

Financial Intermediation and Capital Formation in Nigeria

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Abstract

This study will examine how financial intermediation influences capital formation in Nigeria from 1981 to 2022. Further to this, there was a review on how the private sector credit, money supply, and deposit mobilization influence capital formation in Nigeria. Data utilized in the study were sourced from the Central Bank of Nigeria statistical bulletin of various issues. The study applied the descriptive, unit root, Johansen co-integration and the Vector Error Correction (VEC) estimates. The study test reveals that all the variables were stationary at first differences necessitating the Johansen co-integration test that validates the existence of long-run form. The VEC estimate shows that private sector credit, money supply, and deposit mobilization are positive and significant to capital formation in Nigeria. The study concluded that financial intermediation substantially spurs the level of capital formation in Nigeria; thus, giving credence to the supply-leading theory in the Nigerian economy. Thus, the study recommends that banks boost deposit mobilization and accumulation channels since they promote growth. Also, greater efforts should be made to boost the quantity of cash in circulation, since this improves Nigeria's capital creation.

Keywords: Financial Intermediaries, Circulation, Economic Growth, Mobilization, Accumulation

1 Introduction

Increasing the pace of economic development on a global scale is one of the main challenges faced by emerging nations. Policy makers, every country aspires to establish a proper and modern financial sector in order to accomplish this important aim. Stated differently, one subject that has sparked a great deal of discussion in the literature on finance is the impact of financial intermediation on the development of economies in both industrialized and developing nations. A financial intermediary is a business that helps lenders and borrowers by acting as an intermediary in the channeling of money (Alagba, Uzoma, & Ihiabe, 2023). Examples of these businesses include banks, building societies, insurance companies, investment banks, and pension funds. Once again, by allocating funds to the most fruitful initiatives and keeping an economical eye on them, financial intermediaries play a critical role in raising total factor productivity (Leyla & Aytan, 2015). Financial intermediation is the act of obtaining deposits from customers and savers and granting financing options to investors and borrowers so they may make investments that will spur economic growth.

According to Leyla and Aytan (2015), when the scale of the financial industry is medium, the financial system promotes development, and when financial intermediaries are insufficient, the expansion of the financial sector lowers per capita gross domestic product (GDP). Divine, Omankhanlen, and Godswill (2020) believe that a strong financial system is a prerequisite for every nation to have greater economic progress. This implies that one important factor influencing economic development is access to sufficient funding. Therefore, in order to accomplish various goals, various organizations, people, and economic actors need money. Additionally, according to Samuel, John, Ethelbert, and Michael (2020), in order for financial intermediation to support development, there is need for an effective financial system to be in place, and effective awareness needs to be raised in order to mobilize more deposits within the banking system. This indicates that by adjusting the lending rate to the private sector, financial intermediation helps to accelerate economic growth by reducing the costs related to obtaining information and conducting financial transactions (Alagba, Uzoma, & Ihiabe, 2023). Lending rates have been consistently high while deposit rates has

stayed low, despite the elimination of barriers to effective financial intermediation via different legislative changes (Alagba et al., 2023). Notably, a common belief about financial intermediation is that it may transfer savings from the surplus to the deficit, which is essential for any country's capital accumulation.

The net increase in a country's capital stock after depreciation is referred to as capital creation. It is defined as an increase to the capital asset stock put aside for the potentially real sector endeavors in the future that would spur further expansion in a nation's physical capital assets (Igoni, Akpeghuhu, & Odi, 2021). All of the real value contributed to the economy in terms of real assets is captured by capital creation. Additionally, it comes from investments and savings. Savings accumulation is impacted by capital creation in that more capital formation may result in higher savings and wealth building. According to Jhingan (2011), capital creation is the process by which individuals put aside money from their paychecks, deposit it in banks and other monetary institutions, and then lend it to business owners, industrialists, farmers, and other individuals in need of investable assets. Furthermore, the accumulation of savings may result in a rise in gross domestic investment (GDI), and the revenue from these projects can quicken the pace of expansion of the GDP.

