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RESEARCH ARTICLE

Impact of Financial Development on the Interest Rate of Selected West-African Countries (WACs)

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ARTICLE INFO	ABSTRACT
	The need for consistent and better-performing economic practices of the West African Countries (WACs) remains integral to the development stride of the African economy. This study examined the impact of financial development on the interest rate of selected West African countries from 2004 to 2023. The specific objectives include evaluating the effect of financial depth on the interest rate of the chosen WACs, determining the impact of financial stability on the interest rate of the selected WACs, examining the impact access to finance has on interest rates in the chosen WACs, and to assess the impact financial efficiency has on the interest rate of the selected WACs. Secondary quantitative data was retrieved for this study. At the same time, the analysis method includes descriptive statistics of maximum, minimum, mean, and standard deviation, and inferential statistics of unit root test, Co-integration test and Radom Effect Model were applied to test the developed for this study. The result showed that while financial access, financial depth, financial efficiency and money supply are positive predictors of interest rate, financial stability is its negative predictor in Ghana; financial stability, access, and efficiency are positive predictors of the interest rate, while financial depth is its negative predictor in Cote d'Ivoire. In Nigeria, money supply is a negative predictor of interest rate, of which financial access, depth, stability and efficiency are all positive predictors. Meanwhile, money supply and financial depth are negative predictors of the interest rate in Senegal, and financial stability, access, and efficiency are considered negative predictors. This indicated the similarly inconsistent economic relationship between the considered WACs' monetary policies and the economic development, which concluded that the financial systems of the WACs are purportedly undeveloped, exhibiting fundamental deficiencies that compromise the efficacy of monetary policy. This study recommended that enhancing finance sector growth is essential to improve the monetary transmission mechanism in African nations. Central banks in WACs, like Nigeria, must recognise that the financial sector's robustness significantly impacts the efficacy of monetary policy instruments like interest rates, necessitating a cautious evaluation of the effectiveness of policy adjustments on the country's overall financial system.

INTRODUCTION

The advancement of the financial industry entails tackling the "costs" linked to the financial system. A considerable body of research demonstrates that the progress of the financial sector markedly enhances economic development. It stimulates economic growth through capital accumulation and technical progress by improving the savings rate, mobilising and aggregating funds, creating investment information, facilitating foreign capital inflows, and optimising capital allocation (Kurniasih et al., 2024). The banking sectors of Gulf nations display similarities owing to their

comparable economic structures and cultural heritage. The banking industry is affected by variations in government revenue and foreign exchange reserves stemming from the Gulf countries' economies' reliance on oil and gas exports. Comprehensive regulatory frameworks are instituted to guarantee the stability and integrity of financial systems (Purificato & Sapienza, 2022). Central banks continuously supervise banking operations and assure adherence to prudential norms. The financial industry enables remittances from expatriate workers and vigorously promotes infrastructural initiatives. State-owned banks are widespread, and initiatives to diversify economies have resulted in developing "fintech" solutions to address the changing needs of technologically proficient people. Recent studies (Almansour, M., 2023; Bloch, 2020; Ali, 2020; Nekmahmud et al., 2022) have examined the demand for money and the advent effect of interest rates in different countries, contributing to the ongoing discussion over the stability and determinants of the money demand function. (Ellman, 2023; Apeti & Edoh, 2023).

Likewise, studies have also shown that the benchmark interest rate serves as a tool for the Central Bank's monetary policy (Katmas & Indarningsih, 2022). The aim is to maintain currency value stability and offer direction to banks in setting interest rates for loans (credit and financing) and deposits (savings and deposits). The Central Bank determines decisions that influence the interest rate mechanism. Banking interest rates grow aligned with the Central Bank's benchmark interest rate rise. To secure a more advantageous interest rate, this incentivises consumers to prefer saving at the bank. This also results in a diminished circulation of money within society, subsequently influencing inflationary pressures and reducing such pressures (Rizal et al., 2024). Conversely, contractionary monetary policies that reduce the money supply may lead to higher interest rates and widened spreads due to credit constraints (Kwak, 2024). The Real Effective Exchange Rate (REER) influences interest rate spreads by modifying the competitiveness of domestic goods and services in the international market (Ibenyenwa et al., 2020). A strong REER may necessitate higher interest rates to attract foreign investment, whereas a weak REER may promote lower rates to stimulate economic activity (Lilian et al., 2022). Global interest rate spreads exhibit considerable variation between countries and regions, reflecting divergent economic conditions and monetary policy structures (Hofmann et al., 2021). The Global Financial Stability Report (2023) reveals that, as of August 2023, Argentina had the highest deposit interest rate in the world at an exceptional 113 per cent, with Zimbabwe in second place at 110 per cent (Lilian et al., 2022). Conversely, countries such as Switzerland, Denmark, and Japan exhibit some of the lowest interest rate spreads globally (Hofmann et al., 2021). The three-month SARON benchmark in Switzerland was -0.75 per cent, reflecting the country's negative interest rate policy. The principal interest rate in Denmark, established by the Central Bank's certificate of deposit rate, remains relatively low. The goals of monetary policy remain unchanged, irrespective of the tools utilised. It aims to balance the supply and demand for the economy's monetary assets to promote adequate economic growth (Serani, 2024). This primary goal can be delineated into other particular objectives, such as price stability, elevated employment rates, a suitable growth rate of real gross domestic product (GDP), and balance of payments equilibrium (Modugu & Dempere (2022))

Countries with more sophisticated financial systems typically undergo quicker growth over prolonged durations, and considerable evidence suggests a clear correlation: financial development is not solely a result of economic advancement; it actively promotes this growth (English, 2022). Furthermore, it reduces poverty and inequality by broadening financial access for disadvantaged and marginalised groups, improving risk management to lessen their vulnerability to shocks, and augmenting investment and productivity, resulting in heightened income generation. The decrease in expenses related to information gathering, contract enforcement, and transaction execution resulted in the emergence of financial contracts, markets, and intermediaries. Various kinds and combinations of information, enforcement, and transaction costs, together with differing legal, regulatory, and tax regimes, have propelled the creation of distinct financial contracts, markets, and intermediaries throughout nations and history (Marlissa & Mamengko, 2024).

