



Gusau Journal of Accounting and Finance (GUJAF)

Vol. 2 Issue 3, April, 2021 ISSN: 2756-665X

A Publication of
Department of Accounting and Finance,
Faculty of Management and Social Sciences,
Federal University Gusau, Zamfara State –Nigeria

FOREIGN RESERVE ACCUMULATION AND MACRO ECONOMIC VARIABLES OF SUB-SAHARAN AFRICAN COUNTRIES

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Abstract

This study investigates the effect of foreign exchange reserves accumulation on economic stability proxied by inflation, unemployment, exports and GDP for a sample of 49 Sub-Saharan African countries for the periods 2009-2018 using panel (longitudinal) fixed model. Findings from this study reveal that foreign exchange reserves have a significant negative effect on unemployment and inflation; however, it shows a significant positive effect on export and gross domestic product (GDP). To improve the overall economy of the listed sub-Saharan countries, the paper therefore recommends sub-Saharan African countries to adopt a mixture of investment friendly and direct unemployment reduction policies by reinvesting investible surplus into inflationary controllable and productivity boosting policies that will stimulate economic prowess rather than keeping this huge amount of resources redundant.

Keywords: Foreign Exchange Reserve, Economic Stability, Sub-Saharan African Countries.

1. Introduction

Following the aftermath of the East-Asian financial crises experience of the 1990s, where most Asian emerging markets began accumulating foreign currencies, and the subsequent economic prowess attributed to these countries. Consequent upon the adoption of the modern mercantilist approach as opposed to the existing monetarist view of fiscal management which ultimately led to the crises (Aizenman & Lee, 2005). Most developing economies have opted for this strategy. This has shown by the upsurge in the hoarding of large international reserves in recent years. Contemporary literature on the accumulation of these currencies, however, serves several purposes. The presumptions by earlier and recent scholars as the justification behind the accumulation of foreign exchange reserve (hereafter FER), a situation which has led to what is now referred to as competitive hoarding (Aizenman & Lee, 2007) is that countries use foreign exchange reserves to keep the value of their currencies at fixed rate. This is backed up by the claim that stockpiling foreign currencies would raise the value of these currencies indirectly making export cheaper and therefore, increasing the current account levels of countries. Hoarding international reserves is part of a deliberate development strategy adopted by monetary authorities by maintaining an undervalued real exchange rate (Dooley, Folkerts- Landu & Garber, 2005).

Second reason is to provide confidence and to protect foreign and local investments from financial and economic shocks (Jeane & Wyplosz, 2001). This particular reason has gained a lot

of attention from scholars over the years. Rather than being a buffer to absorb current account transitory shock as emphasized in earlier literature, reserves are seen as a tool to reduce the incidence of international crises (Chang & Volosco, 1999; Garcia & Soto, 2003). Most importantly, foreign exchange reserves are kept to maintain liquidity, this performs the critical function of providing safety against inflation and recession that may occur during a major economic, political and natural crisis. Another reason is to ensure that countries have enough hard currencies to meet up with its external obligations such as international payment obligations, membership of international organization and debts payments (Rodrik, 2006; Bianchi, Hatchondo & Martinez, 2017). Some countries use their foreign reserves to fund critical sectors in the economy; this may not be a strong reason but could be considered a major use of foreign exchange reserves, particularly for a country that has attained a comfortable level of economic stability. Central Banks hold reserves such as gold and other safe interest bearing investments to boost returns without compromising safety of their investment also serving as collateral for foreign direct investment.

