesses of its employees and to improve their performance as well (Desbordesa & Wei, 2017). Performance appraisal is a crucial aspect of management (Alzyoud, 2018), in part because it provides a rational medium or instrument for measuring individual worker contribution to corporate goals achievement and success (Brunetto et al., 2013), and is a strategic tool that can be used to appraise the employees' engagement of financial services, particularly in developing economies like Nigeria (Lucas, 2019). When businesses appraise the performance of their employees effectively, the latter are more likely to perform better and remain engaged with their tasks in the organization (Kakkar et al., 2020).

More recent studies tend to suggest that another factor that might be impacting employees' engagement is trustworthiness (Mayer & Garvin, 2005). This is because trustworthiness involves the willingness to be vulnerable to another party when that party cannot be controlled or monitored (Mayer et al., 1995). The various dimensions in which trustworthiness assume, e.g. ability, integrity, and benevolence (e.g. Whitener et al., 1998), have been demonstrated to lead to greater organizational outcomes such as engagement. Ugwu et al., (2013) found evidence that when individuals have trust about how a process or individual has the ability, is benevolent, or has integrity, they are more likely to be highly engaged. Similarly, Liu, et al., (2022) found that managerial trustworthiness increases employees' engagement with an organization.

Notwithstanding that numerous studies have found

respective direct relationships between EPA and trustworthiness with engagements (e.g. Kakkar et al., 2020; Liu et al., 2022), there still appear to be a dearth of studies in this areas that have focused in the banking industry. Moreover, no study as we know it, has combined the impact of EPA and trustworthiness together in one comprehensive model to test on employees' engagement, thus, we have limited knowledge of how EPA might influence employees engagement in the banking industry, and how trustworthiness might influence such a relationship. The objective of this study is to determine the relationship between EPA and employees' engagement in the banking industry in Nigeria, and to examine the moderating influence of trustworthiness on such relationship. This study proposes that the combination of different dimensions of trustworthiness (ability, benevolence, and integrity), might have an even greater impact on the employees' engagement with deposit money banks. Though, the integration of this work to determine the impact of trustworthiness, which involves ability, benevolence, and integrity on employees' engagement, has not yet, to our knowledge, been investigated.

Albeit, while common wisdom might suggest a positive correlation between trustworthiness and effective performance appraisal (e.g. Skinner & Searle, 2011; Mayer & Davis, 1999), very little is known to date, of how they both might work in concert with one another as they influence employees' engagement. In Skinner & Searle's research (2011) and Liu, et al's research (2022), the effects of trustworthiness were observed to be positive on other organizational outcomes, like employee engagement. Moreover, studies, where the direct impact of EPA on employees' engagement in deposit money banks was examined, are scanty. Although numerous studies have suggested that EPA fosters positive employee engagement. Thus, the potential mediating roles of trustworthiness in the relationship between EPA and employees' engagement have not been examined so far. We believe that if such mediating roles exist, an important explanation for why EPA might be so impactful on employees' engagement in deposit money banks due to the influence of trustworthiness would be gleaned.

We seek to make numerous contributions with this study. First, this study contributes to the literature by filling a gap. Studies that have investigated EPA and employees' engagement in deposit money banks per se are scarce. An understanding of how these variables are related would enable us to acquire knowledge on how these variables can be harnessed to enhance employees' engagement in the banking sector in Nigeria and in other countries. Second, this study makes theoretical contributions.

To the best of our knowledge; no previous research has combined the tenets of the feedback intervention theory (FIT) and theory of mind skills (TOMs) testing the relationship between EPA and employees' engagement, through the mediating roles of trustworthiness. This contribution is important because it presents employees and policymakers with strategies for how to improve employee engagement in the banking industry and in other industries in the country. Third, this study makes methodological contributions. Previous research that has investigated the relationships between EPA and other organizational outcomes (e.g. Ajibola et al., 2020; Charoensunkmongkol, 2021) has not investigated how other factors such as trustworthiness might mediate these relationships, thereby showing the indirect and total effects of EPA through trustworthiness on employee engagement. This method might open up new vistas for further studies to get a better understanding of how employee engagement can be investigated.

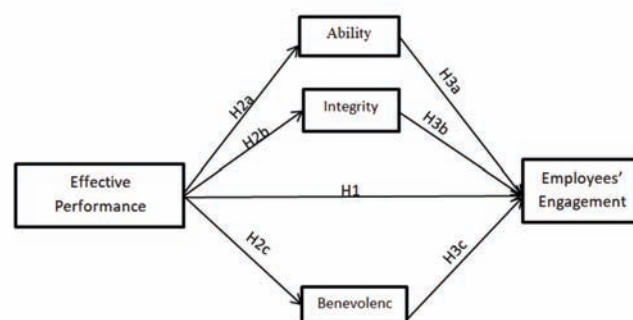
LITERATURE REVIEW

CONCEPTUAL FRAMEWORK

Employees' Engagement

Employees' engagement refers to "the extent to which employees are motivated to contribute to organizational success, and are willing to apply discretionary effort to accomplishing tasks that are important to the achievement of organizational goals" (Kolomiets 2016). It is the behaviour of employees that involves how they express themselves physically, cognitively, and emotionally during role performances (James et al., 2003). Employees are engaged cognitively by how they express their beliefs about the organization, its managers and leaders, as well as the conditions of work (Wiley, 2010). Physically, employees engage by exerting physical energies that enable them to succeed in their roles (Thomas, 2007).

Figure 1: Conceptual Model



Source: Authors' Design

Employees' engagement is important to organizational success for a number of reasons. It enables the employees to not only improve their involvement with the organization (Lockwood, 2007), but to also become part of the organizational decision-making processes, which can often translate into organizational success (Wiley, 2010). It also assists

the managers of organizations to gauge their commitment and make decisions about their tenures with the organizations (Koyuncu et al., 2006). Among the various goals of the organization which involves performance, success, and growth (Robinson et al., 2004), which often requires huge investments in material and human resources, the engagement of the employees remains the most important aspect because they need to harness the other resources (Kahn, 1990). Other studies have been centered on job satisfaction, commitment, and performance (Stello, 2010; Petkovska et al., 2014; Permarupan et al., 2013). We incorporate such findings into our arguments here of two crucial factors that the literature has suggested to have relationships with employee engagement: EPA (Alder, 2007; Nolan, 2011) and trustworthiness (Mahoon et al., 2014; Melhem & Qudah, 2019). Our conceptual model is in Figure 1.

THEORETICAL FRAMEWORK

This research combines FIT and TOMs to increase understanding of how EPA might foster employees' engagement with various levels of trustworthiness. The FIT explains that the feedback that individuals receive might motivate them to focus their attention on task-motivation or meta-task processes involving the self (Kluger & Denisi, 1996). Therefore, this theory explains that positive feedback can instigate the sustenance of positive rewarding outcomes (Burgers et al., 2015). Such feedback as explained by Kluger and Denisi, can be positive judgments of an individual's job efforts, proper evaluation, and reward based on inputs or outputs, and are important in determining the continuity of a process. FIT is an important tool for explaining the effectiveness of a performance appraisal program, and the basic assumptions are built around reciprocity. The manner of feedback that individuals receive would determine the manner of efforts they will render, and these efforts can be in the form of increased/decreased engagements with their organizational activities (Voerman et al., 2014).

The TOMs, on the other hand, involves an individual's ability to reason about their mental states and those of others (Baimel et al., 2015). This theory explains how individuals can attribute various cognitions such as emotions, desires, beliefs, and knowledge in determining whether they can trust (Waytz et al., 2010). The theory is essential in explaining how mental states such as trustworthiness which consist of ability, benevolence, and integrity, can interact with other organizational factors to foster greater outcomes like performance or satisfaction, commitment, and engagement. It suggests that employees who have a positive mental picture about their appraisal would most likely display trustworthiness about the process. Therefore, the linkage between these theories to the current study

is that the FIT which explains how effective performance appraisal affects positive employee behaviours, when combined with TOMs, which explains trustworthiness, would result in even greater employee behaviours like satisfaction, commitment, and engagement.

Hypotheses Development

Effective Performance Appraisal and Employees engagement

Previous studies have found that EPA is positively and significantly related to organizational outcomes or behaviours like performance, satisfaction, and commitment (e.g. Gupta & Kumer, 2013; Abu-Doleh & Weir, 2007). However, many studies involving EPA have not been carried out in the context of employee engagement. However, since EPA positively predicted employee work-related attitudes and behaviours, such as commitment, satisfaction, performance, and growth (e.g. Ajibola et al., 2020; Baird et al., 2020), there is a possibility that EPA can foster employees' engagement in deposit money banks. This could mean that as the employees of banks perceive effectiveness in their performance appraisal, it could easily translate to higher engagement with the activities of the organization. Drawing on FIT, we argue that the feedback that employees receive from their employers would motivate certain types of behaviours that could affect their engagement with the organizations. Thus, if they receive favourable appraisals, it may go a long way in ensuring their engagement with organizations (e.g. Gupta & Kumer, 2013; Nair & Salleh, 2015). EPA can assist in shaping the employees' engagement with the organizational activities (Abu-Doleh & Weir, 2007, Ahmad et al., 2010). Thus, the research model of the current study considers EPA a significant antecedent to employee engagement. Based on these lines, we might expect a positive relationship between EPA and employee engagement.

H1. EPA is directly and positively related to employee engagement.

While we expect that this relationship will be confirmed in our study, we contribute to the literature by suggesting that trustworthiness will mediate the relationship between EPA and employee engagement. For such mediation to occur, EPA must influence trustworthiness, and trustworthiness must in turn influence employees' engagement. We address the former relationship first, then the latter.

EPA and Trustworthiness (Ability, Integrity, and Benevolence), and Employee Engagement

Prior research has shown that EPA predicts many positive work outcomes (e.g. (Charoensukmongkol, 2021; Ullah et al., 2021; Lu et al., 2018); this could be a

result of performance appraisal being able to influence employees' behaviours in the workplace. An effective performance appraisal can build positive workplace behaviours such as trustworthiness (ability, integrity, and benevolence), which have the propensity of increasing employee engagement. It is crucial to recognize that the levels of the employees' engagement in the workplace largely depend on the trustworthiness that they have in not only their superiors but in the organizational performance appraisal systems. The more employees perceive their performance appraisal to be trustworthy, the more likely they will develop positive orientations towards the organization.

EPA can contribute to explaining the abilities of the organization (Colquitt & Rodell, 2011; Goksoy & Alayoglu 2013; Kamer & Annen, 2010). For instance, employees who perceive effectiveness in the performance appraisal can develop positive perceptions towards their organizations that can motivate them to engage more with the organization. Employees who perceive ineffectiveness in performance appraisal, on the other hand, might develop negative perceptions that their organizations can motivate their engagement. Berg, et al. (2008) expounded that most incomplete tasks, negative reviews, burnout, and turnover intentions are linked to a lack of ability on the part of the organization to conduct effective performance appraisal. As Shahzad, et al., (2012) explained, here might be a positive influence of ability on commitment, which may translate to work engagement. Thus, as encapsulated in the FIT and TOMs, employees would most likely reciprocate an effective performance appraisal of their efforts with engagement.

EPA can contribute to explaining the integrity of the organization as well (Goksoy & Alayoglu 2013; Leck & Orser, 2013; Whitener et al., 1998). Employees, who perceive that the performance appraisal is effective, would most likely have faith in the organization. In the same way, employees' faith in the organization might be dampened when they perceive that the performance appraisal is ineffective. Berg et al., (2008) have explained that a lack of integrity on the part of the organization to conduct effective performance appraisals might lead to high turnover intentions or other counterproductive workplace behaviours. Integrity, however, might influence positive work behaviours such as commitment, and engagement (Tan et al., 2019; Krats et al., 2013). Drawing on the FIT and TOMs, it can be argued that positive feedback from the organization to the employees will receive positive responses such as engagement and that such positive responses would be higher, particularly if they perceive that the organization

has integrity.

Previous studies have reported that EPA can contribute to explaining situations where a trustee acts in good faith to a truster, (i.e. benevolence). In other words, employees who perceive that their performance appraisal is effective would most likely be benevolent with their organization by being open and caring (Colquitt & Rodell, 2011; Chan 2017). When employees perceive that they are not effectively appraised, they might be less likely to do well in their organization. Lack of benevolence on the part of the organization might lead to less commitment, counter workplace behaviours, and high turnover intentions among employees (Berg et al., 2008). Employees will thus reciprocate favourable behaviours like effective performance appraisal with positive behaviours like commitment and engagement as encapsulated in the FIT (Geunpil & Sung-Woo, 2020). They would most likely increase their positive behaviour when they perceive that their organization is benevolent as suggested by the TOMs. Based on these arguments, we might expect that EPA will have positive influences on trustworthiness (ability, integrity, and benevolence respectively) and that these would mediate the effect that EPA has on employee engagement. Thus, we propose:

H2. EPA is directly and positively associated with (a) ability, (b) integrity, and (c) benevolence.