The stability and strength of financial institutions are evaluated based on their financial soundness, which protects against potential crises and enhances depositor confidence (Laeven et al., 2022). The

economy may become vulnerable due to frail financial institutions, an overly conservative banking sector, and unsustainable growth in the money supply; thus, it is crucial to attain a precise balance among these elements (Ali, 2020). Efficient alignment of monetary policies, regulatory structures, and banking practices is essential for promoting sustainable economic growth and ensuring stability amid external disruptions. Monetary policy is an essential instrument for maintaining the stability of a nation's economic system (Iddrisu & Alagidede, 2022). As the nation's monetary authority, Bank Indonesia controls the money supply and interest rates to achieve price stability (inflation), economic growth, and equilibrium in the Rupiah exchange rate (Hodson, 2020). Central banks, such as Bank Indonesia, control interest rates to influence borrowing and saving expenses, consequently fostering economic growth or alleviating excessive inflation. This technique cultivates a stable economic environment, which is crucial for individuals' investment and consumption decisions. (Satragno, 2022). Monetary policy also aids in stabilising currency exchange rates, impacting international trade. A steady currency rate improves predictability in international trade, facilitating exports and imports more efficiently (Frayyeh et al., 2022). Thus, monetary policy maintains domestic stability and improves trade and financial links with foreign countries, thereby augmenting overall economic welfare (Akram & Li, 2020). Thus, in recent decades, monetary policy has become essential in tackling many economic challenges, both domestic and international.

The strength of a nation's financial system depends on the interaction between financial regulators, financial intermediation and economic activity. The relationship between GDP, interest rate and money supply varies by country; most Central banks monitor GDP growth and inflation to determine the appropriate level of interest rates to maintain economic stability. (Purificato & Sapienza, 2022). The banking institution involves the allocation of credit and the accumulation of savings, hence facilitating economic growth and bolstering consumption and investment. Hook (2022) analysed the "credit creation theory" and determined that only commercial and central banks can manufacture new money. The variance in interest rate substantially affects the money supply, causing a pass-through effect on inflation and general economic activity. However, monetarists posit that governments may achieve economic stability by managing the money supply (Talahite, 2021). Basis risk, or residual risk, arising from the hedging strategies of financial institutions is a crucial factor in preserving financial stability through effective monetary policy. Financial institutions like banks must demonstrate resilience and stability to maintain public trust and withstand economic disruptions (Faux, 2022). Pollin (1991) offers a contrasting viewpoint on monetarism and credit creation; he concludes that the money supply and interest rates are ineffective tools for governmental policy interventions (Talahite, 2021). The important question yet to be answered is how much of a role financial development plays in the interest rate pass-through process in a developing economy in West Africa. Thus, this study seeks to examine the impact of financial development on interest rates within the context of West African countries with similar socio-economic factors.

Research Objectives

i. Evaluate the impact of financial depth on the interest rate of the selected WACs.

ii. Determine the impact of financial stability on the selected WACs' interest rate.

iii. Examine the impact access to finance has on interest rates in the selected WACs

iv. Assess the impact financial efficiency has on the interest rate of the selected WACs

Research Questions

i. How does the financial depth impact the interest rate of the selected WACs?

ii. How does financial stability impact the interest rate of the selected WACs?

iii. What extent does access to finance impact the interest rate of the selected WACs?

iv. How does efficiency in the financial system impact the interest rate of the WACs?

Research Significance

The countries inside the WACs, including Nigeria, Ghana, Côte d'Ivoire, and Senegal, have recently experienced considerable economic upheaval. These nations have become prominent global economic participants because of their considerable oil, gas and mineral deposits. The banking sector in Africa has substantially enabled economic growth and expansion. Preserving the intricate connections between the interest rates, money supply, financial development, and banking in the African nations is essential for achieving economic stability and success. The vulnerabilities and systemic risks of the African countries have intensified due to financial integration, innovation, and deregulation (Al-Kharusi & Gani, 2022). Multiple previous studies (Bitar et al., 2021) assessed the financial robustness of the banking system, while (Frydman & Xu., 2023) explored the relationship between monetary policy and financial stability. Bitetto et al. (2023) utilised the IMF's financial soundness indicators to develop an alternative measure of financial development. Modugu and Dempere (2022) found that an expansionary monetary policy promotes bank lending, characterised by an increase in the money supply. Several country-specific studies have been conducted, including Albrizio et al. (2020) on the United States, Benetton and Fantino (2021) in Italy, Apanisile & Osinubi (2020) on Nigeria, and Sena et al. (2021) on Ghana, analysing the relationship between economic activity and interest rates. The authors claim that no previous studies have investigated the correlation among interest rates, money supply, financial development, and economic growth in comparing India, Saudi Arabia, and the UAE. Despite the substantial literature on the interconnections between interest rates, money supply, economic growth, and the banking system, there remains a need for research that enhances the current body of knowledge. However, the uniqueness of this study is that it highlights the critical role of financial development on monetary policy decisions and how this affects the monetary transmission mechanism in an economy. The reason is that an efficient interest rate pass-through will depend on the extent of financial development within an economy (Fiador et al., 2022; Meneses-González et al., 2022; Singh et al., 2008; Syed et al., 2022). The study demonstrates originality due to the methodology and research parameters utilised. Besides financial development, the interplay and dynamics between monetary policy instruments like interest rates and money supply and banking issues in Africa represent another aspect of the research expected to provide substantial insights.

LITERATURE REVIEW

Financial Development

Expanding the financial industry relates to alleviating the "costs" linked to the financial system. The decrease in expenses related to information gathering, contract enforcement, and transaction facilitation resulted in the emergence of financial contracts, markets, and intermediaries (c). Various kinds and combinations of information, enforcement, and transaction costs, together with differing legal, regulatory, and tax frameworks, have propelled the creation of distinct financial contracts, markets, and intermediaries across countries and throughout history (Ahiadorme, 2022). A considerable body of research demonstrates that the progress of the financial sector markedly enhances economic development. It stimulates economic growth through capital accumulation and technological progress by improving the savings rate, mobilising and pooling funds, creating investment insights, facilitating foreign capital inflows, and optimising capital allocation (Ibenyenwa et al., 2020). Countries with more sophisticated financial systems typically undergo quicker growth over prolonged durations, and considerable evidence suggests a clear correlation: financial development is not solely a result of economic advancement; it actively promotes this growth (Stylianou et al., 2024). Moreover, it mitigates poverty and inequality by broadening financial access for disadvantaged and vulnerable groups, improving risk management to reduce their exposure to shocks, and augmenting investment and productivity, resulting in heightened income generation (Purificato & Sapienza, 2020).

Stock Market Capitalization

The total value of all listed companies on a stock exchange reflects the size and development of the equity market, according to Pham et al. Interest rates can influence overall economic activity, which

affects corporate earnings and stock market performance. Higher interest rates can slow down economic growth, negatively impacting stock prices, while lower interest rates can stimulate economic growth, positively impacting stock prices Pham et al., 2021

Financial Development Index (Financial Depth, Access, Efficiency and Stability)

This index measures the degree of access to financial institutions and markets, the depth of financial markets, and the efficiency of the financial system (Ahmad et al., 2022). In order to take into account the different dimensions of financial development, the study adopted financial depth, access, efficiency and stability in its investigation (Sena et al., 2021).