The stalest question put forward by critics of these policy, however, is if Monetary authorities of these countries hold reserves held in dollar-denominated treasuries, for example, earn a modest return, which is far below the government's own cost of borrowing either in local currency or in dollars. Then why hold cash in the bank and pay high interest on outstanding liabilities? Critics also note that the yield on reserves is much lower than the opportunity cost of those reserves as measured by the potential return on real investments in the economy. Those who support large reserve balances argue that the cost of holding reserves is small relative to the economic consequences of a crisis. Large stockpiles are needed to forestall or at least weather currency and financial crises that are increasingly frequent and severe in today's international monetary system. Moreover, just when an emerging market most needs reserves in a crisis, it can be shut out of the international capital markets because of sovereign risk concerns. An IMF bailout is not also guaranteed, and even when forthcoming, comes with strict conditions. Holding large reserve stockpiles is therefore, prudent policy (Aizenman & Marion, 2002) because according to Qian and Steiner (2017), holding FER has two economic implications on foreign investment. First, it subsequently reduces the riskiness of an investment in the domestic economy because financial crises often entail exchange rate devaluations and cause recessions. Second, reserves create bailout expectations and reduce the costs if a crisis materializes.

Is this true, has the accumulation of foreign exchange reserve in developing countries really improve the standard of living in these countries or still remains elusive as other contemporary theories and postulations of modern economic theory? Does the situation in this region portray accurately the expected outcome for the deliberate hoarding of foreign currency? Does it give credence to the conjectures by critics of the opportunity forgone of thrusting these resources in the money market of these countries by providing short term credit financing to small and medium targeted ventures or it still remains a policy in futility as most of these countries still suffer in economic stagnation? This paper investigates FER accumulation in Sub-Saharan African countries and its role in improving the quality of life of its citizens in providing employment, increasing exports, reducing inflation and productivity.

This paper adds to the existing literature on the stockpiling of foreign reserve in Sub-Saharan Africa owing to the fact that this region has the most developing economies in the world and are increasingly becoming home to this policy even in the face of declining economic condition. In

addition to the fact that this region serves as one of the most import-dependent area in the world and any external shock might gravely affect the standard of living, therefore, a proper understanding of this policy framework is necessary especially now when they are experiencing dwindling resources and inadequate capital investment even in the presence of huge deposits domiciled in foreign currency. Hence, this paper is structured into five sections. Next to this is the review of existing literature and theoretical framework followed by methodology and data used, results, conclusion and policy recommendations in that order.

2. Literature Review and Theoretical Framework

2.1 Review of Trend on Foreign Reserve Accumulation in Africa

At the end of 2018, global reserves (minus gold) stood at US\$11.4 billion, from US\$10.7 billion in 2016 to US\$11.1 billion in the middle of 2017. Half were held by industrial countries and half by developing ones. Among developing countries, Asian economies held the most by far. With China and Japan leading with over 30% of global reserves holding US\$3.1 billion and US\$1.4 billion respectively. Currency composition of FER all over the world is led by Dollars with over \$6.7 billion followed by the Euros with \$2.2 billion and other currencies such as the Japanese Yen, Chinese Renminbi, Pounds sterling and both Australian and Canadian dollars all worth over \$5 trillion in claims. Africa's share as at 2010 stood at US\$1.5 billion, rising to an impressive high of US\$1.9 billion in 2014 and US\$1.8 by the last quarter of 2018, with South Africa, Egypt and Nigeria leading comfortably over the last decade following the 2008-09 global financial crises. By the end of 2018, the top five (5) leading Sub-Saharan African countries are South Africa leading with a total of US\$51.6 million closely followed by Nigeria with US\$44.9 million and Angola comfortably at US\$15.4 million with Kenya and Botswana having US\$8.8 million and US\$6.6 respectively (figure 1).

Corresponding inflation figures for these countries for the same period places Egypt at the top with 29.5% inflation rate followed by Angola at 20.0%, Nigeria at 12% with Kenya and Botswana at 4.6% and 3.2% respectively. While unemployment rate for these countries places Botswana at the lead with 17.9% followed by Egypt at 11.4%, Kenya at 9.3% and Angola at the bottom with 7.2%, total value for exports for the period puts Botswana at the lead with total goods and services exported at US\$39 billion, Angola at US\$29 billion, followed by Egypt at US\$18 billion with Nigeria and Kenya following closely at US\$13 billion respectively (World Bank, 2019).

