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External Reserves and Macroeconomic Stability: Evidence from Sub-Saharan African Countries

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Abstract: *This study investigates the effect of foreign exchange reserves accumulation on macroeconomic stability proxied by inflation, unemployment, exports, and GDP for a sample of 49 Sub-Saharan African countries from 2009 to 2021 using a 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 exports, while gross domestic product (GDP) shows no significant relationship with foreign exchange reserves. To improve the overall economy of the listed sub-Saharan countries, the paper, therefore, recommends that sub-Saharan African countries adopt a mixture of investment-friendly and unemployment reduction policies by reinvesting investible surplus into inflationary controllable and productivity-boosting policies that will stimulate economic growth rather than keeping this huge amount of resources redundant. The study adopted a qualitative research methodology where the study uses panel data, the data is secondary and is sourced from the World Bank Development Indicators.*

Keywords: *growth, macroeconomic, stability, foreign exchange, reserves.*

INTRODUCTION

Following the aftermath of the East-Asian financial crisis experience of the 1990s and its subsequent fallout, one prominent effect of the crisis is the adoption of modern mercantilism; a situation where most Asian emerging markets began accumulating foreign currencies to serve as safeguard to any impending financial crisis. However, the subsequent economic prowess attributed to these countries' consequent upon adopting this policy motivated most developing economies to adopt this strategy [1]. This is shown by the upsurge in the hoarding of large international reserves in recent years in most developing countries in Africa and most appropriately Sub-Saharan Africa [2].

The motivation behind the accumulation of foreign exchange reserves according to Gervokan and Khemraj; Moore and Glean, hinges on two strands of economic thoughts; one is transaction purpose, which translates to monetary bodies of countries using foreign reserves to keep the value of their currencies at the fixed rate [3]. This is backed up by the claim that stockpiling foreign currencies would raise the value of home currencies indirectly making exports cheaper and therefore, increasing the current account levels of countries [4]. Hence, hoarding international reserves is part of a deliberate development strategy adopted by monetary authorities to maintain an undervalued real exchange rate [5]. Subsequently,

countries also ensure to have sufficient hard currencies to meet their external obligations such as international payment obligations, membership of international organizations, and debt repayments [6]. Similarly, it is also believed that countries with robust foreign reserves influence their creditworthiness globally, some sort of credibility given that; the creditors, donors, and all others associate a country's financial responsibility and creditworthiness with the degree of the strength of its foreign reserve [7].

On the other hand, the second strand of motivation is to provide confidence and to protect foreign and local investments from financial and economic shocks [8]. 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 [9]. 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. Some countries use their foreign reserves to fund critical sectors in the economy; Central banks hold reserves such as gold and other safe interest-bearing investments to boost returns without compromising the safety of their investment also serving as collateral for foreign direct investment [10].

In light of the foregoing the tritest question, however, is if monetary authorities 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. 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 [11]. Those who support large reserve balances argue that the cost of holding reserves is small relative to the economic consequences of a crisis [12].

An IMF bailout is not also guaranteed, and even when forthcoming, comes with strict conditions. Holding large reserve stockpiles is, therefore, prudent policy [13] because according to Qian and Steiner, holding foreign reserves has two economic implications on foreign investment [14]. 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. This study investigates the accumulation of foreign exchange reserves and its impact on macroeconomic stability in Sub-Saharan African countries. This adds to the existing literature by extensively adopting and discussing the variables that deeply capture economic stability in Africa. Though, there are many studies on foreign reserves, many are single-country specific [15], this study uses regional-based data i.e., sub-Saharan Africa to specifically investigate the impact of the accumulation of foreign reserves on key macroeconomic determinants in this region for the period 2009-2021. Hence, this paper is structured into five sections. Next to this is the review of existing literature in section two and the methodology and data used, results, conclusion, and policy recommendations in that order.

LITERATURE REVIEW

The conceptual understanding of foreign exchange reserves has received numerous attention from scholars over the years. Drawing from variant definitions; Adriyani, Marwa, Adnan, and Muizuddin, define foreign exchange reserves are an essential aspect of the economy in each country. The growth and size of reserves serve as signals for global financial markets regarding the credibility of a country's monetary policy and creditworthiness [16]. IMF 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" [17].

Total reserves comprise gold, foreign currency assets, reserve positions in the IMF, and Special Drawing Rights (SDRs).