Interest Rate

An increase in interest rates will reduce the money supply since individuals will favour investment over consumption. They will invest money in deposits or bonds, increasing quasi-money. Conversely, at reduced interest rates, individuals are more inclined to hold cash rather than invest in deposits or stocks. As interest rates escalate, holding cash costs increase, leading individuals or entities to favour acquiring bonds (Rizal et al., 20204). Conversely, individuals can amass money more easily when interest rates are low. Variations in interest rates will prompt commercial banks to make changes, affecting the demand for loans or deposits and influencing society's money supply (Ahiadorme, 2022).

Monetary Policy Rate

The monetary policy interest rate often called the interest rate, is a tool a country's central bank uses to control the money supply and achieve specific economic goals. It influences borrowing and lending rates across the economy (Modugu & Dempere, 2022). When the central bank increases the monetary policy rate by even a tiny amount (basis point), borrowing becomes more expensive. This leads to higher loan prices and lower borrowing, which reduces bank profitability in the short run. Over time, banks adjust their loan prices and deposit rates to reflect these changes. This means that while the initial increase in the policy rate might hurt profitability, banks eventually adapt, and the average policy rate can stimulate profitability in the long run (Dzeha et al., 2022).

Deposit Interest Rate

The deposit interest rate is an independent monetary policy variable that reflects the percentage of interest a Bank or other financial institution pays depositors for keeping their money in a savings account, certificate of deposit(CD), or other deposit account type (Abdulkadir, 2024). The study by Acharya et al. (2020) explained that the expansion and subsequent shrinkage of central bank balance sheets can affect deposit interest rates. During periods of balance sheet expansion, deposit interest rates may be lower due to increased liquidity.

Money Supply

The Organization for Economic Cooperation and Development (OECD) asserts that money supply is measured by monetary aggregates, which denote the currency circulating within an economy to satisfy its existing monetary needs (Kumar et al., 2023). The OECD gathers two metrics for monetary aggregates: "narrow money" (M1), which acts as a medium of exchange, and "broad money" (M3), which serves as a store of value (Cheah et al., 2023). The OECD characterises narrow money (M1) as currency (coins and banknotes) and overnight bank deposits. It encompasses explicitly currencies held outside of banks, deposits maintained by financial institutions at the central bank (including both excess and required reserves), and the total of public demand deposits held by financial institutions and banks, which can be revoked on demand without incurring fines or penalties, unlike time deposits that have fixed maturities and incur penalties for early withdrawal (Sumithra, 2020). The IMF's International Financial Statistics (IFS) defines broad money (M2) as including cash outside banks and the total demand and time deposits of banks and non-bank financial institutions. In contrast, narrow money is the most liquid and accessible form of money in an economy (Chindengwike, 2022).

Interest Rate and Financial Development

The transmission mechanisms through which monetary policy instruments can affect financial development vary, as it appears that the discourse has centred on the finance growth nexus without much discussion about the monetary policy finance nexus. Money supply can increase access to credit because increases in money supply reduce interest rates. Therefore, it is contending that an important factor that influences financial development is an expansionary monetary policy (Gatsi et al., 2020). On the contrary, in times of high inflationary pressure, rising prices increase the risk premium that increases interest rates and constrains access to credit. The link between monetary policy and financial development can also be traced through the cooperation between the financial system and central banks, as the latter develop strategies to promote economic stability (Batayneh et al., 2020). Ndlovu et al. (2020) evaluated the correlation among macroeconomic variables, specifically interest and exchange rates, using data from 1981 to 2016. The analysis indicated that, over time, interest rates, money supply, and inflation positively correlate with share prices, whereas the exchange rate negatively impacts stock prices. The impulse response function additionally validated the causal linkages between the factors and the stock price. Additionally, Verma and Bansal (2021) examined the influence of macroeconomic factors on the German primary stock index from 1991 to 2016 and discovered that money supply growth rates significantly affect stock returns. Odiche and Udeorah (2020) analysed the correlations between stock market indices and macroeconomic factors from 2009 to 2016, utilising VAR and VECM methodologies, demonstrating that macroeconomic variables directly influence significant volatility in stock market swings. A fixed panel data study from 1995 to 2015 demonstrated a significant relationship between interest rates and stock prices, revealing a bidirectional causation between interest rates and bank stock prices. In other research, Aewmo et al. (2020) analysed the impact of specific macroeconomic indicators on stock market performance in Nigeria. They found that a combination of GDP, interest rate, money supply, inflation rate, and exchange rate was insufficient to forecast Nigeria's stock market's performance. The study indicated that the money supply affects the valuation of the S&P 500 index with a six-month lag. Conrad (2021) demonstrated that the money supply favourably and considerably affects stock market liquidity, while another study found that a rise in money supply benefits the stock market. Bitetto et al. (2023) signify a correlation between financial growth and interest rates. However, the Granger causality test indicates a minimal association with short-term interest rates. The data indicated that the money supply positively affects stock market performance.

Empirical Reviews

According to Gatsi et al. (2020), the impact of monetary policy tools on financial development in 37 African countries was examined from 2002 to 2015. The article analyses how the governance systems in these countries may influence financial growth through monetary policy mechanisms, resulting in both first- and second-order impacts. To mitigate any endogeneity issues, we employ the dynamic generalised method of moments model for our estimations. The results demonstrate that monetary policy instruments in Africa promote a heightened level of financial expansion. Furthermore, financial development is more vigorous due to inadequate governance mechanisms. The interplay between effective governance and monetary policy substantially promotes African financial development. The document supports using adaptable monetary policies that leverage strong institutions to promote financial development. Similarly, Oyadeyi (2020) examined the influence of financial development in Nigeria, precisely its effect on central bank monetary policies and interest rate mechanisms, including the monetary policy rate and various critical rates such as money market rates, lending rates, and deposit rates, utilising the Monte-Klein Model methodology for banking. The investigation encompassed the duration from 1981 to 2021. The study demonstrated partial interest rate pass-through in Nigeria, which is notably more significant in the long term than in the short term and perhaps affected by factors such as interest rate rigidity, asymmetric knowledge, and switching costs associated with banks. Furthermore, it determined that financial growth reduces the influence of monetary policy on interest rate pass-through, with alterations in the policy rate impacting deposit and lending rates within the announcement year, as evidenced by the asymmetric mean adjustment lags. Also, Guobadia et al. (2024) examined the

impact of monetary policy instruments on investment patterns, performance, and sustainable development in the Nigerian construction industry. Understanding the influence of economic changes on the construction industry's success is essential, as this sector is crucial to GDP, employment, and infrastructure development. This article examines the relationship between monetary policy tools and the construction sector's performance, employing data from the Central Bank of Nigeria and the National Bureau of Statistics from 2015–2022. The research demonstrates the significant impact of monetary variables, especially money supply, on several economic indicators via correlation and regression analyses. Notable positive correlations with inflation, interest, and exchange rates were identified, underscoring the intricate linkages between monetary policy and essential elements influencing the construction sector. The various ideas for the Nigerian construction sector aim to promote growth, stability, and transparency.