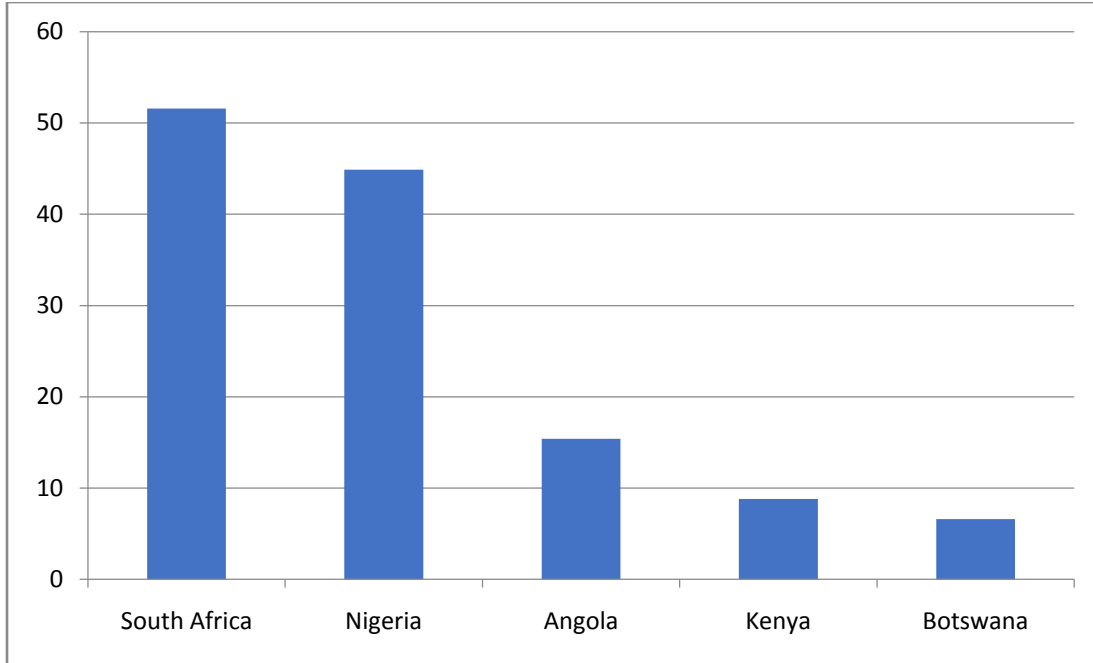


Figure 1: Top Sub-Saharan African countries with FER

Source: World Bank's database, 2019.

Also, at the end of the last quarter of 2018, the following countries have the lowest FER as shown in figure 2. Sao Tome and Principe sitting at the bottom both in Africa and the world with a FER of US\$63 million, followed by the Gambia with US\$159 million claims, Sudan with close to \$200 million closely followed by Eritrea with over \$200 million and Burkina Faso with \$298 million, comfortably sitting at the middle of the chart are Guinea and Burundi with an estimated FER deposit of \$300 million for the period under review with Zimbabwe, Seychelles and Togo at the top of the list with over \$400 million respectively.