Thus, the state of the financial system and the progress of production are two metrics used to assess the functioning of every contemporary civilization. In this case, the primary function of the financial system is to transfer money from economic entities with excess spending to those with deficit expenditure in order to generate value products and services. According to Shittu's (2012) research, financial intermediation has a major influence on Nigeria's economic development. Every country's financial system and its economy have a functional connection. Therefore, in order to mobilize the capital required to support production at the optimum level, as well as to produce more discretionary income and full employment, a developing economy must impose more duties on the financial environment. Conversely, no economy with a passive financial system can expand and maintain itself since there may not be incentives for investment.

The research by Onodugo, Kalu, and Anowor (2013) revealed that Nigeria has made little headway with investments and offered a supportive atmosphere for the development and enlargement of domestic potentials. According to Ngerebo-A and Torbira (2014), there is no causal flow from gross capital creation to market activity improvement in Nigeria, because of the country's sluggish rate of economic growth. Entrepreneurs attempt to raise money, but they are unable to do so, according to Li and Martin (2019), who also noted that the acquisition of a favorable or bad reputation affects capital raising success metrics in a big way. Additionally, Samatas, Makrominas, and Moro (2019) found that between 1995 and 2008 in Europe, unsustainable household borrowing via mortgage lending had a crowding out impact on the accessibility of financing to fund productive investment.

The majority of research studies that examined the connection between financial intermediation and economic growth concentrated mainly on the effects and connection between financial intermediation and its impact on economic growth. Some of these studies channel their research into sectors, such as the agricultural sector, while others concentrate only on banks. Furthermore, whereas some experts agree that financial intermediation promotes development, others contend that financial intermediation is driven by growth. The works of Benjamin (2019), Samuel, John, Ethelbert, and Michael (2020), Divine, Omankhanlen and Godswill (2020), Charles et al. (2021), Adewole, Adekunle, Nwankwo, Ogbadu, and Olukotun (2018), and Ogunlokun and Liasu (2021) all Nigerian researchers are notable among them.

The findings of these investigations seemed to be inconsistent. By using contemporary data from 1986 to 2022, this research aims to address this inconclusiveness in the literature. The nature of the link between financial intermediation and capital creation in Nigeria is being investigated in this research in an effort to close the knowledge gap about the effect of financial intermediation on capital formation.

2 Literature Review

2.1 Conceptual Framework

2.1.1 Financial Intermediation

Financial intermediation is crucial to any financial system, particularly with respect to moving funds from surplus to deficit units, (Alagba, Uzoma, & Ihiabe, 2023). Financial intermediation, as defined by Andrew and Osuji (2013), is an efficient process by which an institutional entity assumes obligations on its own account in order to obtain financial assets by engaging in monetary transactions on the market. According to Ogunlokun and Liasu (2021), financial

intermediation is the process by which mobilized deposit liabilities are converted into bank assets or credit facilities, such as loans, mortgages, and overdrafts, via the use of financial intermediaries made up of banks. It is essentially the process by which financial intermediaries take deposits from depositors and lend the same amount to debtors for investments and other uses that would promote economic growth. According to Ogunlokun and Liasu (2021), financial intermediation is unquestionably the process of transferring idle funds from savers to borrowers via the use of financial intermediaries. Accordingly, financial intermediation is an active process by which a bank takes on debt on its own account in order to engage in market-based financial transactions and obtain financial assets. Financial intermediation, according to Samuel, John, Ethelbert, and Michael (2020), is the process of receiving funds from savers and distributing it to borrowers in an effort to encourage investments.

2.1.2 Capital Formation

The phrase "capital formation" describes the net wealth accumulation of a nation within an accounting time frame and includes additions to the capital stock, such as machinery, tools, and transportation resources (Jacob, Koko, Ajayi, & Ado, 2023). According to Bakare (2011), capital creation is the portion of current revenue that is saved and invested in order to boost production and income in the future. It usually results from getting a new factory that has all of the machinery, money, and equipment needed for manufacturing. According to economists, it plays a crucial role in models of economic development (Alagba, Uzoma, & Ihiabe, 2023). Capital creation is the process via which a nation's real per capita income increases over time. Capital creation is equivalent to an increase in the physical capital of the state via investments in economic and social structures. There are two categories of gross fixed capital formation: gross public investment and gross domestic investment. Gross public investments include both government and public companies. According to Samuel et al. (2020), gross domestic investment is the total of net inventory changes plus gross fixed capital creation.