More so, Ndikumana and Elhiraika suggest that reserves are kept to manage the exchange rate, its volatility, or excess fluctuations. External reserves are generally held in the form of high-quality, marketable securities issues, 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 [18]. Marc-Andre and Nicolas classified the costs as loss of monetary control, exchange rate misalignment, and sterilization costs. Therefore, holding external reserves has both variable and ongoing costs especially when it exceeds the benchmark of three months import equivalent [19].

Theoretical Framework

As an economic theory, mercantilism relies on government intervention to regulate international trade and protect domestic industries. Mercantilist policies involve the protection of domestic corporations through regulations and the promotion of trade surpluses. In the context of international trade, a favourable trade balance is achieved through government regulations, such as tariffs and restrictions on imports. On the domestic side, mercantilist policies support domestic industries by establishing monopolies and allocating capital to encourage growth. Such policies are a form of economic protectionism meant to encourage self-sufficiency and are in direct opposition to the free-market economics of trade and globalization [20].

The theoretical foundation for this study is closely aligned with the Mercantilist Theoretical Model which has its roots deeply in the writings of Philipp Von Hörnigk (1640-1712), Jean-Baptiste Colbert (1863), William Petty (1690) and John Locke (1692), with little attribute given to Alfred Marshall (Eklund and Tollison, 1997). The term "mercantilism" was not coined until 1763, by Victor de Riqueti, Marquis de Mirabeau, and was popularized by Adam Smith in 1776. Adam Smith was the first person to organize formally most of the contributions of mercantilists in his book *The Wealth of Nations* (Niehans 1990) [21].

This theory in its purest form, Durdu et al., posits that countries accumulate foreign reserves as a means for effective exchange rate management and as a tool for maintaining low exchange rates to promote trade and international competitiveness [22]. On this model, Yeyati also noted that one reason for the recent surge in the stock of foreign reserves in developing countries is to prevent real exchange rate appreciation as a result of capital inflows, either due to the 'mercantilist' objective of preserving competitiveness or to avoid a potential overvaluation that may eventually create downside risks [23]. This theory is adopted because its provision is specifically aimed at protecting the home economy from exploitation from monopolistic multinational corporations, whose activities may adversely affect the home economy if and when its operations are affected by any financial or managerial shocks originating from the home country of these big corporations and their subsidiaries.

Empirical Review

Empirical studies on external reserves about macroeconomic stability have received considerable attention across the world over the years. Kalu, Ugwu, Ndubuaku, and Ifeanyi measured the responsiveness of foreign reserves to the exchange rate in Nigeria using ARDL and found a positive relationship between the exchange rate and FER both nominal and real [24]. Similarly, Zakari and Umar found a significant positive relationship between external reserve and inflation in Nigeria. Ojiako investigated the relationship between foreign reserves and GDP and found a positive relationship. This is contrary to another study conducted by Akpan; and Abdullahi et al [25], who found a significant negative relationship between

foreign reserves and unemployment, inflation, GDP, and trade in Nigeria similar to the results obtained by Ezekwe and Otto who found a negative impact of foreign reserve to unemployment [26]. Nwafor provides additional evidence that foreign reserve has no significant positive impact on economic growth in Nigeria between the years 2004-2015. Similarly, Johnny and Johnny-Walker in their study found a significant negative relationship between foreign reserve and economic growth proxy; agricultural output between the years 1980-2016 [27]. This is similar to the study conducted by Akinwunmi and Adekoya who found a negative relationship between foreign reserve and economic growth in their study linking foreign reserve accumulation to FDI, economic growth, and MPR in Nigeria for the period 1985-2013 [28]. However, Jeanne and Ranciere, 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 more than the level that would be necessary to forestall economic or monetary shocks that might occur in the event of unforeseen circumstances. This proves 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 against shocks [29].

In the same vein, Abdullateef and Wahed, investigate the impact of change in external reserves or domestic investment, inflation rate, and exchange rate using OLS and ECM in Nigeria. They found out that changes in FER only affect FDI and exchange rate and no influence was observable on domestic investment and inflation rate [30]. Equally, Sanusi, Meyer, and Hassan find evidence to support the argument that foreign exchange has positive relationships with exports, inflation, and imports while having a negative relationship with the exchange rate in southern African countries for a 26-year study period [31]. In a related study, Nteegah and Okpoi (2019) utilizing data on foreign reserves, oil imports, non-oil imports, oil export, non-oil exports and exchange rate in Nigeria during the period 1980 – 2015 using Vector Error Correction Model found that oil and non-oil export has a positive implication on foreign reserves while oil and non-oil imports negatively retard foreign reserves in Nigeria [32]. In a recent study, Gajurel investigates the determinants of foreign reserves in Nepal for a 40-year period which provides insights into how net flows of foreign direct investment, GDP per capita, inflation, and official exchange rate have positively influenced the foreign exchange reserve in the long run. On the contrary, gross fixed capital formation has negative effects in the long run.