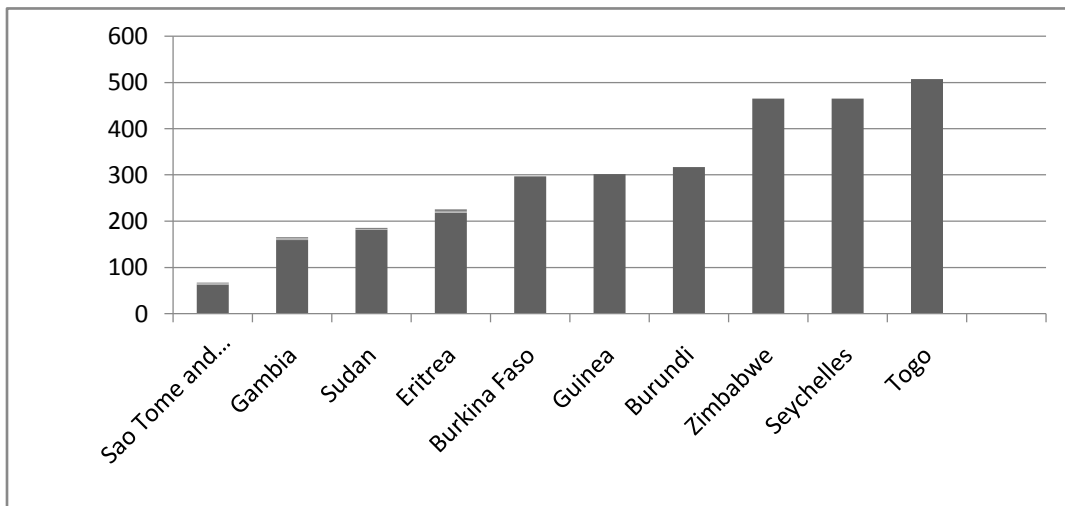


Figure 2: Lowest FER keeping countries in Sub-Saharan African countries, 2018.

Source: Authors' computati

on from World Bank's database, 2019.

The conceptual understanding of foreign exchange reserve has received numerous attentions from scholars over the years. Drawing from variant definitions; IMF (1993) defines official reserves as “external assets that are readily available to and controlled by monetary authorities for direct financing of payments imbalances, for indirectly regulating the magnitudes of such imbalances through intervention in exchange markets to affect the currency exchange rate, and/or for other purposes”. Total reserves comprise gold, foreign currency assets, reserve positions in the IMF and Special Drawing Rights (SDRs). Nzotta, (2004) holds that foreign reserves represent the excess of foreign exchange receipts and disbursement accumulated over a period of time. More so, Ndikumana and Elhiraika (2007) suggest that reserves are kept to manage exchange rate, its volatility or excess fluctuations. External reserves are generally held in the form of high quality, marketable securities issue, however, such holdings are not without cost; the costs usually include, among others, financing, personnel, systems, and overhead expenses, which fluctuate periodically. Policy analysts often assess reserves adequacy using simple rules of thumb, such as maintaining reserves equivalent to three months of imports, or the "Greenspan-Guidotti rule" of full coverage of short-term external debt. Marc-Andre and Nicolas (2005) classified the costs as loss of monetary control, exchange rate misalignment, and sterilization costs. Therefore, holding external reserves has both variable and on- going costs especially when it exceeds the benchmark of three months import equivalent.

Empirical studies on external reserves in relation to economic stability has received considerable attention across the world over the years. In a related study, Jeanne and Ranciere, (2009) while analyzing to quantify the level of FER justifiable as an insurance against sudden capital stops shocks and volatility in emerging Asian markets observed that the build-up in reserves usually is in excess of the level that would be necessary to forestall economic or monetary shocks that might occur in the event of unforeseen circumstances. This goes to prove that an excess reserve at times is much more of a perceived fear that may lead to uneconomic hoarding rather than a deliberate economic policy to safeguard shocks.

Similarly, Bianchi, Hatchondo and Martinez (2017) found out that keeping higher levels of reserves provides hedge against rollover risk and it is costly because payment of external debt using foreign reserves allows the government to reduce sovereign spreads. Qian and Steiner (2017) examines the effect of Central Banks’ demand and reserve of foreign reserve on the maturity structure of countries’ external debt for 66 developing and emerging countries. Their study found a collateral benefit of reserves. Their study suggests that while reserves are accumulated as insurance against financial crises. They also attract those types of foreign debt that reduce vulnerability to sudden stops and capital outflow. Similarly, Allegret and Sallenave, (2018) examines the impact of foreign reserve in halting the effect of external financial shocks for 9 emerging economies for two different period gap using VAR they find that the effectiveness of reserve holding to improve the resilience of domestic economies to shocks has increased over time. Aizeman, Cheung and Ito (2014) confirmed that a change in the determinants of foreign reserve is noticeable pre and post financial crises era for developing and emerging economies. With emerging markets having lower savings identified with high foreign exchange reserve and developed countries displaying lower savings pattern associated with lower foreign reserve. Accumulating exchange reserves have been observed to have far-reaching economic implication particularly in developing countries; it increases the investment/GDP ratio and capital productivity both in the short-run and long-run. The buildup of FER gives credibility to the government and therefore, triggers foreign investment (Polterovich & Popov, 2000).