2.2 Theoretical Framework

The foundation of this work is supply-side finance theory. This theory, according to Patrick (1966), was originally put out and states that money is a crucial component of economic growth. He highlighted the theory's ability to spur growth, suggesting that money is still a key component of growth and development discourse. The funding approach used by financial institutions to support, grow, and create new businesses and projects is the subject of this concept. To summarize, the idea of supply-led finance proposes the establishment of financial intermediaries in key places prior to the successful demand for their services. Pius Okigbo's 1976 financial review committee approved rural banking plans in 1977 and community banks in 1990, with the goal of promoting credit development and savings mobilization. These served as concrete illustrations of how to respond to the supply-led finance theory. A financial climate made possible by supply-side finance access enables business owners to have big dreams (Patrick, 1966).

When the role of capital creation in Nigeria's economy is examined more closely, the nation's sluggish rate of development can be fully assessed. A country cannot develop and flourish unless some of its resources are diverted from savings and current consumption and used for capital formation. This is just because capital creation plays a critical role when assessing an economy's rate of development (Lucas, 1988). No nation has ever been able to attain long-term economic development without a sizable investment in capital creation. A high rate of capital formation drives efficiency, which in turn drives profitable growth. Financial intermediation contributes to increased money circulation in the economy, which results in capital creation, when it pools funds from a surplus to contribute to the shortfall through rendering loans accessible (Pagano, 1993). Another justification for selecting supply-led finance theory as the guiding theory for this study is as follows. According to these theories, finance plays a key role in fostering sustainable economic growth. When the public has access to funds, they can save money with banks for unforeseen expenses. This enables banks to lend money to the public as well as private sectors, which promotes the growth, transformation, and establishment of new industries (Robinson, 1952).

2.3 Empirical Review

Using the Autoregressive Distributed Lag Stationarity model (ARDL) Approach, Alagba, Uzoma, and Ihiabe (2023) looked at the factors that influence financial intermediation and how it affects economic development in Nigeria from 1995 to 2019. According to the short term ARDL result, the Nigerian economy was directly impacted by historical

bank deposit, private sector credit, and money supply values. Nonetheless, previous interest rate spread values hindered Nigeria's economic expansion.

The impact of financial intermediation on the expansion of Nigeria's agricultural industry between 1992 and 2017 was investigated by Ogunlokun and Lisua (2021). The following variables are taken into account: the interest rate on deposits made by commercial banks against the output of the agricultural sector; the gross savings deposits of commercial banks; the credits made by microfinance banks to the agricultural sector; and the credits made by microfinance banks to the commercial sector. The findings demonstrated that, over an extended period of time, every financial intermediation variable favourably and marginally stimulated Nigerian agricultural performance.

From 1994 to 2018, Charles et al. (2021) conducted an empirical investigation on the relationship between financial intermediation and economic development in Nigeria. Bank deposits, bank reserves, and bank credits versus per-capita GDP are among the variables taken into account. The World Bank and the Nigerian Bureau of Statistics (NBS) provided the data. Results indicated a positive and substantial relationship between bank deposits and GDP. A limitation of this study is that, rather of using an economic growth proxy, the researchers employed a development proxy. Therefore, there is varied disruption in our investigation.

In researching on the impact of financial deepening on Nigeria's development over a 38-year period, from 1981 to 2018, Divine, Omarkhanlen, and Godswill (2020), time deposit, savings deposits, money supply, and the private credit sector are among the variables taken into account in relation to the real gross domestic output. The source of the data was CBN Bulletin. The method of ARDL estimation was used. The regression result confirmed to the researchers that there was a long-term link between the study variables, and that association was also shown to be highly statistically significant. Rather than concentrating on financial dependencies, this analysis examined the impact of financial intermediation determinants proxy on economic development.