H3. The mediating variables, namely (a) ability, (b) integrity, and (c) benevolence, will have a direct and positive effect on employees' engagement.

METHODS

Population and Sample

The hypotheses of the current research were tested with a sample of deposit money bank employees from the various branches of the top banks (Zenith bank, Access bank, and UBA) in Nigeria. This sample includes all the employees i.e. fund transfer, marking, administration, cash and teller, and customer service. A total of 170 of these employees of the selected deposit money banks were thus contacted and informed about the study. We also explained to them that the study was strictly for academic purposes and that their responses were confidential. The administration of the questionnaires was done through Google Forms. We forwarded the links to the research instruments to their Emails. A total of 149 (87.6%) of the instruments were returned within two weeks and were utilized in the final analyses of the study. 89 (59.7%) of the employees were male, while 60 (40.3%) of them are female. 34 (22.8%) of these employees were in their 20s, 62 (40.3%) of them were in their 30s and 53 (35.6%) of the employees are above the age of 40.

Measures

Effective Performance Appraisal: This study

developed a scale with which effective performance appraisal of deposit money banks was assured. The data that informed the scale development were gathered from the key performance indices of deposit money banks. The employees were asked to rank their perception of the effectiveness of their performance appraisal on a five-point Likert scale of ineffective = 1 to very effective = 5. A sample of the scale items is: employees' performances are judged strictly on verifiable items, and the appraisal of employees' outputs is objectively determined. A total of four items made up this scale, and the alpha of this scale was 0.83.

Trustworthiness: the existing scale of trustworthiness designed by Mayer and Davis (1999) was utilized in

this study. The scale consists of three variables measured on a five-point Likert scale of strongly disagree = 1, to strongly agree = 5.

Ability: this reflects concepts such as competence, skills, efficacy, and dedication. This scale was however adjusted to suit the contexts of this study. Thus, it was designed to ensure that the responses were given by the employees of the banks. A total of six items were used in assessing this scale. Samples of the items include my supervisor being known to be successful at the things they try to do, my supervisor having specific capabilities that can increase their performance, and my employees being well-qualified. All of these items loaded well, the original scale had an alpha of 0.96, while our study has an alpha of 0.86.

Table 1: Confirmatory factor analysis

Variables	Indicators	Loading	Convergent and Discriminant validity check				Reliability test	
			AVE	DV	MSV	MaxR(H)	CR	Cronbachs' Alphas
Effective Performance Appraisal	EPA1							
	EPA2	0.872						
	EPA3	0.844						
	EPA4	0.831						
Ability	EPAE	0.792	0.713	0.844	0.797	0.762	0.82	0.83
	ABY1	0.886						
	ABY2	0.854						
	ABY3	0.840						
	ABY4	0.821						
	ABY5	0.816						
Benevolence	ABY6	0.798	0.822	0.906	0.830	0.805	0.86	0.86
	BEN1	0.941						
	BEN2	0.938						
	BEN3	0.914						
	BEN4	0.863						
Integrity	BEN5	0.821	0.872	0.934	0.842	0.910	0.93	0.94
	INT1	0.765						
	INT2	0.736						
	INT3	0.731						
	INT4	0.722						
	INT5	0.709						
Engagement	INT6	0.699	0.748	0.864	0.783	0.781	0.78	0.80
	ENG1	0.881						
	ENG2	0.880						
	ENG3	0.862						
	ENG4	0.854						
	ENG5	0.521						
	ENG6	0.845						
	ENG7	0.832						
ENG8	0.812	0.852	0.923	0.832	0.844	0.879	0.88	

Note(s): AVE = Average variance extracted, DV = Discriminant Validity, CR = Composite Reliability, MSV = Maximum Shared Variance

Integrity: this consists of adherence to sets of acceptable principles of shared values. A total of six items were used in measuring this scale. The items were adjusted to ensure that the employees presented the response. Samples of the items include: I never have to wonder whether my supervisor will stick to their words, and I like my supervisors' values; sound principles that seem to guide my supervisors' behaviours. The alpha of the original scale was 0.85, while the alpha of our study is 0.94.

Benevolence: this refers to the sense that the trustee wants to do good to the trust, with doing good including concepts such as being caring and open. Five items were utilized in measuring this scale. The sample items included the needs and desires of my supervisors are important to me; I am very concerned about the welfare of my supervisors; I will go out of my way to help my supervisor. The original scale as designed by the developers had an alpha of 0.94, while our study's alpha is 0.86.

the Utrecht Work Engagement Scale (UWES-9) by Schaufeli et al., (2006) was used in measuring the employees' engagement variable of this study. The scale comprises three dimensions: vigor, dedication, and absorption. Samples of the items include "at my work, I feel that I am bursting with energy," "I am proud of the work that I do," and "I get carried away when I am working." The responses were belted on a five-point Likert scale ranging from Never =1 to Always everyday = 5. The original scale by the developer was 0.89, and the alpha for our study is 0.88.

Overall measurement model fit

A confirmatory Factor Analysis (CFA) was

conducted using AMOS 22.0 to test the acceptability of the overall model fit. The measurement model consisted of the five latent variables representing the EPA, trustworthiness (ability, benevolence, and integrity), and employees' engagement. The overall goodness-of-fit was adequate: $\chi^2 = 341.623$; $df = 264$; $\chi^2/df=1.29$; $GFI=0.91$, $CFI =0.93$; $AGFI=0.90$, $TLI=0.93$; $RMR=0.05$; $RMSEA=0.07$, reflecting an acceptable model fit (Hair et al., 2010).

Convergent validity and discriminant validity

Table 1 shows that the indicator factor loadings are significant and exceed the acceptable value of ≥ 0.5 on their corresponding constructs. Convergent validity (CV) was established as the average variance extracted (AVE) is ≥ 0.50 . Also, the discriminant Validity (DV) was established, as the square root of the AVE is greater than the correlation of the latent variables in the CFA (Fornell & Larcker, 1981).

Composite reliability and Cronbach's alpha reliability

Hair et al. (2010), avers that a reliable scale must have a Cronbach's alpha and composite reliability are ≥ 0.70 and ≥ 0.60 , respectively, while the factor loadings should be ≥ 0.50 , thus, the outputs of this study as indicated on Table 1, meet all these criteria.

RESULTS

Descriptive

Table 2 shows the mean, SD, and bivariate correlations among the variables. The correlation results showed that EPA was positively correlated with employees' engagement, ability, integrity, and benevolence.

Table 2: Mean, standard deviation, and bivariate correlations among variables

Variables	Mean	SD	1	2	3	4	5
Performance Appraisal	8.34	0.482	1				
Ability	11.41	0.732	0.322**	1			
Integrity	12.18	0.751	0.402**	0.481**	1		
Benevolence	10.87	0.630	0.436**	0.411**	0.343**	1	
Employees' engagement	9.64	0.512	0.346**	0.401**	0.397**	0.421**	1

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

**. Correlation is significant at the 0.05 level-(2 tailed).*

Hypotheses testing

This study's hypotheses were tested using the Hayes PROCESS Macro 3.5 (Model 4 – Hayes, 2018) by applying bias-corrected 5,000 resample bootstraps to determine the direct and indirect effects (Hayes, 2018). Thus, Figure 2 shows the results of the analysis of direct and indirect effects.

Effect of Effective Performance Appraisal on Employees' engagement

The regression model (Figure 2) presented sufficient

evidence to support hypothesis 1. EPA had a statistically significant positive relationship with employees' engagement ($\beta = 0.291$, $p < 0.01$). This coefficient reflects the direct effect (c') of PSS on career curiosity within the path model. Also, the total effect (path c) of EPA on employees' engagement shows a significant positive association ($\beta = 0.3455$, $p < 0.001$).

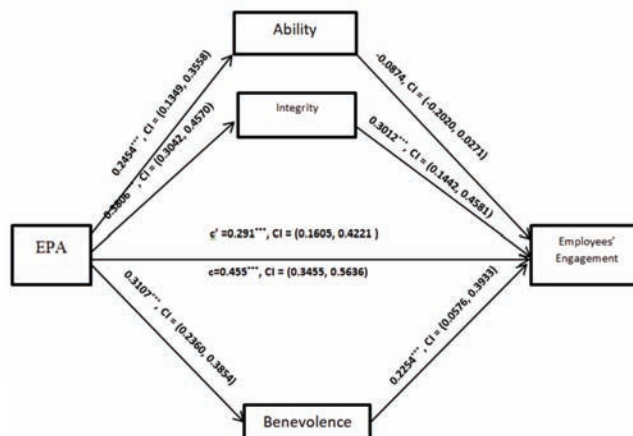


Figure 2: Results of the structural models
 Source: Authors' Design
 Note: EPA = Effective Performance Appraisal

Table 3: Moderation Analysis

Path	Indirect effect	Bias - corrected 95% CI	
		Lower	Upper
EPA→ Ability→ Engagement	-0.0215	-0.0516	0.0040
EPA→ Integrity→ Engagement	0.1146	0.0504	0.1885
EPA → Benevolence→ Engagement	0.0700	0.0194	0.1336

Note: EPA = Effective Performance Appraisal

Impact of EPA on ability, integrity, and benevolence

With regards to Hypotheses 2a, b and c, we tested the direct relationships between EPA and the mediators. The results as shown in Figure 2 indicated that EPA was a significant predictor of ability ($\beta = 0.2454$, $p < 0.001$). EPA was a significant positive predictor of integrity ($\beta = 0.3806$, $p < 0.001$). Also, EPA was a significant predictor positive of Benevolence ($\beta = 0.3017$, $p < 0.001$). These coefficients reflect the direct effect of EPA on ability, integrity, and benevolence within the path model. These indicate that all of the second sets of hypotheses i.e. 2a, b, and c were supported.

Impact of the mediators on employees' engagement

In the test of Hypothesis 3a, b and c, we found that ability has a negative influence on employee engagement ($\beta = -0.0874$, $p > 0.001$). Integrity was a significant positive predictor of employees' engagement ($\beta = 0.3012$, $p < 0.01$), and benevolence was a significant predictor of employees' engagement as well ($\beta = 0.2254$, $p < 0.01$). These coefficients show the direct effect of the mediators on employees' engagement (Path b of the model). Hence, hypotheses 3b and c were supported, while hypothesis 3a was not supported. The influence of EPA on employees' engagement through the mediators (indirect effect)

For Hypotheses 4a, b and c, we tested the influence

of EPA on employees' engagement through a three-way parallel mediation comprising ability, integrity, and benevolence. We adopted the bootstrapping method in examining the indirect effect. As presented in Table 3, the effect of EPA on engagement through ability was not significant (negative) ($\beta = -0.0215$, $p > 0.001$). Integrity has a positive and significant influence on the relationship between EPA and engagement ($\beta = 0.1146$, $p < 0.001$) and benevolence also has a significant (positive) on the relationship between EPA and engagement ($\beta = 0.0700$, $p < 0.001$). This bootstrapping mediation test established that integrity and benevolence mediate the path through which EPA influences employees' engagement, and that ability does not mediate this path. Thus, only hypotheses 3b and c were supported.

DISCUSSION

The topic of effective performance appraisal has gained widespread research and popularity among researchers in the fields of management, organizational behaviour, and employability research, notwithstanding, limited studies concerning this exists on EPA and employees' engagement in the deposit money banks. Understanding how bank employees perceive their performance appraisal as effective and how they consider it as a factor that drives work engagement contributes hugely to the literature and our knowledge of performance appraisal and employees' engagement in the study

population. To the best of our knowledge, no prior research has combined the FIT and TOMs to investigate the relationship among EPA, employees' engagement, and trustworthiness (ability, integrity, and benevolence) in one comprehensive model. We proposed in this study that EPA affects the employees' engagement in Nigerian banks, and that trustworthiness of the employees (ability, integrity, and benevolence), mediates the relationship.

We found that EPA has a significant positive influence on employee engagement. This implies that when employees perceive that their performances have been appraised effectively, they are bound to become highly engaged with the organization. Put differently, it could be interpreted as; effective performance appraisal increasing employees' job satisfaction, commitment, and performance, and reducing their turnover intentions. We also discovered that EPA related positively with ability, integrity, and benevolence. These positive relationships indicate that employees, who perceived that their performance appraisal systems are effective, will display increased trust in the organization. In other words, EPA will improve the abilities of the employees, would foster integrity among the employees, and would trigger benevolence (Geunpil & Sung-Woo, 2020). These results suggest that effective performance appraisal fosters trustworthiness.