While, Gopalakrishnan and Mohopra, (2017) for a sample of 100 countries for a period of 25 years using the system generalized method of moments found out that gold reserves are significant part of foreign exchange reserves and are more responsive to global risks reiterating the importance of gold as a hedge against potential vulnerabilities faced by an economy.

In explaining the rush for foreign reserves associated with Asian Countries after 1997 crises, Cheung, Qian and Remolara, (2018) observed that only a couple of Asian Countries have been holding excessive reserves, some were actually holding less reserves and what led to the accumulation of FER was actually the Joneses effect and that country that finds itself vulnerable than its neighbors would tend to accumulate more reserves. Tong and Jin-Wei (2019) in a micro-macro analysis of foreign exchange reserve and its relationship with firms at micro level for 6610 non-financial firms for in emerging countries for a period of 6 years, the study reveals that foreign exchange reserves leads to high leverage cost while reducing large scale economic distortions. In a recent study, Bianchi and Sosa-Padilla (2020) examine the relationship between exchange reserves, macroeconomic stability and sovereign risk for 23 emerging economies for the period 1990-2015, the results shows that a sudden drop in exchange reserve is as a result of government large withdrawal to sponsor increase in aggregate demand in hard currencies.

Kalu, Ugwu, Ndubuaku and Ifeanyi (2019) measured the responsiveness of foreign reserves to exchange rate in Nigeria using ARDL and found a positive relationship between exchange rate and FER both nominal and real. Osabuohien and Egwakhe, (2008) in a bid to determine the relationship between external reserve and economic growth in Nigeria for the period 1994-2005, using Error Correction Model (ECM), the study found a positive relationship exist between exchange rate and foreign reserve in providing exchange rate stability, however, domestic efficiency and considerations should be preferred in attaining a satisfactory economic performance, while ensuring exchange rate stability with an appropriate level of external reserve in Nigeria. Abdullateef and Wahed, (2010) investigate the impact of change in external reserves or domestic investment, inflations rate and exchange rate using OLS and ECM in Nigeria. They found out that changes in FER only affects FDI and exchange rate and no influence was observable on domestic investment and inflation rate. In a later study, Onwuka and Igweze (2014) examines foreign exchange reserve link to exchange rate in Nigeria. The found that external reserve and foreign debt have significant contributions to the USD/Naira. On the other hand, Obstfeld, Shambaugh and Taylor (2008) suggested a financial stability and openness approach to explaining reserve holding in the era of globalized capital markets in emerging market for a 25 years period; their study concluded that the framework is well ahead of its time and perfect for providing stability for both current and future financial and economic shocks.

The theoretical foundation for this study is closely aligned with the macroeconomic stabilization theory which posits that many African countries including Nigeria argued that adequate foreign reserves may allow them to borrow abroad, attract foreign capital and promote domestic private investment as a result of strengthened external position and reduced vulnerability to external shocks. Thus, it is believed that maintaining adequate reserves can boost investors' confidence and enhance investment and growth (Olokoyo, *et al.*, 2009). Macroeconomic stabilization remains at the fore of national economic policymaking in order to aid conditionality in developing countries especially in Africa. This has induced African countries to hold reserves to allow monetary authorities to intervene in markets.