The emphasis of Samuel, John, Ethelbert, and Michael (2020) is on the factors that influence the cost of financial intermediation both before and during the age of bank consolidation. The private sector credit, total deposit, and interest rate relative to GDP are among the variables taken into account. It was found that Nigeria's GDP and total deposit had a substantial link. It was also shown that interest rates significantly impacted Nigeria's GDP. A limitation of this research is that the authors did not indicate whether the GDP they measured was nominal or real. As a result, there is varying misrepresentation in this research.

Adewole, Adekunle, Nwankwo, Ogbadu, and Olukotun (2018) investigated the connection between Nigerian microfinance banks' performance and financial intermediation. Among the variables taken into account are the total amount of loans, deposits, assets, and capital used relative to the amount of deposits mobilized. Regression analysis was used in this investigation. It was found that the total amount of loans made by microfinance banks in Nigeria and the deposits they mobilized were significantly correlated. On the other hand, our study's geographic breadth was off.

The impact of financial deepening on Nigeria's economic development between 1970 and 2013 was studied by Tari and Oliver (2017). The research used the Toda-Yamamoto augmented Granger causality test and concluded that the supply-leading hypothesis which explains Nigeria's growth-financial deepening relationship. This implies that rather than growth driving financial deepening, financial deepening leads to growth. Rather than concentrating on financial dependencies, this analysis examined the impact of financial intermediation determinants proxy on economic development.

Studying the relationship over time between financial intermediation and economic expansion in Nigeria from 1970 to 2015 were Iwedi, Okey-Nwala, Kenn-Ndubuisi, and Adamgbo (2016). Bank deposits, credits, and broad money relative to real gross domestic product (RGDP) are among the variables taken into account. The investigation used the Value at Risk (VAR) testing methodology. The findings suggest that financial intermediation indices and economic growth are in a state of long-term equilibrium.

3 Methodology

3.1 Data

The data used for analysis consist of 37 yearly time series observations collected from the Central Bank of Nigeria (CBN) statistical bulletin. The study covers the period from 1986 to 2022 while the data analysis is aided by EViews.

3.2 Method and Model

For empirical analysis, the ADF non-stationarity test, Johansen cointegration method and Vector Error Correction framework are employed.

The research model is specified as follows:

$$CFM_t = \beta_0 + \beta_1 CPS_t + \beta_2 BMS_t + \beta_3 DFM_t + u_t \tag{1}$$

Where, CFM = Capital Formation, CPS = Private Sector Credit, BMS = Broad Money Supply, DMS = Deposit Mobilization, β_0 = Intercept, β_1 , β_2 , and β_3 = model parameters, u_t = Error term

The Johansen co-integration model is given as:

$$\Delta Y_t = \lambda Y_{t-k} + T_1 \Delta Y_{t-1} + T_2 \Delta Y_{t-2} + \dots + T_k - I \Delta Y_t - (k - 1) + \epsilon_t \tag{2}$$

Where;

$$\lambda = (\sum_{i=1}^k \beta_i) - I_g \text{ and } T_i = (\sum_{i=1}^i \beta_i) - I_g \tag{3}$$

The Error Correction Model (ECM) is given as follows:

$$\Delta CFM_t = \beta_1 + \sum_{i=1}^p \beta_2 CFM_{t-i} + \sum_{i=1}^q \beta_3 \Delta CPS_{t-i} + \sum_{i=1}^q \beta_4 \Delta BMS_{t-i} + \sum_{i=1}^q \beta_4 \Delta DMS_{t-i} + \sum_{i=1}^q \beta_4 \Delta LRE_{t-i} + \alpha ECM_{t-i} + e_t \tag{4}$$

4 Results and Discussions

4.1 Analysis and Results

Table 4.1: Descriptive Statistics

Statistic	CFM	CPS	BMS	DMS
Mean	7.9426	6.9748	7.3075	7.1999
Maximum	10.973	10.400	10.604	10.219
Minimum	4.4675	2.5703	3.1045	3.0585
Std. Dev.	1.8210	2.5753	2.4775	2.4233
Skewness	-0.4004	-0.2235	-0.2641	-0.3203
Kurtosis	2.1082	1.6747	1.7174	1.6869
Jarque-Bera	2.2149	3.0157	2.9661	3.2910
Probability	0.3303	0.2213	0.2269	0.1929
Observations	37	37	37	37