The results of the analysis showed that ability does not have a statistically significant (negative) mediating effect on the relationships between EPA and employees' engagement. This implies the ability of an employee, even though is fostered by EPA, does not increase their engagement. Another possible interpretation of this finding is that the EPA may not necessarily need the combined effect of the ability to improve the engagement of the employees with the organization.

We found that the relationship between EPA and employee engagement was significantly mediated by integrity. This can be interpreted to mean that the integrity of the employees further improves the positive effect of EPA on engagement. Lastly, benevolence mediates the relationship between EPA and employee engagement. The results for integrity and benevolence are expected because evidence from previous studies has shown that trust fosters positive organizational behaviours (Geunpil & Sung-Woo, 2020; Colquitt & Rodell, 2011; Chan 2017). These finding, thus, strengthens the importance of trustworthiness in fostering employees' engagement in the workplace. Drawing on FIT, we can submit that organizations can enhance employees' engagement by

ensuring that they provide them with effective performance appraisal. Drawing on TOMs also, we suggest that organizations can further strengthen employees' engagement by providing them with adequate organizational climates such as integrity and benevolence.

CONCLUSION

Drawing on the FIT and TOMs, this study explored the relationship between EPA and employee engagement. The findings emphasized the significance of EPA as a driver of employees' engagement, particularly in deposit money banks, and present integrity and benevolence as factors that strengthen the relationships between EPA and employees' engagement. This study has implications for employees of deposit money banks, policymakers, and employees of banks in Nigeria and other countries. Our research also presents substantial theoretical and practical insights. This study widens the scope of the theories and contributes to the literature on how the effectiveness of a performance appraisal program can foster employees' engagement in deposit money banks. For example, it empirically shows that EPA impacts employees' engagement (both directly and indirectly via integrity and benevolence). The result shows that integrity and benevolence mediate the impact of EPA on employees' engagement in deposit money banks. Also, employers of deposit money banks can boost employees' engagement by ensuring effective performance appraisal.

LIMITATIONS AND FUTURE DIRECTIONS

In the course of this, we encountered some limitations and therefore advised that the findings should be interpreted in light of the limitations. First, the sample of the study included only the employees of three top deposit money banks in Nigeria. This limits the generalization of the findings to employees of other deposit money banks, and other firms in different industries. Thus, we suggest that future studies should replicate this study with employees in other firms of other industries such as manufacturing. Also, since the study is centered in Nigeria, there may be country constraints to the generalization of the findings. These relationships might not hold in other developing or developed nations where performance appraisal and trustworthiness have advanced. We, therefore, suggest that future studies should situate this study in other nations. Lastly, in terms of the scales utilized in this study, we adapted some and developed some. Although the CFA and the reliabilities of the scales were high, we, however, acknowledge this as a limitation to our findings. We, therefore, recommend that future studies should refine such scales for employees in the banking industry.

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Fiscal Decentralization and Economic Performance in selected Developing Federal Economies.



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ABSTRACT

Extant literatures on fiscal decentralization in most developing countries show more concerns on revenue allocation principle/sharing. Contrary to extant studies, this paper undertakes analysis of fiscal decentralization and economic performance in five emerging federal economies. The curiosity is to ascertain if poor economic performance in most emerging economies could be attributed to ill-structured fiscal decentralization. This objective was addressed using Panel Vector Autoregressive technique and impulse response function. The results showed that all the measures of fiscal decentralization such as revenue measure denoted as (FDC1), spending measure denoted as (FDC2) and revenue – spending measure or Simultaneity measure denoted as (FDC3) are not significant in enhancing the economic performance of the four out of five selected emerging federal economies. The challenges, therefore, are that most of the emerging countries economic performance woes are attributable to ill-structured fiscal decentralization. On this basis, this paper recommends the

need to change the fiscal decentralization narratives in emerging federal economies by promoting more revenue decentralization that will ensure sub national governments' fiscal independence.

Keywords:

Comparative Analysis, Fiscal Decentralization, Emerging Economies, Economic Performance

INTRODUCTION

One of the most controversial questions in development economics is why most developing or emerging economies have consistently maintained poor economic performance over a long period of time even when policy packages to address these core economic problems are well documented in the established literature (Kaliappa & Keijiro, 2014). or why do similar policy packages aimed at addressing economic performance differ in efficacy among economies. On this note, extant studies have shown that the failure to achieve similar results from similar policy packages among economies is mainly due to limitations imposed by country-specific institutional frameworks (Feltenstern & Iwata, 2005). One of these major institutional frameworks directly involved in the delivery of public goods and in executing economic performance outcomes is the extent of fiscal decentralization.

Consequently, fiscal decentralization which mirrors the extent of revenue and expenditure responsibility of the lower levels of government predominate discussions in fiscal relations between the federal and sub national governments in most emerging federal economies. Several emerging economies have adopted fiscal decentralization to promote economic performance as the practice of centralized fiscal arrangements in multiethnic economies discourage the actualization of economic potentials and retard efforts in addressing adverse economic performance indices.

Furthermore, despite several decades of fiscal decentralization experiences, national, regional, and international organizations' statistical reports on economic performance indicators of most emerging federal economies are disappointing (African Development Indicator, 2018). For instance, while the human development index of Nigeria stood at 0.5 percent in 2018, that of India is 0.4, South Africa is 0.5 Ethiopian is 0.4 and that of Brazil is 0.6. All these indices are below the United Nation (2018) threshold of 0.8 for a country to be classified as a medium or high human development index country. Also, infant mortality rate which reflect the overall health status of countries and therefore one of the major indicators of economic

performance followed the same disappointing pattern as that of Nigeria stood at 71 per 1000 birth, Ethiopia is 40 per 1000 birth, South Africa is 34 per 1000 birth, India is 33 per 1000 birth and Brazil is 16 per 1000 birth in 2018 respectively (World Bank Development Indicators, 2020). All these are above the United Nation (2018) threshold of 2 per 1000 births. In the same vein, the economic growth rate of these emerging federal economies has been unimpressive. For instance, between 2016 and 2019, the two strongest economies in Africa, Nigeria and South Africa entered into recessions with Nigeria two consecutive times as their gross domestic product growth rate dwindled by 3.16 and 0.7 percent. The above issues among others have ignited interest in the economic performances of developing economies.

A vital fiscal reform advanced by the developed economies to the developing or emerging economies to address poor economic performance is the need to restructure the fiscal decentralization. However, in most developing or emerging economies where fiscal decentralization is operational, the centralization of revenue and decentralization of expenditures have dire consequences for economic performance outcomes. Therefore, a vital challenge of the most developing or emerging federal countries has been on how to balance public sector finance to cope with economic performance.

Conversely, in spite of these dire situations with potential dangers for economic performance indicators, national and regional unity, little research has been undertaken to actually underscore the situation. For instance, most of the extant empirical literatures on fiscal decentralization in developing or emerging economies such as Dare, (2011), Olabayi, (2012), Ebegebulem, (2011), Ugwu, Eme and Emeh, (2013), Ejeh and Orokpo, (2014) concentrate more on the theory and dimension of fiscal decentralization or existing studies by Mbanefor, (1993); Sarah, (2003) with much effort on the discourse of intergovernmental fiscal arrangements or Ekpo, (1994) that is explicitly disposed in explaining the consequences of such fiscal arrangements or Ugwuoke and Ichoku (2021) that x – ray the efficiency arguments of such fiscal relations. However, despite the empirical rigor of these extant studies, there was no explicit or implicit linkage of fiscal decentralization to economic performance that is the basis for adopting fiscal decentralization by most economies. Therefore, empirical focus on why countries adopt fiscal decentralization and how such affect economic performance remained a lively discourse. Following the introduction, the rest of this paper is structured thus: Section 2 reviews relevant extant studies, Section 3 outline the methodology employed in the

study, Section 4, deals with discussions of the results while Section 5 encompasses the conclusion and policy implications of the findings

2.1 Theoretical Literature

The economic formulations of fiscal decentralization began with works outlining the needs for efficient provision of public goods (Larry & Bruce, 2006, Samuelson, 1954). For instance, because the social costs of public goods provisions outweigh their social benefits, the private sector cannot produce them efficiently. Therefore, for the purpose of efficiency public sector production is usually encouraged in the production and distribution of public goods (Samuelson, 1954). Thus, following the writings and works of Samuelson and the need to enhance the social welfare function, public goods theory, as founded by Samuelson, became an integral part of fiscal decentralization arrangements. However, the decentralization theorem constitutes the first fundamental effort targeted at developing the theory of fiscal decentralization (Oates, 2006; Bird, 2009). The theory stipulates situations that underscore efficient provisions of public goods by different levels of government based on competence and geographical needs (Oates, 2006). To the theory, each level of government is viewed as looking out to make the most of the social welfare of the citizens within its jurisdiction (Bird, 2009). This different quest becomes very significant where public goods exist, the utilization of which is not nationwide in character, but limited to a small area (Qates, 1972). In such conditions, local outputs aimed at local demands by a particular local authority obviously offer higher social welfare than national provision (Qates, 1972).

The theory also accepted that, given the array of local goods with differing geographical strands of utilization, there was scarcely any central government that could produce an ideal mapping for all public goods (Qates, 2006). This is so as lower levels of governments are superior in adapting output of public goods to a particular likings and conditions of their constituencies compared to the federal government provisions that assume that one size fits all. Though, the theory accepted the fact that there will be local public goods with inter-jurisdictional spill-overs, for example, a road may present public goods qualities, the social benefits of which are enjoyed outside the local control (Musgrave, 1959). The lower levels of government may inadequately provide such a public good (Musgrave, 1997). To evade this, the theory anticipated that central authorities ought to make available corresponding grants to the local authorities so as to help internalize the full benefits (Samuelson, 1954).

On this basis, the theory has it that to optimize social welfare function, sub-national governments should be

constitutionally assigned with the responsibility of providing public goods while income redistribution and macroeconomic stability should be the provision of the central authority (Qates, 2006). Following from this constitutional allocation of responsibilities, taxing powers that correspond more efficiently with the assigned constitutional responsibilities should also be allocated to the appropriate level of government. The concluding element of the decentralization theory is the need for an equalization fund. That is chunk transfers to the lower levels of government from the national government where there are spill-over effects.

2.2 Empirical Literature

Existing studies on the connection between fiscal decentralization and economic performance outcomes are controversial and inconclusive. For instance, extant studies by Wibbles,(2006), Bruecker,(1999), Treisman,(2000), Grossman and West ,(1994), Davoodi and Zou,(1998), Oyejide (1972), Ariyo (1993), Egwaikhide (1994), Anyanwu (1999), Rodden and Wibbles (2001), Abu (2005), Eric (2009), Anit (2014) have that greater fiscal decentralization negatively affects economic performance as challenges and divergence of interests bedeviling federalism hinders executing macroeconomic strategies targeted at public goods provision with severe consequences on economic performance. Contrarily, existing studies by Yilmaz (1999), Lin and Liu (2000), Akai and Sakata (2002), Stansel (2005) and limi (2005), Kletzer and Singh (1996), Federico and Elliott (2012), Jason (2006), Antonis, Manthos and Pantelis (2008), Ibi, Ajaude and Nkamare (2016), Ojide and Ogbodo (2014) have it that fiscal decentralization and economic growth are positively related as efficient provisions of public goods by different levels of government on the basis of competence and geographical needs enhances country's economic growth rate. Besides that results of the most existing literatures on fiscal decentralization vary depending on whether they utilize cross-section , time series or panel data and whether it was conducted on basis of cross-country or single –country and also in terms of estimation techniques, decentralization measures and sample composition, reviewed existing literatures measure fiscal decentralization as the ratio of sub national government revenue to consolidated revenue. However, this is problematic as it presumes sub national government autonomy only in terms of decision making on public goods provision and financing while spending decentralization to them simply indicates the extent of administrative federalism with sub national governments providing public goods according to central mandates . In fact, as far as fiscal transfers from the central government are not controlled for, the estimates for spending decentralization may

thus be biased. Also, the paucity of systematic comparative evidence reviewed extant studies as focus of the established studies is mainly on individual economies is another gap that needs to be filled. To fill these identified voids, this paper investigated fiscal decentralization and economic performance in some selected emerging federal economies.