As investigated by Gunardi & Disman (2023), the impact of interest rates and money supply on stock prices in Indonesia and Malaysia from 2000 to 2020. The study's findings indicate that money supply and interest rates affect stock prices in Indonesia, whereas only interest rates impact stock prices in Malaysia. Odiche and Udeorah (2020) identified long-run correlations between market capitalisation and interest rate and exchange rate while also indicating the absence of a bidirectional relationship between the independent variables and market capitalisation.

Similarly, Serani (2024) used the three-stage least squares method to analyse the correlation between interest rates, money demand and money supply in the U.S. economy. The analysis reveals significant relationships between these financial variables and many economic indicators. The demand for money is negatively related to the interest rate but favourably influenced by real GDP and the nominal effective exchange rate. The money supply exhibits a positive correlation with the interest rate and a negative correlation with the output and inflation gaps. The findings indicate that increasing interest rates decrease money demand, reinforcing the traditional view that high interest rates discourage money holding due to the opportunity cost of forgoing better returns from other investments. An increase in real GDP leads to greater money demand, reflecting a heightened need for transactional balances in a growing economy. An escalation in the nominal effective exchange rate enhances money demand, potentially due to increased purchasing power and intensified international trade activity. The results demonstrate that the Federal Reserve adjusts the money supply in response to fluctuations in the interest rate, output gap, and inflation gap. Likewise, AlHarbi et al. (2024) use the connections between banking services and economic growth to guide successful governmental interventions and corporate initiatives. This study employs annual data from 2004 to 2021 to perform descriptive analysis, correlation evaluations, causality tests, and panel data regressions on a sample from India, Saudi Arabia, and the UAE to obtain findings. The results corroborated the "intermediation theory" while refuting the "credit creation" banking theory. A country's GDP can be accurately explained by its financial development, money supply, loans, and deposits. A nation's GDP influences banks' loans and deposits; however, the opposite is invalid. The monetary policy of the sample was contested by the finding that GDP affects banking loans and deposits rather than vice versa. This crucial discovery will improve the effectiveness of business decision-making.

In addition, Kijjambu et al. (2024) examined the impact of the rediscount rate, inflation and the Real Effective Exchange Rate on interest rate differentials. Research indicates that while short-term variations in the rediscount rate have a negligible effect on interest rate spreads, prolonged increased rates widen spreads as banks strategically adjust. Initially, inflation compresses spreads, but prolonged high inflation widens them as banks manage inflation risk. Recommendations include explicit adjustments to the rediscount rate, robust inflation targeting frameworks, and meticulous regulation of the money supply to promote economic growth and financial development. This study provides insights for policymakers and financial institutions, emphasising the importance of considering short-term and long-term effects in monetary policy adjustments to maintain Uganda's economic stability. Similarly, Modugu and Dempere(2022) examined monetary policies and bank lending in the emerging economies of Sub-Sahara Africa. The study used data from 80 banks across twenty (20) Sub-Saharan African countries from 2010 to 2019, using the dynamic system-generalized method of moments (GMM). The finding demonstrated that expansionary monetary

policy, such as an increase in money supply, stimulates bank lending. In contrast, contractionary monetary policies, like an increase in the monetary policy rates by the central banks, lead to credit contraction, albeit a weak effect due to possible underdevelopment of financial markets, institutional constraints, bank concentration and other rigidities in the system characteristic of developing countries that undermine the effectiveness of monetary policy transmission. It also found that capital adequacy ratio and size of economic activities are other variables that significantly influence bank lending channels.

However, Nurfauzi et al. (2024) analysed the influence of monetary policy on economic stability in Indonesia through a literature review, demonstrating that a decrease in interest rates generally promotes an uptick in consumption and investment, hence fostering economic growth. However, sustained low interest rates may increase the likelihood of excessive inflation and instability in the financial system, as they can encourage reckless risk-taking by financial institutions and economic actors. Conversely, an overly restrictive monetary policy marked by high interest rates can hinder economic growth and increase unemployment, as rising borrowing costs reduce consumption and investment spending. Businesses may face difficulties obtaining financing for operations and expansion, while consumers may demonstrate heightened caution in their spending and investments. Therefore, Bank Indonesia must implement a balanced and flexible monetary policy that reacts to current economic conditions and various economic indicators. This balance in monetary policy is crucial for preserving price stability, encouraging sustainable economic growth, and enhancing public welfare.

Consequently, the study by Gatsi et al. (2020), Oyadeyi (2020) and Guobadia et al. (2024) found a positive relationship between financial development, growth and interest rate, while Gunardi & Disman (2023), AlHarbi et al. (2024), Serani (2024), Kijjambu et al. (2024), Modugu & Dempere(2022) observed a mixed result which varies with time and with other economic factors, however, on the contrary, Nurfauzi et al. (2024) observed that sustained low interest rates may increase the likelihood of excessive inflation and instability in the financial system.

RESEARCH METHODOLOGY

Research Design

A research design is the systematic organisation of circumstances for data collection and analysis intended to align relevance to the study objective with efficiency in the research process (Hossin, 2023). It is a framework for a study that delineates the actions the researcher will undertake, from formulating the hypothesis and its operational implications to the final data analysis. The research design chosen is ex-post facto because the secondary data is sourced from the World Development Indicator (WDI) and Global Financial Development (GFD). Because the study is based on already occurring events and the variables can only be measured using information sourced on countries under investigation, an ex-post facto research approach was chosen as it replicates real experimentation by comparing individuals/variables belonging to different groups with the same background and general conditions. This architecture was designed to guarantee the accurate collection of quantitative data essential for encompassing all facets of financial management procedures and financial performance of banks in WACs. Also, to account for potential confounding factors, we included money supply in our model.

Population of the Study

The study population consists of the events, people, or records that contain the data needed for the study. The study extracted data from all the African countries according to their gross domestic product (GDP) from World Bank Estimates and the United Nations estimate from the International Monetary Fund's estimate of annual panel data spanning 2004 to 2023, within which datasets from 4 WACs were utilised based on the availability of data.