Capital formation, private sector credit, money supply, and deposit mobilization average values are 7.942615, 6.974826, 7.307559, and 7.199900, respectively, as shown in table 4.1. Their greatest and minimum values, in the same order, are 10.97325 and 4.467572, 10.40027 and 2.570346, 10.60456 and 3.104553, and 10.21966 and 3.058566, respectively. CFM, CPS, BMS, and DMS have variability levels of 1.821088%, 2.575345%, 2.477575%, and 2.423378%, respectively. All the variables (CFM, CPS, BMS, and DMS) are skewed negatively (-0.400458, -

0.223553, -0.264165, and -0.320384) respectively. CFM, CPS, BMS, and DMS are platykurtic since their values (2.108228, 1.674750, 1.717493, and 1.686930, respectively) are less than 3. The Jarque-Bera, on the other hand, shows that all variables are normally distributed at 5%, this is because the p-values of CFM, CPS, BMS, and DMS (0.330393, 0.221375, 0.226944, and 0.192911, respectively) are below 5% level.

Table 4.2: Stationarity Result

Variables	Level Test		First Difference Test		Order of Integration
	ADF stat.	P-value	ADF stat.	P-value	
CPM	-1.3067	0.6158	-4.3904	0.0014	I(1)
CPS	-1.7476	0.3996	-4.4212	0.0012	I(1)
BMS	-2.1663	0.2215	-4.1034	0.0030	I(1)
DMS	-1.8419	0.3550	-4.6834	0.0006	I(1)

Every variable is stationary at first difference, as shown in Table 4.2. This indicates that their p-values are below the 5% threshold of relevance and their ADF t-stat values are higher than their t-critical values at first difference. To verify that the variables have long run form, the Johansen co-integration test is executed.

Table 4.3: Johansen (Trace) Cointegration Test

Rank	Trace statistic	P-value
0	50.860	0.0254
1	27.378	0.0927
2	13.557	0.0959
3	1.1542	0.2827

The Trace statistics' related p-values are less than the 5% cutoff. The variables thus have a long-term connection. In order to determine the long-term nature of the variables' connection, the research uses the VEC model.

Table 4.4: Vector Error Correction Model
() contains standard errors, [] contains t-statistic

Cointegrating Eq:	CointEq1
CFM(-1)	1.000000
CPS(-1)	2.149051 (0.63178) [3.40155]
BMS(-1)	4.299140 (0.66234) [6.49080]
DMS(-1)	1.426293 (0.27480) [5.19029]

C	-1.824952			
Error Correction:	D(CFM)	D(CPS)	D(BMS)	D(DMS)
CointEq1	-0.287697 (0.06124) [-4.69786]	-0.026483 (0.09296) [-0.28487]	0.030008 (0.07145) [0.41998]	0.094564 (0.17464) [0.54148]
D(CFM(-1))	-0.020146 (0.18465) [-0.10911]	-0.252771 (0.28030) [-0.90177]	-0.193241 (0.21544) [-0.89697]	0.189020 (0.52657) [0.35897]
D(CPS(-1))	0.322123 (0.15702) [2.05154]	-0.271360 (0.23836) [-1.13847]	-0.068528 (0.18320) [-0.37407]	-0.095368 (0.44776) [-0.21299]
D(BMS(-1))	-0.512122 (0.29628) [-1.72850]	0.750426 (0.44977) [1.66848]	0.429766 (0.34568) [1.24324]	0.901545 (0.84491) [1.06703]
D(DMS(-1))	0.104110 (0.10669) [0.97579]	0.066036 (0.16196) [0.40773]	-0.003786 (0.12448) [-0.03041]	-0.040773 (0.30426) [-0.13401]
C	0.196471 (0.05952) [3.30079]	0.000425 (0.09036) [0.00471]	0.079999 (0.06945) [1.15194]	-0.130463 (0.16974) [-0.76860]