3. Data sources, Methodology and Model Specification

The five practicing emerging federal economies for the study Nigeria - Brazil, South Africa, Ethiopia, and India - were selected based on their similar fiscal decentralization as well as ethnic pluralism experiences together with the fact that they are categorized as the most fiscally decentralized economies in terms of lower levels of government expenditures. The definitions of the variables on which the data were sourced include revenue measure defined as proportion of the lower levels of government own revenue to total governments' revenue. This measures the extent of the decentralization of revenue raising powers among the levels of government. The expenditure measure that indicates the percentage of state and local governments spending to total government spending. It demonstrates the extent of the decentralization of spending powers among the levels of government and Simultaneity measure that defines the proportion of lower levels of governments spending to total government revenue. These data were sourced from each specific country's central bank statistical bulletin (2020). Other variables like Real Gross Domestic Product (RGDP), infant mortality and human development index as proxies for economic performance were sourced from World Bank development indicator (2020).

The model for this paper is the Panel Vector Autoregressive technique (PVAR). This is found appropriate because panel VAR estimation captures interdependencies and heterogeneities across the selected developing countries. Also, by benchmarking the outcome of the estimation with panel VAR threshold of 1. 96 will help us ascertain whether the three measures of fiscal federalism are significant in advancing economic performance or not. The panel VAR model is specified thus:

$$\frac{\Delta RGDP_{it}}{\varepsilon_{it}^{RGDP}} = \alpha^{RGDP} + \sum_{i=1}^K \beta_i^{RGDP} \Delta FDC1_{it-1} + \sum_{i=1}^K \gamma_i^{RGDP} \Delta FDC2_{it-1} + \sum_{i=1}^K \delta_i^{RGDP} \Delta FDC3_{it-1} + \dots(1)$$

$$\begin{aligned} \Delta INFM_{it} = & \alpha^{INFM} + \sum_{i=1}^K \beta_i^{INFM} \Delta FDC1_{it-1} \\ & + \sum_{i=1}^K \gamma_i^{INFM} \Delta FDC2_{it-1} + \sum_{i=1}^K \delta_i^{INFM} \Delta FDC3_{it-1} + \dots(2) \end{aligned}$$

$$\begin{aligned} \Delta HDI_{it} = & \alpha^{HDI} + \sum_{i=1}^K \beta_i^{HDI} \Delta FDC1_{it-1} + \sum_{i=1}^K \gamma_i^{HDI} \Delta FDC2_{it-1} \\ & + \sum_{i=1}^K \delta_i^{HDI} \Delta FDC3_{it-1} + \varepsilon_{it}^{HDI} \dots(3) \end{aligned}$$

Where RGDP = Real Gross Domestic Product (RGDP), INFM = Infant mortality, HDI = Human Development Index, FDC1 = Revenue measure, FDC2 = Expenditure measure, FDC3 = Simultaneity measure, Δ = first difference operator, L = maximum lag length selection criteria and ti = panel data

5 Empirical Results

This part of the study encompassed the discussions of the output of the Panel Vector Autoregressive

(PVAR) and impulse response function employed as the study estimation techniques. Nonetheless, it is vital to conduct the descriptive statistics of the variables employed in the study to both establish the behavior of these variables and accentuate the suitability or otherwise of the PVAR model as the adopted estimation technique. The outcome of the descriptive or summary statistics is presented on table 1 thus:

Table 1 Descriptive Statistics of the Variables employed in the Model

	BRAZIL			INDIA			ETHIOPIA			SOUTH AFRICA			NIGERIA		
	FDC1	FDC2	FDC3	FDC1	FDC2	FDC3	FDC1	FDC2	FDC3	FDC1	FDC2	FDC3	FDC1	FDC2	FDC3
Mean	99.83	38.15	97076.93	19.44	27.21	15.36	22.42	47.98	25.79	24.15	44.20	11.58	23.030	35.77	30.96
Median	99.81	33.58	33481.01	18.79	25.86	14.65	16.54	49.58	13.63	27.61	31.05	2.79	24.31	41.55	26.89
Maximum	99.99	83.33	836284.2	27.76	34.30	22.66	64.72	76.10	162.17	91.39	99.56	43.70	34.84	53.50	46.86
Minimum	99.55	26.08	13738.25	14.89	22.37	11.10	11.40	20.79	9.01	0.54	2.23	0.01	13.15	15.05	15.15
Std. Dev.	0.14	13.88	193262.5	3.17	3.21	2.98	14.96	15.52	39.20	24.01	33.98	13.94	5.63	11.04	10.06
Skewness	0.12	2.58	3.12	0.81	0.69	0.90	2.20	0.22	3.01	1.36	0.73	0.89	0.16	0.29	0.11
Kurtosis	1.50	8.912	11.40	3.28	2.33	3.24	6.34	1.93	10.44	4.88	2.04	2.38	2.02	1.65	1.43
JarqueBera	2.60	69.46	123.29	3.07	2.70	3.74	34.31	1.51	102.94	12.28	3.39	4.06	1.53	3.14	3.66
Probability	0.27	0.00	0.00	0.22	0.26	0.15	0.00	0.47	0.00	0.02	0.18	0.13	0.46	0.21	0.16
Sum	2695	1029.94	2621077.	524.81	734.75	414.60	605.35	1295.35	696.47	652.12	1193.36	312.85	806.06	1251.88	1083.60
Sum Sq. Dev.	0.54	5009.81	9.71	261.25	267.98	231.13	5823.08	6259.66	39955.82	14989.75	30012.60	5047.83	1077.32	4143.93	3440.21
Observations	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27

Source: Authors' computation, 2022

Table 1 shows that all the variables are positive indicating that the distributions of the variables were skewed to the right. The Kurtosis on the other hand satisfied its symmetrical condition of the expected value of three (3) and above. This implies that in statistical terms, the distribution of these variables was either platykurtic or leptokurtic. However, the probabilities of all the variables were positive and relatively low with most of the variables being statistically insignificant at 5% level of significance. This shows that the distributions of the variables are not normal. Furthermore, an interesting relationship exists between the mean and median for all the variables in the model. The mean to median ratio for all the variables is within the unit proximity. This implies that when plotted on the standard normal curve, the median will not be significantly different from the mean value of the distributions. The range of the distribution (difference between minimum

and maximum values) is positive for all the variables in the model, giving credence to the positive nature of the distribution as indicated by the skewness. The implications of these findings show that Ordinary Least Square estimator becomes inappropriate, thereby justifying the study choice of PVAR as the adopted estimation technique.

The result of Panel Vector Autoregressive (PVAR) estimation for equations 1-3 in Growth, Human Development, Infant or child Mortality models are presented and reported in Table 2 below. The model examines the comparative significance of different measures of fiscal decentralization on economic growth, infant or child mortality and Human development index used as proxies for economic performance in Nigeria, Brazil, India, Ethiopia and South Africa.

Table 2: Presentations of the PVAR Result on the significance of fiscal decentralization measures on economic performance indicators

Country	NIGERIA			BRAZIL			SOUTH AFRICA			ETHIOPIA			INDIA		
Independent Variables	Dependent variables			Dependent variables			Dependent variables			Dependent variables			Dependent variables		
	RGDP	INFM	HDI	RGDP	INFM	HDI	RGDP	INFM	HDI	RGDP	INFM	HDI	RGDP	INFM	HDI
FDC1	-9064 (-1.669)	0.0188 (0.7159)	-0.0007 (-0.5163)	-45096* (2.0502)	0.1009 (0.3133)	0.0975* (3.1805)	5169.25* (4.7863)	-0.0226* (-2.1624)	-0.0019 (0.8544)	-135.16 (-0.911)	0.0464 (1.449)	-0.0018 (1.0792)	-3196.64 (-0.1767)	-0.1954 (-0.8829)	-0.0764 (-1.5193)
FDC2	-4559.21 (-0.8282)	0.0336 (1.2638)	0.0015 (1.1774)	1998* (1.9906)	0.026* (1.9806)	0.0004* (2.3953)	-3072.3 (-0.5218)	0.0068 (1.1987)	-4.1605 (-0.3348)	153.253 (1.7124)	-0.021 (1.192)	0.0009 (1.7244)	-1163.10 (-0.10075)	-0.02767 (-1.9594)	0.0039 (0.1216)
FDC3	15545.62 (2.5561)	-0.0493 (1.68574)	0.0013 (0.9276)	0.1734 (2.2896)	5.5300 (0.2808)	2.0500* (10.9185)	-14203.67 (-0.8948)	-0.0152 (-0.9941)	-0.0017 (-0.5016)	22.995 (0.4142)	-0.0175 (1.4651)	0.00006 (1.9048)	9274.96 (0.5126)	0.0224 (1.0119)	0.08333 (1.6568)
Observations	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27

Source: Author's computation, 2022, where $L=6$ = VAR Threshold and Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 2 shows the PVAR estimates for the GDP, HDI and infant/ child mortality which are indicators of economic performance for the selected economies. It represents the coefficients of the PVAR equation and measures how quickly gross domestic product, human development index, and infant mortality responds to three measures of fiscal decentralization shocks. The values of the t-statistics were employed to identify the extent of the significance of the proxies of fiscal decentralization on the indicators of economic performance in the selected economies. It is required that the t-value of the parameters be 1.96 and above at 5% level of significance. While the three measures of fiscal decentralization are highly significant at five percent in most cases for GDP, HDI and Infant mortality in Brazil validating the conventional conjectural rationale behind fiscal decentralization in terms of, effectiveness of public good provisions, accountability as well as expenditure management that is expected to promote economic performance, in Nigeria, South Africa, India and Ethiopia, the three measure of fiscal are not significant to economic performance indicators. These findings explain why economic performance of these economies is slow.

Applying the impulse response function the study investigated the response of economic performance indicators to fiscal decentralization shocks when some perturbations occur. Therefore, the essence of the impulse- response function is to ascertain the effect of unexpected shocks in fiscal decentralization on economic performance indicators. This investigation is considered vital because in all Economies where fiscal decentralization is operational, government fiscal operations have serious effects not only on the autonomy of the sub-national governments but also on the ability to deliver their constitutionally assigned responsibilities that will promote economic performance outcomes. However, the results appeared mixed and revealing. In Brazil, the fiscal decentralization measures impact on the economic performance indicators is found to be persistent and appreciably positive for 7-to-8-year post shock period. This means that a positive shock on fiscal decentralization causes favorable economic performance indicators during the same period. Nonetheless, the impact witnessed a lag period delayed before slowly becoming steadily asymptotic over the scope of time. Although all the three measures of fiscal decentralization have an impact on economic performance outcomes, expenditure measures have more impact on the economic performance indicators. In Nigeria, South Africa, India and Ethiopia, the impulse-response function result while confirming the PVAR model revealed that all the three measures of fiscal decentralization are not

significant in influencing infant/child mortality, human development that are important in promoting economic performance.

6. CONCLUSION

Since the major findings of this analysis revealed that all measures of fiscal decentralization are not significant to economic performance in Nigeria, South Africa, Ethiopia and India, the challenges therefore, is that most of the emerging or developing countries economic performance challenges are attributed to faulty fiscal decentralization. On this basis, this paper submits that there is a need to re - examine the fiscal decentralization narratives in emerging federal economies by promoting more revenue decentralization that will ensure sub-national governments' fiscal independence. This can only be assured by allowing the sub-national governments some autonomy in fixing both tax base and tax rates that is hitherto exclusively reserved for the federal government.