Sample and Sampling Technique

We used balanced panel data from 2004 to 2023 to estimate the panel regression models covering 4 African WACs. Consistent data availability during the sample period and the need to analyse, rely on, and eliminate sampling errors were considered. (Cheung et al, 2023).

Method of Data Analysis

The secondary data was analysed quantitatively using descriptive and inferential statistics. Descriptive statistics delineate the attributes of the acquired and analysed data. Descriptive statistics utilised were maximum, minimum, mean, and standard deviation. At a 5% significance level, inferential statistical techniques were employed to analyse the association between the variables. The relationship between the variables was examined utilising the panel regression analysis. Two problems may constrain several previous empirical investigations. The primary restriction is that this research employed cointegration methodologies reliant on either the Engle and Granger (1987) cointegration test or the maximum probability test developed by Johansen (1988) and Johansen and Juselius (1990). Alternatively, these cointegration approaches may be unsuitable when the sample size is insufficient. Ghilous and Ziat (2023) employ the bounds-testing cointegration methodology, which is more resilient for small sample sizes. The second restriction is that certain studies utilising cross-sectional data fail to address country-specific difficulties (Ghilous & Ziat, 2023; Kassi et al., 2023; Musa et al., 2023), which this nation addresses. The framework of the variables utilised in this investigation is presented in Table 1.

Table 1: Measure of Variables

S/N	Variables	Abbreviation	Measuring Unit	Source
1	Interest rate	DIR	Deposit Interest Rate (%)	WDI
2	Financial Stability	BZS	Bank Z-score	GFD
3	Financial Depth	DCPGDP	Domestic Credit to Private Sector (% of GDP)	GFD
4	Financial Access	BBA	Bank Branches Per 100,000 Adults	GFD
5	Financial Efficiency	BRIM	Bank Net Interest Margin (%)	GFD
6	Money Supply	BM2GDP	Broad Money to GDP	WDI

Source: Author's Computation, (2024)

Model Specification

This study utilised the model proposed by Hossin et al., (2023) Moreover, Sena et al. (2021), in which Interest rate was represented by Deposit interest rate (%) (DIR), Financial Stability depicted through Bank Z-score (BZS), Financial Depth indicated as Domestic credit to private sector (% of GDP) (DCPGDP), Financial Access shown as Bank branches per 100,000 adults (BBA) and Financial Efficiency depicted as Bank net interest margin (%) (BNIM). Herein, the specific functional relationship between interest rate and the other variables is defined as follows;

DIR = ƒ (BZS, DCPGDP, BBA, BNIM) .... (1)

The regression model includes money supply, proxy by broad money, to control for factors that may influence interest rate, ensuring a more accurate estimation of the relationship between financial development and interest rate. This is consistent with the study by Arshad (2021).

DIR = ƒ (BZS, DCPGDP, BBA, BNIM, BM2GDP) .... (2)

Therefore, the model is explicitly expressed as:

Model: $DIR_t = \alpha + \beta_1 BZS_t + \beta_2 DCPGDP_t + \beta_3 BBA_t + \beta_4 BNIM_t + \beta_5 BM2GDP + \mu_t$ .... (3)

Where;

DIR = Interest rate

BZS = Financial Stability

DCPGDP = Financial Depth

BBA = Financial Access

BNIM = Financial Efficiency

BM2GDP= Money Supply

α = Constant term

μ = error term

t= time

β_1- β_5 = Coefficient of the variables

ANALYSIS AND RESULTS

Descriptive Statistics

Table 4.1 shows the statistics of the BM2GDP, DIR, BZ, DCPGDP, BBA and BNIM for the selected WACs nations. For Cote d'Ivoire, table 4.4 indicates the statistics for the data collected and shows that the data retrieved for this study is likewise a 20-year time series data that has a minimum least value of 1.38 for BBA, maximums of 38.89 for BM2GDP with the highest mean of 24.7203. Accordingly, the variance entails 61.173 as the highest for BM2GDP, Skewness with the lowest statistics of -.714 for BBA and the highest statistic of .433 for BZ with the SE of .512 for the variables. Equally, a Kurtosis highest point of -.365 for BNIM and the lowest point of -1.388 for DCPGDP were generated equally with an SE of .992 for all the variables involved. For Ghana, table 4.9 indicates a 20-year time series data retrieved for its study and has a minimum least value of 3.04 for BBA and a maximum of 32.72 for BM2GDP with the highest mean value of 27.9664. Accordingly, the standard deviation entails 3.34225 as the highest statistical value for BM2GDP, Skewness with the lowest statistics of -.860 for BZ and the highest statistic of .349 for DIR with the SE of .512 for all the variables. Equally, a Kurtosis highest statistical point of .622 for DIR and lowest point of -1.498 for BNIM were generated with an SE of .992 for all the variables involved.

For Nigeria, the 20-year time series data for this study delineated in Table 4.14 indicates a minimum least statistical value of 2.24 for BNIM, maximums of 27.38 for BM2GDP with the highest mean statistical value of 21.6520. Accordingly, the standard deviation entails 5.29212 as the highest statistical point for BM2GDP. In contrast, the lowest statistics for Skewness were -1.231 for BM2GDP and the highest statistics were 1.059 for DCPGDP, with the SE of .512 for all the variables generated. A Kurtosis highest point of 1.336 for DCPGDP and lowest point of -1.135 for BBA were equally generated with an SE of .992 for all the variables involved. For Senegal, the 20-year time series data collected for this study delineated in Table 4.15 indicates a minimum least statistical value of 1.63 for BNIM and a maximum of 51.92 for BM2GDP, with the highest mean statistical value of 32.4821. Accordingly, the standard deviation entails 9.34706 as the highest statistical point which is for BM2GDP, while the Skewness lowest statistics of -.687 for BBA and the highest statistic of .634 for BM2GDP with the SE of .512 for all the variables were generated. Equally, a Kurtosis highest point of 1.176 for BZ and lowest point of -1.413 for DCPGDP were generated with an SE of .992 for all the variables involved.