3. Data and Methodology

This study examines the effect of accumulation of foreign exchange reserve on economic stability proxied by inflation, unemployment, exports and GDP for a sample of 49 Sub-Saharan African countries covering the period 2009-2018 annually. The nature of the data used in this study, precludes the use of any sampling method for collection rather than panel data. The data used in this study is secondary in nature and were collected from various secondary sources. For the purpose of this study, the data for Inflation, Unemployment, Exports, GDP and Foreign exchange reserve (FER) is sourced from the World Development Indicators database developed by World Bank (2019). Foreign exchange reserve is measured by the total reserves comprise holdings of monetary gold and special drawing rights, inflation is measured by the consumer price index which reflects the annual percentage change in the cost to the average, unemployment is measured as the percentage of the labor force that is without work but available for and seeking employment. Export is measured by the value of goods and services to the rest of the world, while GDP is measured at 2010 constant prices.

The following regression model was set up to estimate the impact of foreign exchange reserve on macroeconomic variables.

$$FER=f (UNEMP, EXP, INFL, GDP) \dots\dots\dots(1)$$

Mathematically expressed from equation (1) as

$$(FER_{it}) = \alpha_0 + \alpha_1 UNEMP_{it} + \alpha_2 EXP_{it} + \alpha_3 INFL_{it} + \alpha_4 GDP_{it} + C_i + \mu_{it} \dots\dots\dots(2)$$

Where;

α_0 is the intercept, (infl), denotes inflation, (unemp) represents unemployment, (exp) represents exports, (gdp) denotes gross domestic products, while $C_i =$ is a unit- specific error component while μ_{it} the remaining error components, i represent country and t is the country time.

This study used panel (longitudinal) regression analysis to establish the relationship among the variables of the study. A panel data set has multiple entities, each of which has repeated measurements at different time periods. Panel data may have individual (group) effect, time effect, or both, which are analyzed by fixed effect and/or random effect models (Park, 2011). The motivation for the use of Panel data is better suited for studying the *dynamics of change*, these longitudinal data have more variability and allow to explore more issues than do cross-sectional or time-series data alone (Kennedy, 2008). In particular, Baltagi, (2001) stated that panel data gives more informative data, more variability, less collinearity among the variables, more degrees of freedom and more efficiency. Hence, well organized panel data models are definitely attractive and appealing since they provide ways of dealing with heterogeneity and examine fixed and/or random effects in the longitudinal data.

4. Empirical Results, Interpretation and Discussion of Results

The results of the descriptive and inferential test were presented in this section in the following sequence: Descriptive statistic in table 1, the Hausman χ^2 test in table 2, while panel fixed effect model result were presented in table 3.

As presented in table 1, the total number of the observation used for the study are 480 (four hundred and eighty). This shows the period covered by the study to show the existence of seasonable variation across countries and time. Hence, the heterogeneities exhibited across countries and time therefore, makes the choice of panel data model appropriate for the study. The implication here is that the qualities of accumulation listed has evidenced foreign exchange reserves (FER) with the average mean score of 3.5700, with an overall standard deviation of

9.2000, showing how much difference from the mean value, while 1.9200 and 5.1600 are the respective minimum and maximum values which is a glaring evidence of disparity compared to between and within estimation.

The disparity displayed among the economic stability measurement as shown in table 4.1 shows that unemployment (UNEMP) has a mean of about 8.1147, with an overall standard deviation of 6.4589, while having 0.599 and 27.754 as the minimum and maximum values respectively. Exports (EXP) have an average mean of about 33.3135, with an overall standard deviation of 23.9685, while having 4.4288 and 158.3742 as the respective minimum and maximum values. It also appeared that 6.2659 represent the average mean of inflation (INFL), with an overall standard deviation of 6.7491, while the minimum and maximum values stood at -4.2949 and 63.2925 respectively. Finally, Sub-Saharan African countries recorded the lowest mean score through Gross Domestic Product of about 3.4100, with an overall standard deviation of 8.4000, while 1.8800 and 7.0500 represents the minimum and maximum values respectively.