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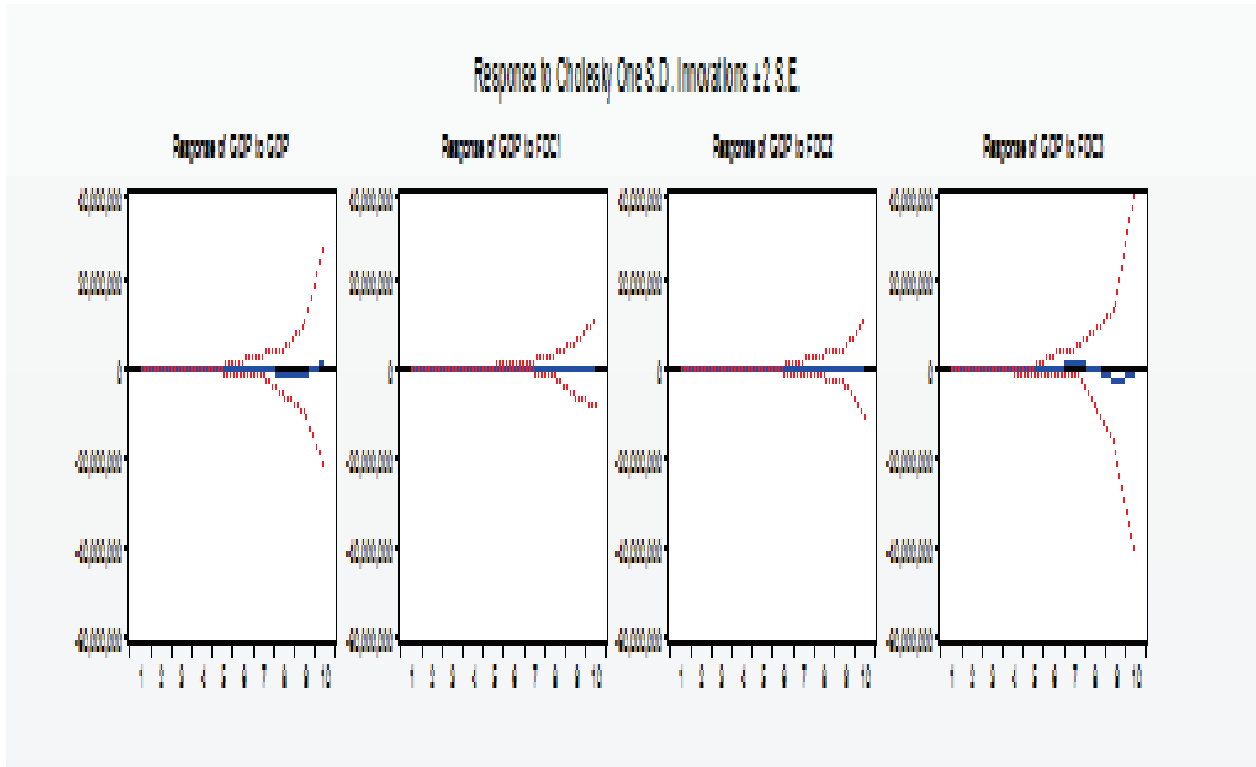
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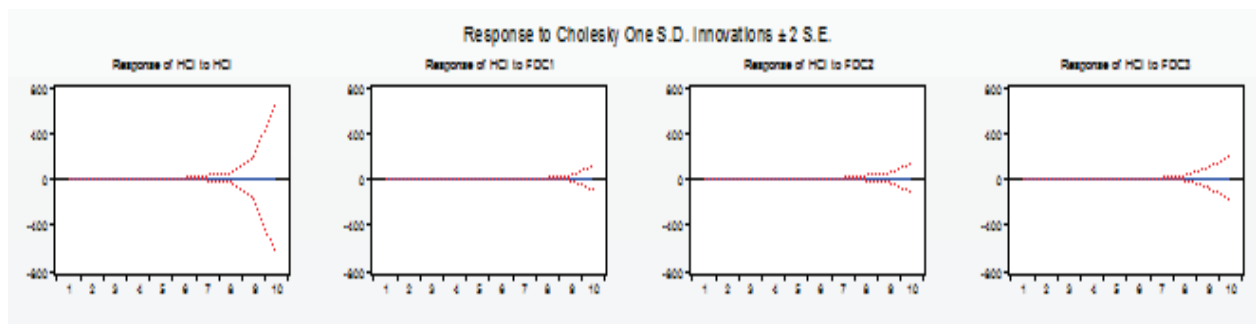
Prepared for the 92nd Annual Conference on Taxation, Atlanta, GA, 24 - 26 October for the Session on Fiscal Decentralization in Transition Countries: The Role of Local Democratic Governance.

Figure.1 Brazilian case

Response of GDP to FDC1, FDC2 and FDC3



Response of HDI to FDC1, FDC2 and FDC3



Response of Infant/ child mortality to FDC1, FDC2 and FDC3

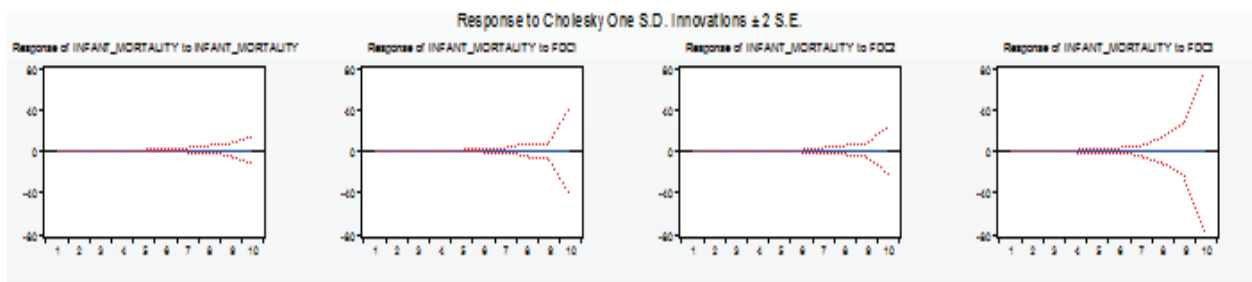
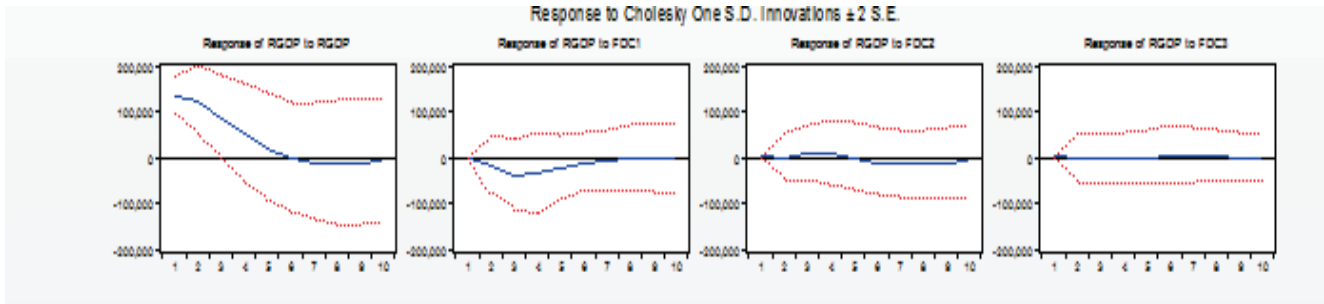
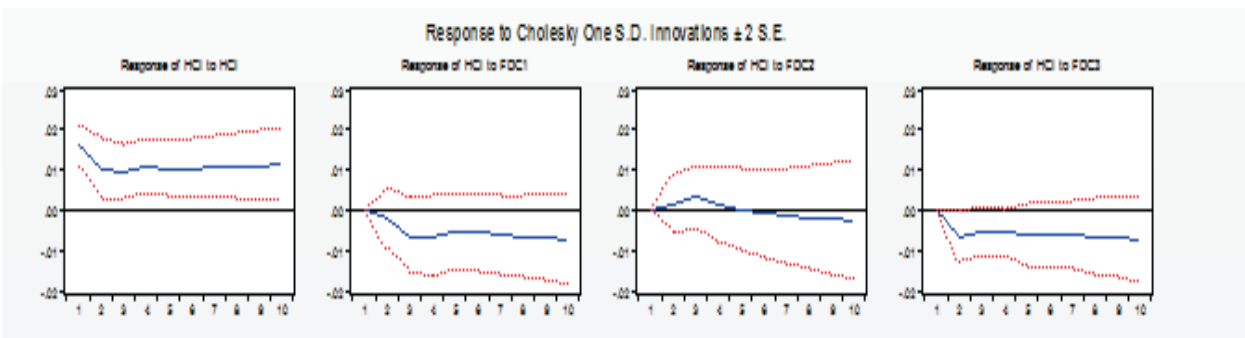


Figure 2 Nigerian case

Response of GDP to FDC1, FDC2 and FDC3



Response of HDI to FDC1, FDC2 and FDC3



Response of Infant mortality to FDC1, FDC2 and FDC3

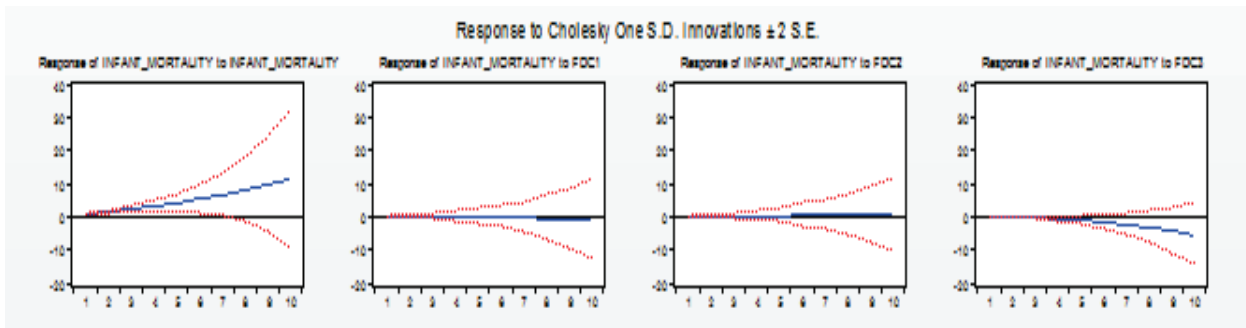
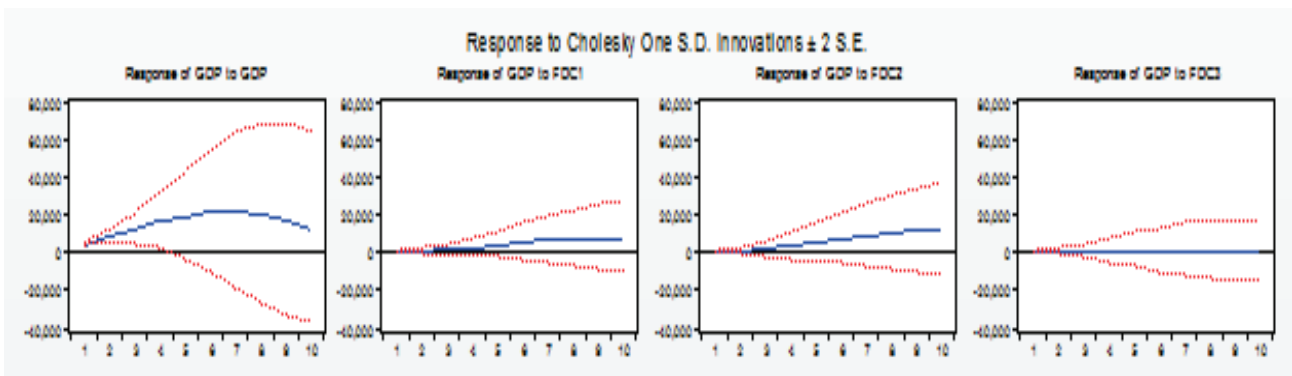
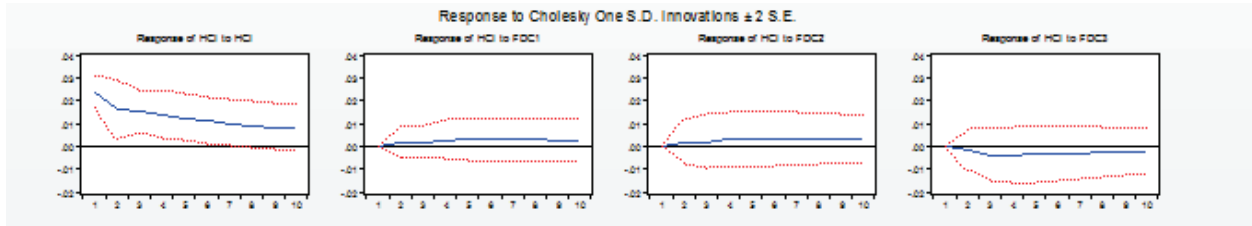