Using the rule of the thumb, if $t \geq 2$ in absolute terms, we reject the null hypothesis; otherwise, it is not rejected. CPS is positive (2.149051) and significant (3.40155) to CFM. This implies that increase in CPS will lead to a rise in CFM by 2.149051 units. BMS is positive (4.299140) and significant (6.49080) to CFM. This suggests that a one-unit increase in BMS causes 4.299140 units increase in CFM. DMS is positive (1.426293) and significant (5.19029) to CFM. This suggests that a one-unit increase in DMS causes 1.426293 units increase in CFM. The CointEq1 coefficient is negative (-0.287697) and significant (-4.69786). This demonstrates that errors in the short run are rectified at a rate of 28.8% in the long run. The Adjusted R-Square of 0.555006 indicates that CPS, BMS, and DMS explain 55.5% of the changes in CFM. Other variables not included in this model account for the remaining 44.5%. The F-Statistics value of 40.61230 clearly shows that the model is well fitted.

Table 4.5 VEC Residual Serial Correlation LM Tests

Lag	LRE* stat	Prob.	Rao F-stat	Prob.
1	13.909	0.6054	0.864182	0.6109
2	10.784	0.8226	0.652088	0.8256
3	11.11173	0.8025	0.673763	0.8059

The VEC residual autocorrelation test is conducted under the null hypothesis of no serial correlation at lag h. From Table 4.5, the p-values of 0.6109, 0.8256, and 0.8059 for lags 1, 2, and 3, respectively; these values are thus over the 5% threshold. Consequently, we agree with the null hypothesis, which states that the variables do not exhibit serial association.

4.6: Heteroskedasticity Joint Test (Levels and Squares)

Chi-sq	P-value
161.7683	0.8315

The heteroskedasticity test findings show that the Chi-Sq joint test's p-value of 0.8315 is more than 5%, which leads us to accept the null assumption that heteroskedasticity does not exist.

4.2 Discussion of Findings

In Nigeria, capital formation is significantly promoted by private sector credit. This suggests that via the investments multiplier mechanism, banks' increasing allocation of cash to the private sector boosts Nigeria's capital formation. This is a consequence of banks properly monitoring and evaluating loans to just those businesses that increase Nigeria's potential for production. While it differs from Ogunlokun et al. (2021), this is consistent with the results of Charle et al. (2021), Samuel et al. (2021), Divine et al. (2020), and Iwedi et al. (2016).

Money supply substantially accelerates Nigeria's capital formation. This suggests that Nigeria's capital creation rises in response to an increase in the amount of money in circulation. This is because a growth in the money supply will put more money in the hands of the general public, enabling them to save a larger portion of their income. Consequently, improving financial intermediaries' capability to provide credit—a prerequisite for raising Nigeria's production potential. While it differs from Ogunlokun et al. (2021), this is consistent with the results of Charle et al. (2021), Samuel et al. (2021), Divine et al. (2020), and Iwedi et al. (2016).

The mobilization of deposits contributes significantly and favorably to Nigeria's capital creation. This indicates that a rise in banks' capability to mobilize funds contributes significantly to Nigeria's increased productivity. This confirmed the adage in finance that the banking sector continues to be the engine of expansion. The supply leading hypothesis, which holds that financial institutions' supply of financial assets, liabilities, and associated financial services would lead to a demand for these items and other related financial services, was also reinforced. This further accelerates the process of growth. The results of Charle et al. (2021), Samuel et al. (2021), Divine et al. (2020), and Iwedi et al. (2016) are comparable to this; however, it deviates from Ogunlokun et al. (2021).

5 Conclusion and Recommendations**5.1 Conclusion**

In this study, we examined how financial intermediation influences capital formation in Nigeria from 1981 to 2022. Following that, we looked at how private sector credit, money supply, and deposit mobilization influence capital formation in Nigeria. Based on our data, we discovered that financial intermediation substantially spurs the level of capital formation in Nigeria. Thus, giving credence to the supply-leading theory in the Nigerian economy.