Table 4.1: WACs Statistics

Variables	N	Minimum	Maximum	Mean	SD	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	SE	Statistic	SE
Cote d'Ivoire									
BM2GDP	20	13.11	38.89	24.7203	7.82129	.221	.512	-.554	.992
DIR	20	6.49	8.58	7.4655	.66865	.135	.512	-1.300	.992
BZ	20	16.24	23.53	19.0678	2.48711	.433	.512	-1.257	.992
DCPGDP	20	8.86	21.14	14.9055	4.12732	.092	.512	-1.388	.992

BBA	20	1.38	5.19	3.7606	1.49466	-.714	.512	-1.381	.992
BRIM	20	2.61	5.99	4.2032	.86719	.124	.512	-.365	.992
Ghana									
BM2GDP	20	21.95	32.72	27.9664	3.34225	-.218	.512	-1.228	.992
DIR	20	8.89	17.06	12.0205	2.05022	.349	.512	.622	.992
BZ	20	9.61	14.69	12.8157	1.36309	-.860	.512	.176	.992
DCPGDP	20	11.09	18.07	15.0516	2.10387	-.053	.512	-1.178	.992
BBA	20	3.04	8.54	5.7751	1.76770	.022	.512	-1.027	.992
BNIM	20	9.12	13.05	10.7151	1.28465	.245	.512	-1.498	.992
Nigeria									
BM2GDP	20	11.30	27.38	21.6520	5.29212	-1.231	.512	.036	.992
DIR	20	4.21	14.22	9.0417	2.81568	.111	.512	-.462	.992
BZ	20	12.19	22.05	16.4704	2.45622	.449	.512	.058	.992
DCPGDP	20	8.12	19.63	12.1348	3.03717	1.059	.512	1.336	.992
BBA	20	3.78	6.56	5.0959	.87215	.483	.512	-1.135	.992
BNIM	20	2.24	11.92	6.5826	2.41851	.295	.512	.577	.992
Senegal									
BM2GDP	20	20.27	51.92	32.4821	9.34706	.634	.512	-.645	.992
DIR	20	6.49	8.58	7.4655	.66865	.135	.512	-1.300	.992
BZ	20	11.46	18.37	15.1257	1.54811	-.087	.512	1.176	.992
DCPGDP	20	13.04	29.67	23.4326	5.99803	-.481	.512	-1.413	.992
BBA	20	2.01	5.77	4.3820	1.18433	-.687	.512	-.760	.992
BNIM	20	1.63	7.52	4.7006	1.44117	-.114	.512	-.261	.992

Source: Author's Computation, (2024).

Inferential Statistics

Unit Root test

The ADF and PP test results show that all the variables are stationary at levels as integrated of the same order of 2, as the absolute value of their respective t-statistics values is less than the absolute 0.5% critical value in both tests, as indicated in table 4.2. The result fundamentally disagrees with the findings from Nasreen and Anwar (2023). Financial stability and monetary policy reaction function for South Asian countries: An econometric approach. *The Singapore Economic Review*, *68*(03), 1001-1030.whose variables became stationary at first difference. Therefore, the Co-integration test is necessary to check further the long-run relationship among the variables (Ahiadorme, 2022).

Table 4.2: Results of Augmented Dickey-Fuller Test & Phillips Perron at level and first difference

ADF at Level					
Variables	**T-Statistics**	**Lag Order**	**P-Value**	**Alterlocal Hypothesis**	**Remark**
BM2GDP	2.0575	2	.26440	Stationary	Stationary
DIR	2.2326	2	.37550	Stationary	Stationary
BZ	3.2797	2	.49871	Stationary	Stationary
DCPGDP	2.2326	2	.37550	Stationary	Stationary
BBA	3.1692	2	.60896	Stationary	Stationary
BRIM	3.0581	2	.49871	Stationary	Stationary
Phillips Perron Test at First Difference					
BM2GDP	1.9302	2	.97814	Stationary	Stationary
DIR	3.2849	2	.86703	Stationary	Stationary
BZ	2.9419	2	.37550	Stationary	Stationary
DCPGDP	3.0581	2	.60896	Stationary	Stationary

| BBA | 3.2093 | 2 | .49871 | Stationary | Stationary |
| BRIM | 1.69479 | 2 | .50092 | Stationary | Stationary |

Source: Author's Computation, (2024).

Cointegration Test

A rejection of the hypothesis implies the existence of cointegration among some or all the equations. Table 4.3 shows the t-test and critical value test results, the Eigen normalised cointegration relations and the weights load matrix. The second part of the divide indicates a run relationship among all three 3 equations in the model, which shows the rejection of the null hypothesis at a 5% significance level. This shows that the series is cointegrated because the individual time series has an integration order more than the linear combination of the time series.

Table 4.3: Johansen Cointegration Test

Values of Test Statistics and Critical Test					
	Test	10pct	5pct	1pct	
r <= 2	27.3	27.3	81.4	42.4	
r <= 1	31.4	58.7	18.6	47.1	
r = 0	34.3	93.0	10.5	52.9	
Eigen Normalized Cointegration Relations					
BM2GDP	1.000	1.000	1.000	1.000	1.000
DIR	.360	.122	.279	.703	1.348
BZ	.952	.703	.207	.386	1.101
DCPGDP	.314	2.238	1.932	3.050	4.221
BBA	.475	3.285	2.946	1.937	1.930
BNIM	3.16	2.126	.220	3.050	.498

Source: Author's Computation, (2024).

Diagnostic Test

To ensure the model's efficiency and correlation with the white noise assumption, the employed model was subjected to a residual-based Breusch-Godfrey L-M test for autocorrelation and the Jacqui Berra test for normality.

Residual Autocorrelation test

The LM Serial Correlation Test was employed for the system model to test for residual autocorrelation among the variables. This is shown in Table 4.4. The probability of the observed LM statistics must be greater than 5% to reject the null hypothesis that no autocorrelation exists among the residuals. The result depicts a rejection of the null hypothesis for all the lags, implying the inexistence of serial correlation among all the variables in the model.

Table 4.4: Residual Serial Correlation LM Tests

Covariance Matrix of the Residual					
	BM2GDP	DIR	BZ	DCPGDP	BBA	BNIM
BM2GDP	1.000	14.511	0.751	2.267	.0912	.052
DIR	276.131	1.000	192.891	2.391	1.005	1.592
BZ	1.392	0.005	1.000	30.169	.221	.039
DCPGDP	11.892	0.692	96.113	1.000	.012	.942
BBA	5.058	1.825	28.211	2.289	1.000	.052
BNIM	.832	.669	.364	.216	.669	1.000
Correlation Matrix of Residuals					
BM2GDP	1.000	0.99	1.000	.411	.162	.063
DIR	0.9904	1.000	0.903	5.115	72.210	27.517

BZ	1.0000	0.993	1.000	.278	.761	1.421
DCPGDP	9.710	.178	.032	1.000	.449	.384
BBA	2.565	.425	1.218	5.183	1.000	1.000
BRIM	.525	2.923	.814	.364	.354	.216

Source: Author's Computation, (2024).

Normality Test

The multivariate normality test result for the model depicted in Table 4.5 indicated the rejection of the null hypothesis, which is that the residuals or error terms in the System are normally distributed with the combined p-values of Jarque-Bera, skewness, and Kurtosis probability statistics, which is less than the 5% level of significance. The result posited that all five equations in the model are normally distributed.