Figure 3 The Ethiopian case

Response of GDP to FDC1 FDC2 and FDC3



Response of HDI to FDC1 FDC2 and FDC3



Response of Infant mortality to FDC1 FDC2 and FDC3

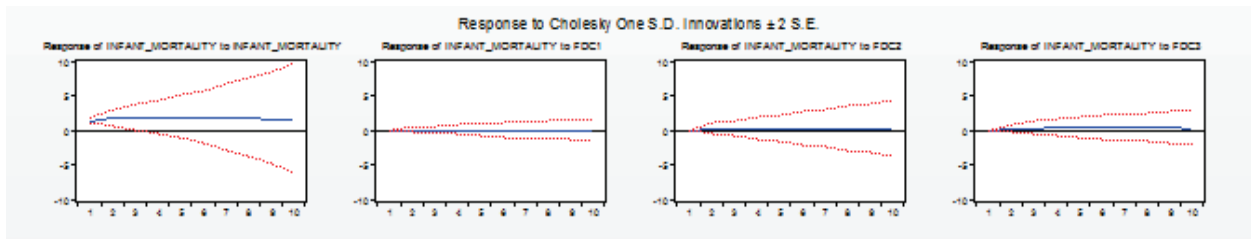
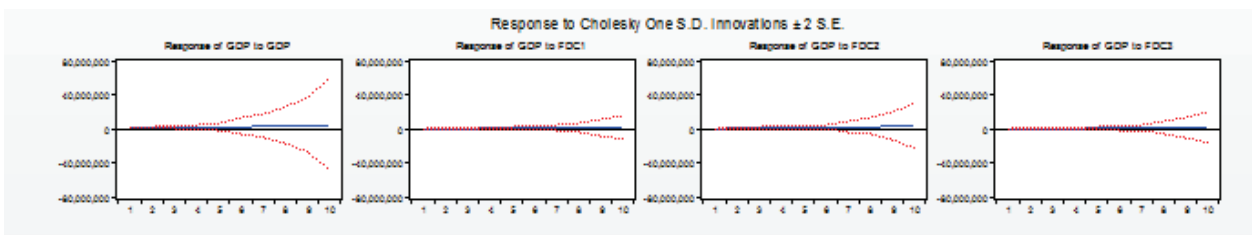
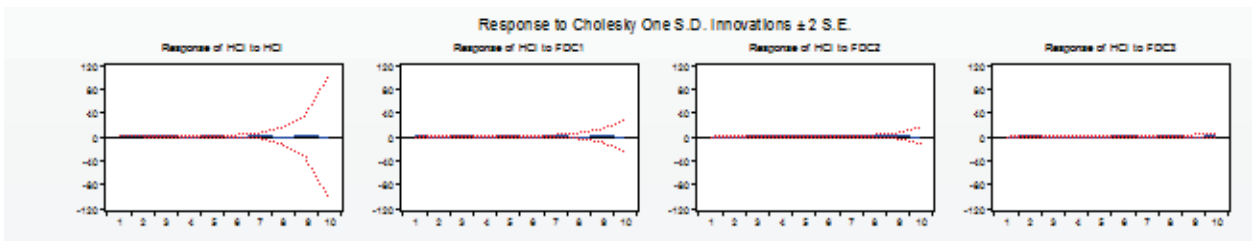


Figure4. The South African case

Response of GDP to FDC1 FDC2 and FDC3



Response of HDI to FDC1 FDC2 and FDC3



Response of Infant mortality to FDC1 FDC2 and FDC3

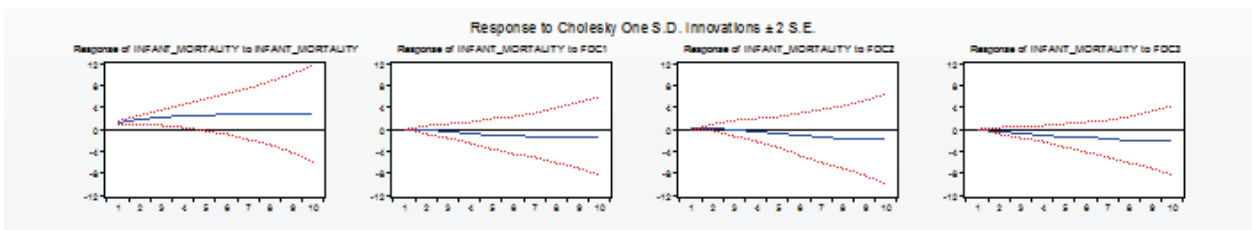
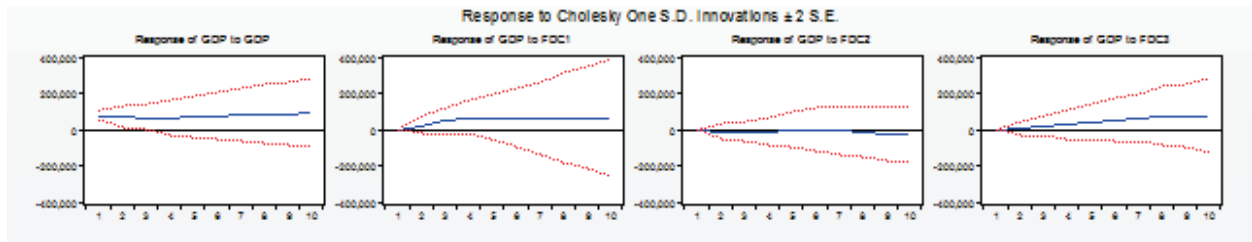
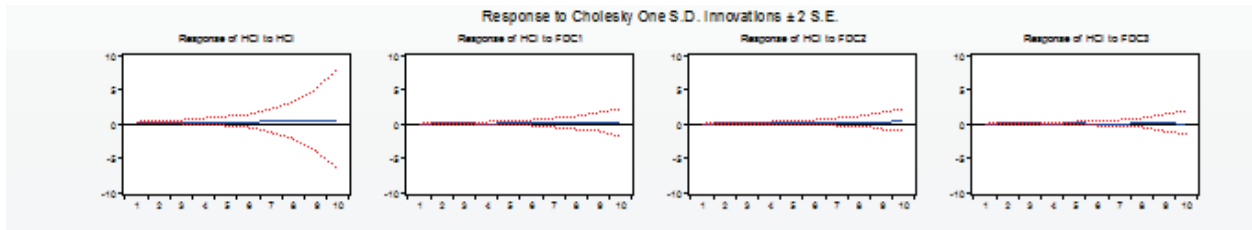


Figure .5. The Indian case

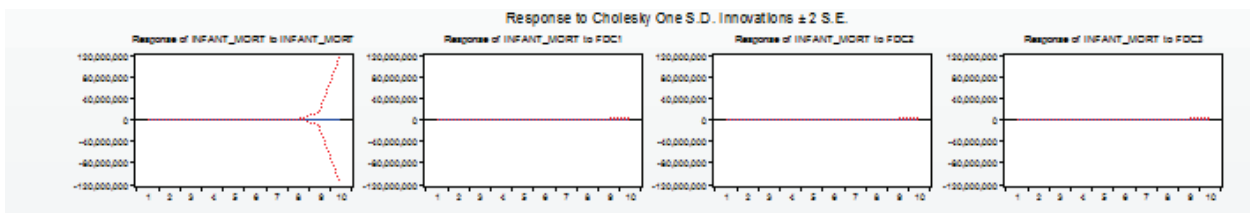
Response of GDP to FDC1 FDC2 and FDC3



Response of HDI to FDC1 FDC2 and FDC3



Response of Infant mortality to FDC1 FDC2 and FDC3



A Conceptual Framework on Tax Knowledge and Tax Compliance Intention: The Moderating Effect of Patriotism in Nigeria



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ABSTRACT

Realising more tax revenues is a sign of an increase in the tax compliance intention of taxpayers within a given nation. This emanates from the taxpayers' level of readiness and willingness as a result of their accumulated tax knowledge and patriotism. But due to people's behavioural and social limitations, non-tax compliance intention is becoming eminent, leading to a lot of tax gaps and revenue losses on the part of the government to finance its expenditures for the betterment of a country. Not much could be achieved after several research efforts were recently put in place. The Income Tax Evasion Theory was largely used by the prior researcher in addressing the issues. Yet, it turns out to focus more on the coercive side of tax compliance and ignored the psychological and behavioural aspects. The empirical paper provides an extension of the theory to cover the identified psychological and behavioural aspects using tax knowledge and patriotism toward developing a new proposed conceptual framework. Survey data were collected from 323 SME owners in Bauchi state using

questionnaires. Path and Multiple regression were used via SmartPLS 4 software to analyse the collected data. Tax knowledge and patriotism were found to have a positive and significant influence on tax compliance intention, but patriotism was found not to have an interactive effect on tax compliance intention.

Keywords:

Tax Knowledge, Tax Compliance Intention and Patriotism

INTRODUCTION

Realising more tax revenues goes in line with an increase in tax compliance intention of people living within a given state or nation. Tax compliance intention looks into the readiness and willingness of people to adhere to the legal tax provisions. Adequate tax compliance intention can explain and predict people's compliance behaviour in a given nation through their interactions in social networks (Hashimzade & Myles, 2018; Mu, Ren, & Wang, 2022). Such benefits can be derived from people with relative tax knowledge. According to Ay, Humta, and Ghafourzay (2021), tax knowledge is the reasoning and sense of adhering to tax laws as it will reduce the rate of corruption and fraud. Tax knowledge accounts for a situation where the taxpayers are aware of the tax laws and recognise, evaluate, pay, and personally satisfy tax obligations (Adam, Suleman, & Thalib, 2021). It is because adequate tax knowledge is part of the elements that promote tax compliance intention.

Moreover, the first element of tax compliance and intention is tax knowledge (Bornman & Ramutumbu, 2019). Good tax knowledge results from increased individuals' knowledge of tax rights and obligations, the modernisation of tax administration and tax regulations (Adam et al., 2021; Nurlis & Ariani, 2020). They also noted that taxpayers should evaluate the acquaintance in tax calculation, paying tax dues and filing the proper tax owed. Therefore, the gained knowledge of taxpayers will signify a rise in their tax compliance behaviour. Conversely, peoples' inadequate tax knowledge and intention to comply with the tax laws sometimes in response to governments failure in the provision of public services cause the tax non-compliance (Alshira'h & Abdul-Jabbar, 2020; Bethencourt & Kunze, 2019, 2020; Bornman & Ramutumbu, 2019; Hallsworth, List, Metcalfe, & Vlaev, 2017; Hermawan & Sinaga, 2020). Similarly, the tax system has not been efficiently utilised for tax filing and return by many taxpayers at different levels due to a lack of adequate tax knowledge and awareness, which led to low tax compliance and intention (Asrinanda, 2018; Bestaria, Sinagab, & Saudi, 2019; Bornman & Ramutumbu, 2019; Edgley & Holland, 2020; Lestari & Wicaksono, 2017). These lack of tax compliance intentions are more

related to the behaviour, social and environmental factors, knowledge and awareness of the taxpayers and the international tax legal frameworks (Alshira'h, Al-Shatnawi, Al-Okaily, Lutfi, & Alshirah, 2020; Atanassova, 2018; Bornman & Ramutumbu, 2019; Hallsworth et al., 2017; Hermawan & Sinaga, 2020; Wu, Cheng, & Qi, 2020). It in turn leads to a huge revenue gap in an economic setting. For instance, it was reported statistically, that non-tax compliance intention in some parts of the world, like the Middle East, has risen by 48% (Alshira'h, Alsqour, Lutfi, Alsyuf, & Alshirah, 2020). Similarly, tax revenue in sub-Saharan African countries continues to decline below the 15% minimum annual target of the United Nations' Sustainable Development Goals due to low and weak tax compliance intention (Dom, Custers, Davenport, & Prichard, 2022). In a developing country like Nigeria, the tax compliance rate is also low, around 5% of GDP far below the threshold of 34% (Herbert, 2020; Oyedele, Agbeyi, Erikume, Uwaegbute, & Adu, 2021; Vincent, 2021; Vincent & Ntim, 2021). Therefore, there is a great need to further enhance the level of people's tax knowledge to promote and increase their level of tax compliance intention. One of the means is by strengthening their compliance behaviour and level using patriotism.

Patriotism is an emotional affiliation, a classical moral virtue and duty, the love and devotion of working towards making a country better through compliance with the state's laws (Hanson & O'Dwyer, 2019; Hroch, 2020; Johnston, 2015; Kodolja, 2020; Rupar, Jamróz-Dolińska, Koteczek, & Sekerdej, 2021). It serves as the foundation of individuals' responsibilities, preserving inward values and a country's power (Maslak & Pozdnyakov, 2018). It is also a state of mind, lapping emotions and a collective spirit emanating from a group of people who have the feeling of love and devotion or belonging to their country (Geys & Konrad, 2020). Such individuals' relationship to their country can range from belonging to the documentation with a group (Erez & Laborde, 2019; Hroch, 2020) and is attributed to liberal people (Hanson & O'Dwyer, 2019). This makes patriotism a key factor in changing the behaviour of people.