Likewise, Dash, Shylajan, and Dutta investigate the determinants of foreign exchange reserves in India by using the Auto Regressive Distributed Lag (ARDL) model from 2000 to 2014: using variables such as foreign exchange reserve, nominal exchange rate, inflation, current account deficit, trade openness, and short-term debt/GDP. They found out that in the long run, variables such as inflation and short-term external debt/GDP affect the foreign exchange reserves. On the other hand, in the short run, the exchange rate affects positively the foreign exchange reserves of India [33]. In another study, Onwuka and Igweze examined to link between foreign exchange reserve to exchange in Nigeria and found that external reserve and foreign debt have significant contributions to the USD/Naira [34].

Meanwhile, Aizeman, Cheung, and Ito confirmed that a change in the determinants of the foreign reserve is noticeable pre and post-financial crisis era for developing and emerging economies. Emerging markets having lower savings are identified with high foreign exchange reserves and developed countries displaying lower savings patterns associated with lower foreign reserves. Accumulating exchange reserves has been observed to have far-reaching economic implications, particularly in developing countries it increases the investment/GDP ratio and capital productivity both in the short-run and long-run [35]. In a recent study, Bianchi and Sosa-Padilla examine the relationship between exchange reserves, macroeconomic stability, and sovereign risk for 23 emerging economies for the period 1990-2015, the results show that a sudden drop in exchange reserves is as a result of government large withdrawal to sponsor increase in aggregate demand in hard currencies [36]. Similarly, Allegret and Sallenave examine the impact of foreign reserve in halting the effect of external

financial shocks for 9 emerging economies for two different period gaps using VAR they find that the effectiveness of reserve holding to improve the resilience of domestic economies to shocks has increased over time [37].

Osabuohien and Egwakhe, in a bid to determine the relationship between the external reserve and economic growth in Nigeria for the period 1994-2005, using the Error Correction Model (ECM), the study found a positive relationship exists 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 [38]. In the meantime, Hervé provides empirical evidence regarding the relationships between foreign exchange reserves and inflation for four West African countries namely Cote d'Ivoire, Senegal, Ghana, and Nigeria. Using annual data running the period of 1972 to 2014 and applying the Autoregressive distributive lag model (ARDL). The empirical result shows that the relationship between the change in foreign exchange reserves and the inflation rate is positive the in long run but insignificant in the short run [39].

Closely related to earlier studies, Shrestha, investigates the economic implication of the accumulation of foreign reserves on economic growth and inflation in South Asian countries using VAR and provides adequate evidence to support that accumulating foreign for the period 1990-2013 reserves caused higher economic growth in these countries but without significant impact on inflation [40]. In another study, Gereziher and Nuru, applying the autoregressive distributed lag (ARDL) model to investigate the determinants of foreign exchange reserve accumulation in a foreign exchange-constrained economy like Ethiopia, from 1981 up to 2017, found that in the short run, foreign exchange reserve accumulation of Ethiopia is negatively and significantly affected by the inflation rate and exchange rate [41]. But, in the long run, the inflation rate affects foreign exchange reserves positively and significantly.

METHODOLOGY

This study examines the effect of foreign exchange reserves on macroeconomic stability proxied by inflation, unemployment, exports, and GDP for a sample of 49 Sub-Saharan African countries covering the period 2009-2021. The choice of this period is motivated by the prevalence of Sub-Saharan African country's accumulation of foreign exchange reserves amid dwindling resources, hunger, and depravity associated with this period. The study uses panel data, the data is secondary and is sourced from the World Bank Development Indicators [42].

Variable Measurements

Foreign reserve is measured by the total reserves comprising holdings of monetary gold and special drawing rights, inflation on the other hand is measured by the consumer price index which reflects the annual percentage change in the price to the average as used by (Akpan; Abdulateef & Waheed [43]. According to Ezekwe & Otto, unemployment is measured by the percentage of the labour force that is without work but available for and seeking employment. Export is measured by the value of goods and services provided to the rest of the world (Alabi et al 2017) [44], while GDP is measured by the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products as used by Ojiako.

Model Specification

To estimate the impact of foreign exchange reserves on macroeconomic stability, the following regression model was set up.