Table 1: Descriptive Statistics Result

Variables	Mean	Std. Dev.	Min.	Max.	Obs.
FER overall	3.5700	9.2000	1.9200	5.1600	N = 480
between		9.0700	1.4000	4.7700	n = 49
within		1.5200	-7.3400	1.2200	T-bar = 9.7959
UNEMP overall	8.1147	6.4589	0.599	27.754	N = 480
between		6.4189	1.0603	25.3075	n = 49
within		0.9075	4.0894	13.0327	T-bar = 9.7959
EXP overall	33.3135	23.9685	4.4288	158.3742	N = 480
between		22.7433	6.6616	135.117	n = 49
within		7.5451	-67.183	56.5712	T-bar = 9.7959
INFL overall	6.2659	6.7491	-4.2949	63.2925	N = 480
between		5.2171	0.6169	28.1883	n = 49
within		4.3014	-10.6738	41.3702	T-bar = 9.7959
GDP overall	3.4100	8.4000	1.8800	7.0500	N = 480
between		7.7400	2.8600	4.1500	n = 49
within		3.2500	-8.9400	6.6500	T-bar = 9.7959

Source: STATA Output, 2021

The Hausman Chi² test (table 2) value of 26.04 with pro-value of 0.0000 less than 5% and which is statistically significant. Hence, we reject the null hypothesis of Random effect model as appropriate, indicating that fixed effect model is more appropriate for prediction and estimation.

Table 2: Hausman Test Result

Regressors	Coefficients		(b-B) Difference	S.E
	(b) Fixed	(B) Random		
UNEMP	-9.2600	1.6700	-2.5900	5.8100
EXP	2.0000	1.1700	83204	0.4388
INFL	-4.6200	-3.1400	-1.4800	3.6100
GDP	0.0015	0.0162	-0.0147	0.0018
Chi ²	26.04	(0.0000)		

Source: STATA Output, 2021

Table 2 shows the fixed effect empirical investigation of accumulation of foreign exchange reserves and economic stability in the sub-Saharan African countries as selected by the Hausman test result. As revealed from table 2, the f-value indicating significant at 1% level, showing that fixed effect model is adequate and fit for prediction.

Table 3: Panel Fixed Effect Result

Dependent Variable:	Foreign Exchange Reserve (FER)		
Independent Variables	Coefficient	Standard Error	T-ratio
Unemployment (UNEMP)	-9.7800	3.5100	-2.78***
Exports (EXP)	2.0070	96458	2.07**
Inflation (INFL)	-4.6200	1.6900	-2.73***
Gross Domestic Product(GDP)	0.0929	0.0026	35.1***
F-statistic	3.36***		
Diagnostic Tests			
Multicollinearity Test (VIF)	1.10		
Heteroskedasticity Test (Breusch Pagan Test)	2.26	(0.7163)	
Wooldridge test for serial correlation	3.04	(0.0723)	
Ramsey Reset	1.27	(0.1189)	

Source: STATA Output, 2021

Note: ***, ** and * denotes level of significance at 1%, 5% and 10% respectively. The values in the parentheses are the P-values, 2021.

Results from our model shows that the test statistic of 5% from serial correlation indicates the presence of serial correlation (Drunkker, 2003). But our findings from table 3 revealed otherwise, so we accept the null hypothesis of no first- order autocorrelation problem. Both Breusch Pagan and VIF tests revealed absence of multi-collinearity and heteroskedasticity problem in the model. Also, the Ramsey RESET for functional specification shows that there is no evidence of misspecification with F-statistics of 1.27 and a probability value of 0.1189 thus; the fixed effect model is correctly specified. So to say our model is appropriate for prediction.

Specifically, unemployment (UNEMP) shows a negative coefficient at 1% level of significance, indicating a negative relationship between foreign exchange reserve and unemployment level, this shows that a percentage change in unemployment, will cause 9.78% decrease in foreign exchange reserve in sub-Saharan African countries showing that the accumulation of foreign reserve is strongly mitigated by the increase rate of unemployment rate among Sub-Saharan African countries, this contradicts the works of Polterovich and Popov (2002); Matsumoto (2019) & Bianchi and Sosa-Padillo (2020) whose studies confirms the hypothesizes that foreign exchange accumulation promotes domestic productivity due to the reduction in exchange rate which in turn increases the level of output in the economy by employing more of all factors of production.