Table 4.5: Multivariate Normality Test

Jarque-Bera Test		
Chi-Squared	df	p-value
215.58	28	$<1.2e-6$
Skewness		
49.015	5	$1.742e-2$
Kurtosis		
121.45	5	$<2.1e-6$

Source: Author's Computation, (2024).

Hausman Test

Table 4.6: Hausman test for the model

	Coefficients			
	b (fixed)	**(B) random**	**(b-B) Difference**	**Sqrt(diag(V_b-V_B)) S.E**
BM2GDP	.378	.765	.363	.300
DIR	.498	.334	.605	.454
BZ	.334	.811	1.433	.661
DCPGDP	.501	.095	1.301	.605
BBA	.232	1.367	.232	1.269
BNIM	.022	1.662	.438	343

b = consistent under Ho and Ha; obtained from strong

B = inconsistent under Ha, efficient under Ho; obtained from strong

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B) ^(-1)](b-B)

        =   2.94   Prob>chi2 =   0.7212

Source: Author's Computation, (2024).

The Hausman test for the model shows a p-value of 0.7212, which is statistically insignificant at all significance levels. This implies that the random effect estimate is more appropriate for the current data than the fixed effect and common effect estimators, as outlined in Table 4.6. Thus, the study uses the random effect estimate to test the proposed hypothesis.

Random Effect Model

H_{01}: There is no significant statistical impact of money supply on the financial depth of the selected WACs.

H_{02}: There is no significant statistical impact of money supply on the financial stability of the selected WACs.

H_{03}: No significant statistical impact of money supply on access to finance in the selected WACs.

H_{04}: There is no significant statistical impact of money supply on the efficiency of the financial system of the WACs.

Cote d'Ivoire

In line with the outcome of table 4.7, the R-Square denotes about .833, indicating that there is about 83 per cent combined impact of BM2GDP, BZ, DCPGDP, BBA and BNIM on the DIR of the Ivorian economy. Consequently, a regression line of **DIR = .4887 + .023(BM2GDP) + .165(BZ) - .246(DCPGDP) + .536(BBA) + .123(BNIM)** which shows that while BM2GDP, BZ, BBA and BNIM are positive predictors of the DIR, DCPGDP is its negative predictor. As a result, the H_{01} of the study was rejected as denoted by its predictive values, which were less than .05 values, which were applied for this study's analysis.

Table 4.7: REM for Cote D'Voire

DIR	REM (Cote d'Ivoire)		
	Coef.	**Z**	**P>|z|**
BM2GDP	.023	.035	.035
BZ	.165	.079	.050
DCPGDP	-.246	.069	.003
BBA	.539	.173	.008
BNIM	.123	.176	.004
_cons	.887	1.806	.017
Number of groups	4.00		
Number of Obs	456		
F (2, 24)	13.957		
Prob > F	.000		
R-squared	.833		
Adj R-squared	.773		

Source: Author's Computation, (2024).

Ghana

In line with the outcome of table 4.8, the R-Square denotes about .740, indicating that there is about 74 per cent combined impact of BM2GDP, BZ, DCPGDP, BBA and BNIM on the DIR of the Ghanian economy. Consequently, a regression line of DIR = .224 + .078(BM2GDP) - .254(BZ) + .212(DCPGDP) + .365(BBA) + .279(BNIM) which shows that while BM2GDP, BBA, DCPGDP and BNIM are positive predictors of the BIZ, BZ is its negative predictor. As a result, the H_{02} of the study was rejected as denoted by its predictive values less than the .05 value applied for this study's analysis.

Table 4.8: REM for Ghana

DIR	REM (Ghana)		
	Coef.	**Z**	**P>|z|**
BM2GDP	.078	.182	.007
BZ	-.254	.521	.033
DCPGDP	.212	.260	.030
BBA	.365	.515	.000
BNIM	.279	.571	.002
_cons	.224	.571	.005
Number of groups	4.00		
Number of Obs	456		
F (5, 14)	13.957		

Prob > F	.000
R-squared	.740
Adj R-squared	.703

Source: Author's Computation, (2024).

Nigeria

In line with the outcome of table 4.9, the R-Square denotes about .844, indicating that there is about 74 per cent combined impact of BM2GDP, BZ, DCPGDP, BBA and BNIM on the DIR of the Ghanian economy. Consequently, a regression line of DIR = 5.033 - .206(BM2GDP) - .212(BZ) + .167(DCPGDP) + .274(BBA) + .210(BNIM) which shows that while BM2GDP is a negative predictor of DIR, BBA, DCPGDP, BZ and BNIM are all its positive predictors. As a result, the H_{03} of the study was rejected as denoted by its predictive values less than the .05 value applied for this study's analysis.

Table 4.9: REM for Nigeria

DIR	REM (Nigeria)		
	Coef.	**Z**	**P>|z|**
BM2GDP	-.206	.066	.104
BZ	.212	.145	.004
DCPGDP	.167	.080	.102
BBA	.274	.293	.004
BNIM	.210	.173	.006
_cons	5.033	3.014	.031
Number of groups	4.00		
Number of Obs	456		
F (5, 14)	5.351		
Prob > F	.000		
R-squared	.844		
Adj R-squared	.835		

Source: Author's Computation, (2024).

Senegal

In line with the outcome of table 4.10, the R-Square denotes about .837 indicating that there is about 84 percent combined impact of BM2GDP, BZ, DCPGDP, BBA and BNIM on the DIR of the Ghanian economy. Consequently, a regression line of DIR = 6.079 - .063(BM2GDP) - .201(BZ) + .001(DCPGDP) + 094(BBA) + .002(BNIM) which shows that while BM2GDP and DCP2GDP, are negative predictors of the DIR, BZ, BBA and BNIM are its negative predictor. As a result, the H_{04} of the study was rejected as denoted by its predictive values less than .05 value applied for this study's analysis.

Table 4.10: REM for Senegal

DIR	REM (Senegal)		
	Coef.	**Z**	**P>|z|**
BM2GDP	-.063	.020	.007
BZ	.201	.058	.004
DCPGDP	-.001	.082	.001
BBA	.094	.353	.003
BNIM	.002	.133	.010
_cons	6.079	1.347	.000
Number of groups	4.00		
Number of Obs	456		
F (5, 14)	14.355		
Prob > F	.000		
R-squared	.837		
Adj R-squared	.778		

Source: Author's Computation, (2024).