In addition, it was reported that patriotic people certainly are more tax-submissive and compliant (Ariely, 2017; Geys & Konrad, 2020; Konrad & Qari, 2012). A narration supports this view that patriotism and tax morale may result from unobserved individual-level features. For example, an increase in patriotism by one standard deviation will decrease tax concealment by approximately 50% (Geys & Konrad, 2016, 2020). Furthermore, almost all countries viewed patriotism as more positive than negative compliance (Ariely, 2017; Gangl, Torgler,

& Kirchler, 2016). Eventually, it was recommended by Lavoie (2011) for the government to create a patriotic tax remittance, enabling the taxpayers to contribute and assign their tax to specific use voluntarily. This will eventually, make patriotism a subcomponent that helps promote tax compliance around the world. Similarly, constructive patriotism was also vital in providing the people and government with knowledge, support, awareness, and compliance during the Covid-19 pandemic (Rupar et al., 2021). Nevertheless, a lack of patriotism from taxpayers will lead to governments loss of tax revenues and delay in the redistribution of income (Geys & Konrad, 2020; Qari, Konrad, & Geys, 2012) from unpatriotic citizens as well as promoting intolerance, troubles and negative attitudes towards tax policies (Ariely, 2017; Johnston, 2015). Indeed, tax non-compliance intention is also the result of a lack of clarity, lack of adequate tax knowledge and lack of intention to comply with the tax laws by the taxpayers in response to government failure and inadequate provision of public services (Bethencourt & Kunze, 2020; Bornman & Ramutumbu, 2019; Vincent & Ntim, 2021).

Efforts were recently and empirically put in place to address the issues, yet could not yield a better result and still require more research attention from various calls by recent researchers for developing countries (Bestaria et al., 2019; Kesuma, Kesuma, Nasution, & Epriel, 2020; Nursyirwan & Ardaninggar, 2020; Pratama & Jin, 2019; Singh & Bharath, 2021). However, based on the studies mentioned above, which examined tax compliance in e-commerce, very minimal attention was given to the same issues in African and other developing countries (Abdullah, Naved Khan, & Kostadinova, 2021; Etimphd, Jeremiah, & Udonsek, 2020; Gupta, Kiran, & Sharma, 2020; Kumar, Lim, Pandey, & Christopher Westland, 2021; Opemuti, 2020; Villa, Ruiz, Valencia, & Picón, 2018; Yaacob & Gan, 2021). It is on this premise that this article seeks to develop a conceptual framework that will contribute to addressing the identified issues, in Nigeria.

Literature Review

The Research Model: Tax Compliance Theory

Moreover, there is no single theory for explaining tax compliance behaviour or intention as it is affected by both economic and non-economic factors such as deterrence, social psychology, fiscal exchange, comparative treatment, political legitimacy and trust in government (Bello & Danjuma, 2021; Krieger, 2021). Yet, the most popular theory is the Income Tax Evasion Theory (ITET) also known as the Economic Deterrence Theory (EDT) (Bello & Danjuma, 2021; Devos, 2014; Fjeldstad, Schulz-Herzenberg, & Hoem Sjursen, 2012; Krieger, 2021). The ITET was founded by Allingham and Sandmo (1972). The theory is broadly adopted by tax administrations when developing enforcement strategies that are based on penalties and the fear of

detection (Bello & Danjuma, 2021; Fjeldstad et al., 2012) and in the 1980s, there were extensive research studies using ITET on tax evasion and non-tax compliance (Devos, 2014). Some recent studies used the ITET to determine the tax compliance intention of users (Alshira'h & Abdul-Jabbar, 2020; Alshira'h et al., 2020; Vincent, 2021; Vincent & Ntim, 2021). Despite the wide adoption of the ITET, it failed to consider behavioural factors such as attitudes, perceptions, social context and moral judgments (Bello & Danjuma, 2021; Fjeldstad et al., 2012; Lewis, 1982). Fjeldstad et al. (2012) further asserted that the ITET focused more on the coercive side of tax compliance and ignored the psychological and behavioural aspects. The limitation emanating from the ITET results in the current paper's theoretical extension, accounting for the missing behavioural variables and explanation.

The current paper extended the theory by adding tax knowledge as a predictor of tax compliance intention. It also extends the theory by adding patriotism as a moderator. The inclusion and extension were a result of the limitations and suggestions from previous studies. For instance, there were several calls on the need to add more independent variables, namely the tax knowledge to theories that explain tax compliance intention, as suggested by recent researchers (Solichin & Astuti, 2021; Solichin, Astuti, & Mahardhika, 2021; Taing & Chang, 2020). There was also the need for a moderating variable known as patriotism toward tax compliance intention (Alshira'h & Abdul-Jabbar, 2020; Gangl et al., 2016; Geys & Konrad, 2020) due to some inconsistencies in the previous studies as seen in . Both suggestions derived from previous studies' limitations for inclusions were deemed more helpful because of the need to explain and understand individual users' behaviours and tax compliance intention beyond what researchers noted in recent studies. The developed conceptual model is provided in Figure 1.

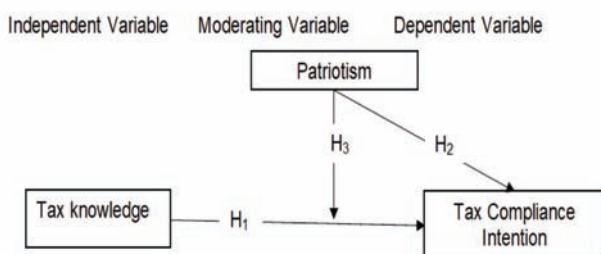


Figure 1: The Research Framework

Measurement of Tax Knowledge and Patriotism with Tax Compliance Intention

Several previous researchers collected data on tax knowledge and patriotism with tax compliance intention and measured them on a 5-point Likert scale (Alshira'h & Abdul-Jabbar, 2020; Alshira'h et

al., 2020; Jannah, Hutadjulu, & Rante, 2018; Nazaruddin, 2019). Some other researchers also used a 7-point Likert scale (Gangl et al., 2016; MacGregor & Wilkinson, 2012; Nazaruddin, 2019). Moreover, while some of the researchers used online questionnaires (Gangl et al., 2016; Rupar et al., 2021), others used direct self-administered questionnaires (Alshira'h & Abdul-Jabbar, 2020; Alshira'h et al., 2020; Jannah et al., 2018; MacGregor & Wilkinson, 2012; Mulya, 2020; Nazaruddin, 2019). Just a few researchers used secondary data (Konrad & Qari, 2012).

In addition, researchers recently measured tax knowledge and patriotism on tax compliance intention using descriptive statistics and multivariate analysis tools (Alshira'h & Abdul-Jabbar, 2020; Alshira'h et al., 2020; Gangl et al., 2016; Jannah et al., 2018; MacGregor & Wilkinson, 2012; Mulya, 2020; Nazaruddin, 2019), OLS (Konrad & Qari, 2012; MacGregor & Wilkinson, 2012) and Chi-square (Rupar et al., 2021) with the help of SmartPLS software package (Alshira'h & Abdul-Jabbar, 2020; Alshira'h et al., 2020; Gangl et al., 2016; Mulya, 2020; Nazaruddin, 2019) or SPSS (Jannah et al., 2018). The research studies mentioned above from the recent literature review on tax knowledge and patriotism dimensions with tax compliance intentions are summarised and presented in Error! Reference source not found. TableTable.

Development of Hypotheses Tax Knowledge and Tax Compliance Intention

Tax knowledge comprises three elements, including general tax knowledge relating to the need to have fiscal tax awareness, procedural tax knowledge focusing on the understanding of tax compliance procedures, and legal tax knowledge relating to the understanding of tax regulations (Bornman & Ramutumbu, 2019). The tax regulation regards a set of practices that depend on adequate tax knowledge sharing between tax authorities, firms, and corporate bodies (Edgley & Holland, 2020). It is the understanding of the vital tax policy adopted in a given country. The understanding of the proper tax policies taxpayers regulates their tax compliance (Al-Taffi et al., 2020). Increased tax knowledge invariably increases the level of tax payment intention and tax compliance behaviour (Bornman & Ramutumbu, 2019). However, they conversely reported that taxpayers' intention to use online tax filing is not dependent on legal tax knowledge despite its manageability from most users with relative tax knowledge.

Tax knowledge can transform an individual's behaviour from being tax compliant with tax regulations to voluntarily taxing compliant to non-compliant. Saad (2014) opined that tax knowledge and tax complexity are key contributing factors

leading to non-compliance behaviour among taxpayers. Proper tax education can help to control tax non-compliance. Many individuals will have adequate tax knowledge via tax education at formal and non-formal levels (Al-Ttaffi et al., 2020; Kurniawan, 2020; Suartana & Masari, 2019) for better tax compliance and intention. Similarly, through tax education, students' tax knowledge toward tax intention and compliance was formed verbally and in writing as they indirectly influenced compliance (Kurniawan, 2020). That is to say, the more knowledgeable a taxpayer is about tax obligations, the higher the chances of having a positive intention to comply with tax rules.

In support of this empirically, Adam et al. (2021), Al-Ttaffi et al. (2020) and Saad (2014) found that tax knowledge has a positive and substantial significant effect on taxpayers' intention to comply. Adam et al. (2021) and Al-Ttaffi et al. (2020) further revealed that the higher the tax knowledge acquired by the taxpayer, the more intention to pay taxes due to awareness of the existing tax obligations. In that regard, Ay et al. (2021) found that tax understanding significantly impacts tax compliance. Bornman and Ramutumbu (2019) also found that tax knowledge positively correlates to small business owners' tax compliance and intention. Some other researchers found a positive effect of tax knowledge on compliance with local taxpayers (Suartana & Masari, 2019). Notwithstanding, Lestari and Wicaksono (2017) exceptionally found that tax knowledge not significantly influencing tax compliance. That is to say, the level of tax knowledge accounts for an excellent reason for taxpayers to comply with tax obligations or not. Thus, the empirical findings and directions from the literature on tax knowledge are essential in determining tax compliance intention. Therefore, based on the available empirical findings and direction mentioned above, the following hypothesis was formulated:

H1: Tax knowledge positively and significantly influences tax compliance intention

Patriotism, Tax Knowledge and Tax Compliance Intention

Patriotism is the dedicated action and love of one's country that sometimes plays a significant role in all aspects of life in society (Hroch, 2020). Alshira'h and Abdul-Jabbar (2020); Alshira'h et al. (2020) note patriotism as a positive evaluation of one's nation, with the foundation of responsibility for preserving the moral values and power of a country. Besides, patriotism reduces social conflict and promotes cooperation and struggles towards social justice citizens (Ariely, 2017). However, when citizens lose their love for a country, patriotism disappears, too (Hroch, 2020). Moreover, few countries governed by more restricted policies tend to regard patriotism

more negatively than those from liberal countries. In support of this view, the broader the policy, the more negatively many individuals perceive patriotism (Ariely, 2017; Geys & Konrad, 2016). However, beneficial patriotism links the support for raising awareness with compliance at international collaboration for internal measures, as used in health practices (Rupar et al., 2021). Thus, individuals' perception of patriotism is subject to change as the policies regulating their lives tend to change over time.

Patriotism comes with commitments to others rather than just being compatriots (Kodelja, 2020). Patriotic people naturally tend to be more tax submissive and compliant even though it varies across countries and individuals (Ariely, 2017; Geys & Konrad, 2020; Konrad & Qari, 2012). Patriotism also leads to an individual's realisation and derivation of nonmonetary benefits due to a high sense of concern for the nation's development. It is theoretically the result of a governmental policy that for long had been a means for mobilising citizens for tax payment contributions, support for better taxes within the entire tax system and increasing tax compliance at the individual level (Geys & Konrad, 2016, 2020; Konrad & Qari, 2012; Qari et al., 2012). Geys and Konrad (2020) observed that patriotism could increase private motivations to make tax contributions for the common good and partially moderate the enticements to avoid taxes.

Taxpayers' awareness, knowledge, and attitudes are essential in determining tax intention to compliance and implementation (Lestari & Wicaksono, 2017). Similarly, taxpayers' behaviours are some of the factors that form the patriotic emotional state and how various dimensions of patriotism are related to individuals (Ariely, 2017). Kogler and Kirchler (2020) argued that individuals' attitudes, judgments, and behavioural intentions relatively shape their behaviour toward tax compliance. These behavioural dimensions are key in shaping the tax compliance intentions of individual taxpayers. Scholars further noted that imparting patriotism to the general population helps in reducing the cost of generating tax revenue and at the same time decreasing the general tendency to avoid taxes in an economically less expensive way, thereby increasing tax compliance (Geys & Konrad, 2016, 2020; Konrad & Qari, 2012; Qari et al., 2012).