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

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*), measures inflation, (*UNEMP*) measures unemployment, (*EXP*) is the measure of exports, (*GDP*) measures gross domestic products, while C_i is a unit-specific error component while μ is the remaining error components, i represent country and t is the country dummy.

Method of Data Analysis

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 periods. Panel data may have individual (group) effects, time effects, or both, which are analyzed by fixed effect and/or random effect models [45]. 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 [46]. In particular, Baltagi stated that panel data give more informative data, more variability, less collinearity among the variables, more degrees of freedom, and more efficiency [47]. Hence, well-organized panel data models are attractive and appealing since they provide ways of dealing with heterogeneity and examining fixed and/or random effects in longitudinal data.

RESULTS AND DISCUSSION

The results of the descriptive statistics are presented in Table 1. The total number of observations used for the study is 650 (six hundred and fifty). 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, chooses panel data model appropriate for the study. The implication here is that foreign reserves (FER) have an average mean score of 3.380000, with an overall standard deviation of 9.09000, showing how much difference from the mean value, while 0 and 5.1700 are the respective minimum and maximum values which are glaring evidence of disparity compared to between and within the estimation.

The disparity displayed among the macroeconomic stability measurement as shown in Table 1 shows that unemployment (UNEMP) has a mean of about 7.3124, with an overall standard deviation of 6.6675, while having 0 and 26.754 as the minimum and maximum values respectively. Exports (EXP) have an average mean of about 27.6865, with an overall standard deviation of 20.5416, while having 0 and 105.8944 as the respective minimum and maximum values. It also appeared that 5.5484 represents the average mean of inflation (INFL), with an overall standard deviation of 6.3673, while the minimum and maximum values stood at -4.3948 and 37.1422 respectively. Finally, Sub-Saharan African countries recorded the lowest mean score through Gross Domestic Product of about 2.12000, with an overall standard deviation of 6.74000. At the same time, 0 and 5.79000 represent the minimum and maximum values respectively.

Table 1. Descriptive Statistics Result

| Variables | Mean | Std. Dev. | Min. | Max. | Obs. |
|-----------|--------|-----------|--------|--------|---------|
| FER | 3.3800 | 9.09.00 | 0 | 5.1700 | N = 650 |
| | | 9.5100 | 0 | 4.7700 | n = 49 |
| | | 1.5101 | -7.342 | 1.3220 | |

| | | | | | |
|-------|---------|---------|----------|---------|---------|
| UNEMP | 7.3124 | 6.6675 | 0 | 26.754 | N = 650 |
| | | 6.7432 | 0 | 25.3075 | n = 49 |
| | | 0.6542 | 3.4876 | 11.543 | |
| EXP | 27.6865 | 20.5416 | 0 | 107.994 | N = 646 |
| | | 18.6666 | 0 | 91.4416 | n = 49 |
| | | 8.7654 | -14.7643 | 47.4552 | |
| INFL | 5.5484 | 6.3673 | -4.3948 | 37.1422 | N = 650 |
| | | 4.5573 | 0 | 16.8489 | n = 47 |
| | | 7.6254 | -16.8543 | 35.3410 | |
| GDP | 2.12000 | 6.7400 | 0 | 5.79000 | N = 630 |
| | | 7.0500 | 2.5900 | 3.8800 | n = 49 |
| | | 2.8900 | -3.5900 | 2.0900 | 9.7755 |

Source: Authors' computation using STATA version 14 software, 2023.

The Hausman Chi2 test (Table 2) value of 32.66 with a pro-value of 0.0000 less than 5% which is statistically significant. Hence, we reject the null hypothesis of the Random effect model as appropriate, indicating that the 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 | -1.6100 | 2.0100 | -3.6200 | 5.8100 |
| EXP | 3.1400 | 1.5500 | 1.5900 | 6989 |
| INFL | -3.3900 | -1.8000 | -1.5900 | 1.4000 |
| GDP | -0.0039 | 0.0162 | -0.0202 | 0.0018 |
| Chi ² | 32.66 | (0.0000) | | |

Source: Authors' computation using STATA version 14 Software. The value in the parenthesis is the p-value.

Table 2 shows the fixed effect empirical investigation of foreign reserves and macroeconomic stability in sub-Saharan African countries. As revealed in Table 2, the F-value indicates significance at a 1% level, showing that the fixed effect model is adequate and fit for prediction.