DISCUSSION OF FINDINGS

The outcome of this study shows that BM2GDP is negative predictor of DIR in Nigeria and Senegal while BBA is a positive predictor of DIR in Cote D'Voire and Ghana. This means that elevated interest rates typically diminish the money supply, increasing the cost of loans for individuals and businesses, hence, decreasing demand for products and services. Consequently, inflationary pressures diminish and prices stabilize in Cote D'Voire but may largely be contrary in Ghana. However, when inflation is subdued and economic activity is decelerating, central banks may reduce interest rates to stimulate investment and consumption leading to financial depth and efficiency, hence, enhancing aggregate demand and fostering economic growth (Serani, 2024), in both economies. Similarly, notable from this study is that BM2GDP, BZ, BBA and BNIM are positive predictors of the DIR, while DCPGDP is its negative predictor for Cote D'Voire. However, BM2GDP, BBA, DCPGDP and BNIM are positive predictors of the DIR, BZ is its negative predictor for Ghana as a result show that a decreased interest rates stimulate corporate investment and expansion, therefore, generating more employment opportunities and lowering the unemployment rate (English, 2022). The accessibility of lower-cost credit enhances consumer purchasing power, prompting increased consumption of goods and services, which in turn boosts income and industrial output. Monetary policy contributes to economic stability by guaranteeing sustainable and consistent growth rates (Morales & Reding, 2021). Nonetheless, monetary policy is not invariably devoid of risk and constraints. Prolonged low interest rates may induce economic distortions, such asset bubbles or unsustainable growth in household debt. Furthermore, an excessively accommodating monetary policy may present a danger of elevated inflation in the future (Purificato & Sapienza, 2022). Consequently, central banks must implement a balanced strategy, evaluate diverse economic indicators, and uphold transparency alongside effective communication with the public and stakeholders. Consequently, monetary policy can provide a sustainable contribution to economic stability without incurring significant long-term risks.

Also, another outcome posited BM2GDP is a negative predictor of DIR for Nigeria, but BM2GDP and DCP2GDP, also are negative predictors of the DIR for Senegal. This follows the assertions of Hirose et al. (2020) that posits that the reduction of money supply in the economy mitigates demand pressures and stabilizes the pricing of goods and services (Iddrisu & Alagidede, 2022). Conversely, in scenarios characterized by insufficient inflation or the threat of deflation, the central bank may adopt expansionary monetary policy to elevate inflation to the target level. (Dierks, 2023). Reducing interest rates is a prevalent method employed to stimulate increased borrowing and expenditure. Low interest rates reduce the expense of borrowing for both households and businesses. The augmentation of credit and consumption enhances aggregate demand in the economy, thereby elevating the prices of goods and services to a more stable and favorable level. (Khattab, 2024). The impact of monetary policy on inflation is not always instantaneous and may entail a considerable time lag. Alterations in interest rates, for instance, require time to influence investment and consumption choices within the economy.

Similarly, BNIM is a positive predictor of DIR in Cote D'Voire, Ghana and Nigeria and it's a negative predator in Senegal. By regulating interest rates, bank supervisors influence consumption and investment behavior, which in turn affect capital flows and liquidity in financial markets. Financial efficiency is maintained when both investors and consumers are confident that interest rates remain within a predictable range and inflation is contained. This helps prevent market turmoil that may arise from economic uncertainty (Katmas & Indarningsih, 2022). However, monetary policy that is too loose over a long period of time can jeopardize financial efficiency such as the negative shown in Senegal. For example, prolonged low interest rates may encourage excessive risk-taking behavior among investors and financial institutions (Frayyeh et al., 2022). They may engage in high-risk speculative investments, such as subprime lending or over-leveraging, because of higher returns. When the asset bubbles formed by these behaviors burst, it could trigger a financial crisis that adversely affects the stability of the overall economy. Loose monetary policy can also encourage asset inflation, where property or stock prices rise too quickly, creating the risk of bubbles that could damage the financial system when they pop (Hamzah et al., 2024).

On the other hand, monetary policy that is too tight can also disrupt financial stability. Drastically raising interest rates to control inflation can slow economic growth and increased borrowing costs for consumers and companies (AlHarbi et al., 2024). This has the potential to increase bankruptcies and bad debts, which can undermine the soundness of banking institutions and reduce liquidity in the financial market (English, 2022). This decrease in liquidity could trigger a crisis of confidence among market participants, exacerbating the financial turmoil. Therefore, bank supervisory institutions need to be careful in determining monetary policy in order to support economic growth while maintaining financial efficiency, depth, access and stability (Chindengwike, 2022), across the WACs.

CONCLUSION AND RECOMMENDATIONS

This study examined the impact financial development has on interest rate in selected west Africa countries, with focus on key monetary policy tools, interest rates and controlled variable money supply, from 2004 to 2023. The study concludes that while money supply, financial access, financial depth and financial efficiency are positive predictors of interest rate, of which financial stability is its negative predictor in Ghana, the financial stability, access and efficiency are positive predictors of the interest rate, the financial depth is its negative predictor in Cote D'Voire. Also concluded from this study is that money supply is a negative predictor of interest rate, of which financial access, depth, stability and efficiency are all its positive predictors for Nigeria. Meanwhile, money supply and financial depth are negative predictors of the interest rate, of which financial stability, access and efficiency are considered its negative predictor for Senegal. This shows that there is similarly inconsistent economic relationship between the considered WACs monetary policies and the economic stability which concluded that the financial systems of the WACs are purportedly undeveloped, exhibiting fundamental deficiencies that compromise the efficacy of monetary policy. The following recommendations ae inherent from this study's conclusion;

1. This study recommended that that enhancing finance sector growth is essential to improve the monetary transmission mechanism in African nations. Central banks in WACs, like Nigeria, must recognize the delayed impact of interest rate changes on financial system, necessitating a cautious evaluation of the effectiveness of policy adjustments on the country's overall financial development.

2. Policymakers must evaluate the effectiveness of a bank-lending channel while accounting for differences in governmental structures when formulating adjustments to monetary policy aimed at achieving specific objectives. They must also remain aware of developments in other sectors of the financial market that may influence the effectiveness of monetary policy instruments in WACs economies.
3. Policymakers must consider the regulatory framework and bank competitiveness when developing monetary policy and financial regulations to mitigate regional imbalances and prevent potential financial instability. This necessitates the formulation of targeted monetary policies that specifically address the credit needs of financially constrained and relatively risky firms, to promote credit creation and allocation, thereby enhancing economic development and mitigating financial risks.

4. Public authorities must adopt effective technical innovation systems, such as electronic banking, which would spur the positive impact financial development has on interest rates. Also, engage in the financial sector reforms, through the introduction of new instruments in the financial market to deepen the financial system while concurrently lowering interest rates, this would increase investment rates. This policy will highlight the advantageous impacts financial development on interest rates on in WACs.

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