Exports (EXP) coefficient has positive and significant relationship with foreign exchange reserve at 5% level. Indicating a percentage change in exports, will cause foreign exchange reserve (FER) to increase by 2.007%, showing that the base of foreign reserve in sub-Saharan countries is strongly positively determined by exports among these countries. This is in tandem with the work of Osabuohien and Egwakhe, (2008) who find a positive relationship between foreign reserves and exports in the Nigerian economy, although not significant, due to the fact that these excess resources are not ploughed back into the economy. This also confirms the earlier postulations by Polterovich and Popov (2002) which alluded to the fact that due to the increase in aggregate demand motivated by the devaluation in the domestic currency, local production will be boosted which will ultimately enhance production both for local and foreign consumption.

Inflation (INFL) co-efficient shows a significant negative correlation with foreign exchange reserve. This shows that a unit change in inflation rate will cause foreign exchange reserve to decrease by 4.62% consistent with the findings of Lin and Wang (2005); Abdulateef and Waheed (2010) & Olokoyo, Osabuohien and Salami (2009). This is observable in high reserves countries, where excessive accumulation by state authorities will instigate aggressive demand by private individuals in the private sector, ultimately intensify the rate of borrowing money.

The co-efficient of gross domestic products (GDP), shows a significant positive effect on foreign exchange reserve in consistent with the findings by Polterovich and Popov (2003) but contradicts the studies by Chinaemerem and Ebiringa (2004); Olokoyo *et al.*, (2009). Most African countries over the years has suffered structural imbalances, macroeconomic instability and faced with multiple debts from both domestic and foreign sources despite the presence of huge foreign exchange reserves which has not been adequately managed to propel their economies to the required economic growth projected with the adoption of this policy of foreign exchange accumulation. Meanwhile other Asian countries have experienced economic prosperity in the past when this same policy was adopted.

5. Conclusion and Policy recommendations.

This study empirically investigated Foreign exchange reserves accumulation and macroeconomic variables in Sub-Saharan African countries using Panel fixed model. The findings reveal that Foreign exchange reserve has significant negative effect on unemployment and inflation. Estimation results revealed that Foreign exchange reserve has a positive effect on export and Gross Domestic Product. In the light of these findings, it is therefore concluded that the accumulation of Foreign exchange reserve has positively improve the terms of trade of Sub-Saharan countries by increasing their export opportunities, supporting the earlier statement put forward by (Elhiraika and Ndikumana, 2007) and existing literature about the relevance of FER as a stabilization instrument used to improve the terms of trade of nations and to ensure adequate participation in international trade.

Drawing from the findings of this study, the following policy recommendations should be considered. Sub-Saharan African countries should remove unfavorable trade restrictions and improve trade openness with the key focus on exports for the purpose of attracting Foreign Direct Investment into the country to improve the level of Foreign exchange reserve. As identified in the literature, FER are kept as buffer stocks against inflationary tendencies which our result has disprove, therefore, Policy makers and government monetary bodies should introduce and adopt contractionary monetary policies in the short-run which will trim down the availability of spendable idle money to decrease inflation and subsequently, reinvest the excess FER in the natural resources in which it has relative comparative advantages over other countries, this will inadvertently solve two problems.

First, provide employment by stimulating productivity and utilization of the factors of production for export and local consumption, subsequently creating opportunities for people to assess gainful employment, Second; boosting agricultural production and availability of commodities, this gesture has the advantage of stabilizing the prices of goods and services in these economies by reducing the scarcity of consumables, consequently plummeting the prices of goods and services and increasing the overall GDP of Sub-Saharan countries. Therefore, governments are advised to plough back part of these FER into their economies, by spending on public works, cut back interest rates and spend more on welfare packages, the multiplier effect of these policies will be associated with increased employment and better economic performance.

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