Empirically, Konrad and Qari (2012) found a strong and positive correlation between individuals' patriotism and tax compliance. Qari et al. (2012) reported a correlation between patriotism, fiscal burdens and personal income tax. However, Konrad and Qari (2012) further noted that the positive effect that patriotism has on tax intention to compliance should be made desirable for any revenue-focused government. In the same vein, patriotism moderates

the motivations to avoid taxes through tax knowledge and awareness and should serve as a moral duty for teachers (Geys & Konrad, 2016, 2020; Kodelja, 2020). That is to say, patriotism has a positive contributing effect in shaping the behaviours of taxpayers toward tax compliance intention. Furthermore, the solid patriotic attachment to tax compliance is principally voluntary and not coercive, which has its background in the moral attitude and judgments of the taxpayer (Robbins & Kiser, 2020). The relationship between patriotism and taxation becomes more evident as it reached an explanatory power for funding developed nations (Geys & Konrad, 2020). Similarly, an individual's patriotism and preparedness to become tax compliant are important critical characteristics of tax payment intention, reducing tax revenue collection costs in the end (Gangl et al., 2016; Geys & Konrad, 2020; Lixuan, Smith, & Gouldman, 2020). In support of this view, some experts in patriotism and taxation noted that a stronger patriotic attachment

to one's country helps in generating a higher balance tax rate in that country and results in tax compliance (Alshira'h & Abdul-Jabbar, 2020; Geys & Konrad, 2016, 2020; Qari et al., 2012). Gangl et al. (2016) study outcomes revealed that reported and manipulated patriotism indirectly raises tax compliance among individuals. It is worth noting that the more patriotic a taxpayer is to his nation's progress, the higher the chances of having a positive intention to comply with tax rules and obligations. In that regard, based on the previously mentioned empirical findings and direction, the hypotheses were formulated as follows:

H2: Patriotism positively and significantly influences tax compliance intention.

H3: Patriotism positively and significantly moderates the relationship between Tax knowledge and tax compliance intention.

Table 1: The Summary of empirical reviews

Constructs	Positive Influence	Negative Influence	Insignificant Influence
Tax knowledge	Adam et al. (2021); Al Ttaffi et al. (2020); Andreas and Savitri (2015); Ay et al. (2021); Nurlis and Ariani (2020); Suartana and Masari (2019)	- Nil	Lestari and Wicaksono (2017); Saad (2014)
Patriotism	Alshira'h and Abdul Jabbar (2020); Alshira'h et al. (2020); Gangl et al. (2016); Jannah et al. (2018); Konrad and Qari (2012); MacGregor and Wilkinson (2012); Maslak and Pozdnyakov (2018); Mulya (2020); Nazaruddin (2019); Qari et al. (2012); Rugar et al. (2021)	-	

Research Methodology

A cross-sectional survey method was employed. Data were randomly collected from 367 Small and Medium Scale Enterprises (SMEs) in Bauchi state. After data cleaning and screening, 323 valid data

were finally analysed on SmartPLS 4 software package using the path and multiple regression analysis tools. The new instrument for the study is named Tax Knowledge, Patriotism and Tax Compliance Intention Questionnaire (TPCQ). The current study's framework used in the instrument

consists of three constructs: tax knowledge, tax compliance intention and patriotism. The instrument is designed by the researcher to collect the ratings of the study constructs and their related indicators. The researchers designed the instrument on a 5-point Likert scale of Strongly Agreed = 5 points, agreed = 3 points, Neutral = 3 points, disagreed = 2 points, and Strongly Disagreed = 1 point. The full detail of the instrument is in Table 5.

Five Tax Knowledge items were adapted from Nurlis and Ariani (2020), For the patriotism construct, five measurement items were adapted from Alshira'h et al. (2020) and one item from MacGregor and Wilkinson (2012). On the part of tax compliance intention measurement items, the researchers adapted three items from Pratama and Jin (2019), four items from Nurlis and Ariani (2020), two items from Alshira'h and Abdul-Jabbar (2020) and three items from Nazaruddin (2019). The summary of the

study-adapted items is available in Table 5. However, the integration, testing and validation of a new instrument using different measurement items in line with the study's constructs is a great methodological contribution to a study (Aminul Islam, 2020a, 2020b, 2021; Saunders, Lewis, & Thornhill, 2019).

Result Analysis and Discussion

Descriptive Statistics

Results from Table 1 show the descriptive statistics of the study's constructs (Patriotism, Tax Compliance Intention and Tax Knowledge). The mean responses range between 3.88 to 4.11. The Kurtosis values are all below 2 and skewness values are below 3. Experts assert that normally distributed data is supposed to have a statistical threshold value of < 2.0 for skewness and < 3 for kurtosis(cheng et al., 2021). Therefore, the descriptive results of all three constructs are within the normal thresholds and have satisfied the normal distribution condition of a descriptive data set.

Table 1: Descriptive Statistics of the Constructs

Constructs	N	Mean	Std. Deviation	Kurtosis	Skewness
Patriotism	323	3.92	0.619	0.050	-0.147
Tax Compliance Intention	323	3.88	0.667	0.296	-0.105
Tax Knowledge	323	4.11	0.647	0.282	0.099

Source: Computed Result Output from SmartPLS 4

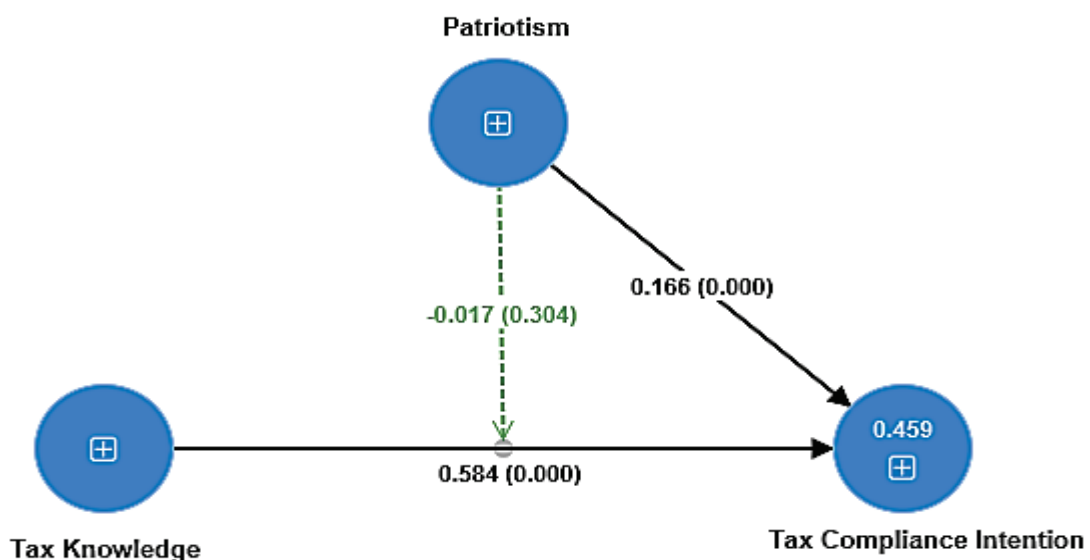


Figure 2: Path Coefficient and Coefficient of Determination

Coefficient of Determination

The coefficient of determination (R²) measures the proportion of the variance in the dependent variable explained by the independent variables.

The results in Table 2 and **Error! Reference source not found.** indicate that the structural Model has a direct path R² value of 0.459 (45.9%) and an R-square adjusted values value of 0.454, respectively.

Table 2: Coefficient of determination

Coefficient of determination	Direct Path	Coefficient
R -square		0.459
R -square adjusted		0.454

Source: Computed Result Output from SmartPLS 4

Hypothesis Testing

The result from Table 3 shows the results of the direct

path hypothesis testing based on the PLS-SEM (10,000) bootstrap algorithm.

Table 3: Direct Path Relationship

Hypotheses	Path Relationship	β	Standard Errors	T statistics	P values	95% BCCI	Supported
Ha1	TKN \rightarrow TCI	0.584	0.045	12.95	0.000	[0.506; 0.654]	Yes
Ha2	PTR \rightarrow TCI	0.166	0.043	3.89	0.000	[0.093; 0.233]	Yes
Ha3	TKN*PTR \rightarrow TCI	-0.017	0.032	0.51	0.304	[-0.071; 0.037]	No

Source: Computed Result Output from SmartPLS 4

Note: β : Path coefficient. 95% BCCI: 95% Bias-Corrected Confidence Intervals based on 10,000 subsamples. TKN: Tax Knowledge PTR: Patriotism TCI: Tax Compliance Intention

Based on the result from Table 3, the regression coefficient (β) values indicated that two hypotheses were supported and one was not supported. Specifically, the result of hypothesis (Ha1) indicates a significant and positive influence of tax knowledge ($\beta = 0.584$, 95% CI [0.506; 0.654] $p < 0.000$) on tax compliance intention. The finding was supported as visualised in Figure 2. The finding corroborates what previous studies have examined in similar direct path relationships including the study by Bornman and Ramutumbu (2019) who affirmed that an increase in tax knowledge consistently increases the level of tax payment intention and tax compliance behaviour. That implies that the more knowledgeable a taxpayer is regarding tax obligations, the higher the chances of having a positive intention to comply with tax rules.

The result of the second hypothesis (Ha2) indicates a significant and positive influence of patriotism ($\beta = 0.166$, 95% CI [0.093; 0.233] $p < 0.000$), on tax compliance intention. The finding was sustained by the developed hypothesis. The finding is in line with the submission of Geys and Konrad (2020) who noted that patriotism can increase private motivations to make tax contributions. Konrad and Qari (2012) also affirmed that patriotism has a positive effect on tax intention to compliance. The finding implies that a positive influence of patriotism can promote the tax compliance intention of taxpayers. Lastly, the result of the third hypothesis

(Ha3) indicates a negative and non-significant moderating effect of patriotism on the relationship between tax knowledge and tax compliance intention ($\beta = -0.017$, 95% CI [-0.071; 0.037] $p < 0.304$). The finding was not sustained by the developed hypothesis as contained in Figure 2. The finding is not consistent with previous studies that examine similar interactive path relationships like that of the previous experts (See: Alshira'h & Abdul-Jabbar, 2020; Geys & Konrad, 2016, 2020; Qari et al., 2012). This is so as the respondents' coefficient rate of tax knowledge 0.584 (58.4%) was much higher than their level of patriotism 0.166 (16.6%). This indicates that, when the level of taxpayers' tax knowledge is much higher than their level of patriotism, tax compliance intention will not have any positive interactive change.

Table 5: The summary of adapted measurement items of the study

Taxpayers	Measurement Items	Sources
Tax Knowledge		
1	I have adequate tax knowledge of tax registration	Nurlis and Ariani (2020)
2	I have adequate tax knowledge of tax function	
3	I have adequate tax knowledge of tax regulations	
4	I have adequate tax knowledge of tax rates	
5	I have adequate tax knowledge of tax payment procedures	
Tax Compliance Intention Measurement Items		
1	I intend to use tax platforms to pay my taxes	Pratama and Jin (2019)
2	I will keep using tax platforms for tax payments in the future	
3	I intend to use tax platforms sites for tax payments	
4	I intend to register as an independent taxpayer for paying my tax	Nurlis and Ariani (2020)
5	I intend to calculate the amount of tax owed independently	
6	I intend to pay the amount of tax owed independently on time	
7	I intend to report my tax independently on time	
8	I think it is improper to alter my tax details	Alshira'h and Abdul -Jabbar (2020)
9	I do not find altering tax information justifiable	
10	I intend to provide an accurate amount of tax paid	Nazaruddin (2019)
11	I intend to be punctual in paying my tax	
12	I will feel embarrassed not correctly and adequately meeting the tax requirements	
Patriotism Measurement Items		
1	I will be more patriotic now when they trade from other countries online than before	Alshira'h et al. (2020)
2	Businesses that do not pay their taxes are not patriotic	
3	A business owner that hides his revenue from tax authorities is not patriotic	
4	A person who does not pay his/her taxes is not patriotic	
5	I am more patriotic about using tax platforms in terms of paying taxes	
6	I would be willing to increase my taxes if it would help my country	MacGregor and Wilkinson (2012)

Conclusion

The researchers concluded that tax compliance intention is key in promoting and realising more tax revenues especially when the taxpayers have adequate tax knowledge and are patriotic. Tax knowledge and patriotism were reported to have a positive and significant influence on tax compliance intention. With extensive tax knowledge and a high level of patriotism, taxpayers' level of tax compliance increases. Although attaining a high level of tax compliance is very difficult, several efforts were recently put in place but still yielded little or no result at large. However, this new proposed model will guide future researchers to empirically test the framework to investigate the relationships among the study constructs and their contributions to understanding more about taxpayers' behaviour in the general public domain. Future researchers can use the extension of the research framework in

examining and further understanding the relationship between tax knowledge and tax compliance intention, especially among public taxpayers. Thus, the new conceptual framework will help researchers and tax authorities to further understand the direct and indirect connection between tax knowledge, patriotism and tax compliance intention of taxpayers.

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