Table 3. Panel Fixed Effect Result

| Dependent Variable: | Foreign Reserve (FER) | | |
|-----------------------|-----------------------|----------------|---------|
| Independent Variables | Coefficient | Standard Error | T-ratio |
| Unemployment (UNEMP) | -1.5100 | 9.1400 | -1.76* |
| Exports (EXP) | 3.400 | 9529 | 3.30*** |
| Inflation (INFL) | -3.3900 | 1.6300 | -2.08** |

| | | | |
|--|---------|----------|-------|
| Gross Domestic Product (GDP) | -0.0039 | 0.0026 | -1.53 |
| F-statistic | 4.41*** | | |
| Diagnostic Tests | | | |
| Multicollinearity Test (VIF) | 1.05 | | |
| 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: Authors' computation using STATA version 14 Software. ***, ** and * denotes level of significance at 1%, 5% and 10% respectively. The values in the parentheses are the P-values, 2023.

Results from our model show that the test statistic of 5% from serial correlation indicates a weak serial correlation (see Wooldridge test, Table 3). However, our findings revealed that the null hypothesis of no first-order autocorrelation cannot be rejected at the better 5%. Both Breusch Pagan and VIF tests revealed the absence of multi-collinearity and heteroskedasticity problems in the model, respectively. 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. Therefore, our model is appropriate for prediction.

Specifically, in Table 3 above, unemployment (UNEMP) shows a negative coefficient at a 10% level of significance, indicating a negative relationship between foreign exchange reserve and unemployment level. This shows that a percentage increase in the unemployment rate will lead to a 1.61% fall in foreign reserves in sub-Saharan African countries. This shows that foreign reserve is strongly mitigated by the increased rate of unemployment rate among Sub-Saharan African countries, in tandem with the study conducted by Akpan (2016); and Ezekwe and Otto (2021) but contradicts the works of Polterovich and Popov (2002); Matsumoto (2019) and Bianchi and Sosa-Padillo (2020) whose studies confirm the hypothesizes that foreign exchange 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.

The exports (EXP) coefficient has a positive and significant relationship with foreign exchange reserves at a 1% level. Indicating a percentage change in exports, leads to an increase in foreign exchange reserve by 3.14%, 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 works of Alabi et al (2017) & Osabuohien and Egwakhe, (2008) who find a positive relationship between foreign reserves and exports in the Nigerian economy, although not significant, because these excess resources are not ploughed back into the economy. This also confirms the earlier study 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 in Russia.

The inflation (INFL) coefficient shows a significant negative correlation with foreign exchange reserves. This shows that an increase in inflation will lead to a 3.39% decrease in foreign exchange reserve, consistent with the findings of Zakari and Umar (2020);

Abdulateef and Waheed (2010) & Olokoyo, Osubuohien and Salami (2009). This is observable in reserve countries, where excessive accumulation by state authorities will instigate aggressive demand by private individuals in the private sector, ultimately intensifying the rate of borrowing money. These results, however, contradict the results obtained by Akpan (2016), who provided evidence of no positive relationship [48].

The coefficient of gross domestic products (GDP) shows a negative and no significant effect on foreign exchange reserve in contradiction to earlier studies by Johnny & JohnnyWalker (2018); Chinaemerem & Ebiringa (2004); Olokoyo et al (2009) but consistent with the findings of Nwafor (2017); Ojiako (2021) & Akpan (2016). Most African countries over the years have suffered structural imbalances, and macroeconomic instability and faced multiple debts from both domestic and foreign sources despite the presence of huge foreign exchange reserves which have 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 counterparts in Asian countries have experienced economic prosperity in the past when this same policy was adopted [49-56].

CONCLUSION

This study empirically investigated foreign exchange reserves and macroeconomic stability in Sub-Saharan African countries using the Panel fixed model. The findings reveal that foreign exchange reserve has a significant negative effect on unemployment and inflation. The results also revealed that foreign exchange reserve has a positive effect on exports with coefficients for GDP showing no significant relationship with foreign reserves. In light of these findings, it is therefore concluded that the accumulation of foreign exchange reserves has positively improved the terms of trade of Sub-Saharan countries by increasing their export opportunities. The study, therefore, supports the existing literature about the relevance of foreign reserves 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 unfavourable trade restrictions and improve trade openness with a key focus on exports to attract foreign direct investment into the country to improve the level of foreign exchange reserve. Policymakers 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 in the natural resources in which it has relative comparative advantages over other countries.

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Author Contribution

Falmata Baba Abba: Conceptualization, Methodology, Writing – review & editing, Article administration. Yagana Alhaji Baba: Methodology, Writing – review & editing, Investigation. Amina Ahmad Idri: Literature review, Methodology, Investigation and Editing.

Conflicts of Interest

All authors declare no conflict of interest.

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