5.2 Recommendations

The research suggests that because deposits stimulate growth, banks should expand their channels for deposit mobilization and accumulation. Since lending to the private sector promotes development, banks need to provide it with additional opportunities. Since it encourages a growth in Nigeria's capital production, more efforts should be made to raise the quantity of money in circulation.

References

- Adewole, J. A., Nwankwo, O., Ogbadu, E. E., Olukotun, G. A., & Samuel, O. J. (2018). Implications of financial intermediation on the performance of microfinance banks in Nigeria. *Financial Markets, Institutions and Risks*, 2(4), 30-40.
- Benjamin, K. M. (2019). Financial intermediation and economic growth in the East African Community: A financial index approach. *African Journal of Economic Review*, 7(2), 1-12.

- Charles, O. M., Johnson, I. O., Felicia, C. A., Jonathan, E. O., Felix, C. A., Adedoyin, I. L., Ifeoma, C. N., & Onyinye, J. A. (2021). Impact of financial intermediaries on Nigerian economic growth. *International Journal of Financial Research*, 12(1), 1-10.
- Divine, C. S. H., Omankhanlen, A. E., & Godswill, O. O. (2020). The impact of financial deepening on economic growth in Nigeria. Available at <https://doi.org/10.37394/23207.2020.17.96>.
- Igoni, S., Akpeghuhu, K. M., Odi, E. R. (2021). Economic analysis of sectoral financial intermediation and capital formation prospect in Nigeria. *Journal of Research in Business and Management*, 9(10) 33-42.
- Iwedi, M., Okey-Nwala P. O., Kenn-Ndubuisi J. I., & Adamgbo S. L. (2016). Financial intermediation development and economic growth: empirical evidence from Nigeria. *Business Research Review*, 2(8), 1-10.
- Jacob, B. J., Koko, M. A., Ajayi, L. A., & Ado, G. (2023) Impact of intermediation of commercial banks on capital formation in Nigeria. *Journal of Economics, Finance and Management Studies*, 6(2), 924-932.
- Jhingan, L.M., (2011). *Monetary economics*. Vrinda Publications Ltd.
- Li, E., & Martin, S. J. (2019). Capital formation and financial intermediation: the role of entrepreneur reputation formation. *Journal of Corporate Finance*, 59, 185-201.
- Ngerebo-A, T. A., & Torbira, L. L. (2014). The role of capital market operations in capital formation. *Journal of Finance and Investment Analysis*, 3(1):21-33.
- Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics*, 22(1), 3-42.
- Ogunlokun, A. D., & Liasu, A. A. (2021) Effect of bank financial intermediation on agricultural performance in Nigeria. *South Asian Research Journal of Business and Management*, 3(1), 1-13.
- Onodugo, V. A., & Anowor, O. F. (2013). Financial intermediation and private sector investment in Nigeria. *Research Journal of Finance and Accounting*, 4(12), 47-54.
- Pagano, M. (1993). Financial markets and growth: An overview. *European Economic Review*, 37(2-3), 613-622.
- Patrick, H. T. (1966). Financial development and economic growth in underdeveloped countries. *Economic development and Cultural change*, 14(2), 174-189.
- Robinson, J. (1952). The model of an expanding economy. *The Economic Journal*, 62(245), 42-53.
- Samatas, A., Makrominas, M., & Moro, A. (2019). Financial intermediation, capital composition and income stagnation: The case of Europe. *Journal of Economic Behavior & Organization*, 162, 273-289.
- Samuel, M. T., John, I. J., Ethelbert, O., & Michael, M. (2020). Determinants of the cost of financial intermediation in Nigeria: Pre-consolidated and post-consolidated banking sector. *International Journal of Economics and Financial Management*, 5(1), 40-50.
- Shittu, A. I. (2012). Financial intermediation and economic growth in Nigeria. *British Journal of Arts and Social Science*, 4(2), 164-179.
- Tari, M. K., & Oliver, E. O. (2017). Financial deepening and economic growth nexus in Nigeria: Supply-leading or demand-following? Available at <https://www.mdpi.com/journal/economics>.