### COLLATERAL-FREE FINANCING AND FINANCIAL INCLUSION FOR SMES IN

#### LAGOS STATE: AN INVESTIGATION

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#### **Abstract**

This study investigated the effect of collateral free financing on small and medium scale enterprises, with a particular focus on the impact of the Agricultural Credit Guarantee Scheme Fund (ACGSF) and Small and Medium Enterprise Finance (SMEF). Employing regression analysis and Granger causality tests on data from 1981 to 2023, the study finds that the ACGSF positively and significantly influences financial inclusion (coefficient = 0.40057, p = 0.00111), suggesting that government-backed credit schemes in agriculture enhance access to financial services in underserved areas. However, SMEF reveals a negative association with financial inclusion (coefficient = -0.050913, p = 0.0126), indicating that current MSME financing frameworks may be insufficiently inclusive, potentially due to high borrowing costs and sector-specific structural challenges. High-interest rates further impede financial inclusion, while favorable exchange rates are shown to have a positive effect, pointing to the role of currency stability in supporting financial accessibility.

Granger causality tests indicate a unidirectional causality from both ACGSF and SMEF to financial inclusion, underscoring the long-term effects of these financing mechanisms on access to financial services. The study concludes that while agricultural credit schemes promote financial inclusion, revisions to SME finance policies are essential to optimize inclusivity goals. Key recommendations include enhancing agricultural credit schemes, redesigning SME financing models, lowering borrowing costs, and ensuring exchange rate stability to promote an inclusive financial landscape. This research contributes to the existing knowledge on financial inclusion by highlighting the differential impact of credit schemes on financial accessibility in Nigeria, providing empirical insights for policymakers to develop targeted interventions in similar emerging economies.

Keywords: Financial Inclusion, Agricultural Credit Guarantee Scheme, Small and Medium Enterprises, Interest Rates, Nigeria

### 1.0 Introduction

The financial sector's role in driving economic development cannot be overstated, particularly in emerging economies like Nigeria. Financial inclusion, defined as providing individuals and businesses with access to useful and affordable financial products and services, is crucial for fostering sustainable economic growth and development (Demirgüç-Kunt et al., 2022). Small and medium-sized enterprises (SMEs) are integral to Nigeria's economy, especially in Lagos State, which serves as the country's commercial hub. Despite their significance, many SMEs face substantial barriers in accessing finance due to stringent collateral requirements imposed by traditional financial institutions. This study investigates the impact of collateral-free financing on financial inclusion for SMEs in Lagos State, exploring how this innovative financing approach can bridge the existing financing gap and contribute to the growth and sustainability of these enterprises (Beck & Cull, 2023; IFC, 2023).

SMEs form the backbone of Lagos State's economy, significantly contributing to job creation, poverty alleviation, and innovation. According to recent data, SMEs account for about 90% of businesses in Nigeria and employ approximately 84% of the workforce (SMEDAN, 2023). In Lagos State, the economic nerve center of the country, SMEs are particularly vital, driving the state's overall economic performance. These enterprises are active in various sectors, including manufacturing, trade, and services. However, their potential for growth is often hampered by limited access to finance, which remains a significant challenge for many small business owners (Gbandi & Amissah, 2022).

Financial inclusion is widely recognized as a key driver of economic development and social inclusion. It ensures that individuals and businesses can access essential financial services, such as savings accounts, loans, insurance, and payment systems, at affordable costs (Klapper, 2023). In Lagos State, financial inclusion has been identified as a strategic goal to promote economic growth and reduce poverty (Central Bank of Nigeria, 2022). However, high collateral requirements imposed by traditional financial institutions often exclude SMEs from the formal financial system, thereby hindering their ability to expand and contribute effectively to the economy (Beck et al., 2022).

Traditional lending practices in Nigeria, like in many developing countries, heavily rely on collateral. Financial institutions typically require borrowers to provide tangible assets, such as property or equipment, as security for loans. However, many SMEs, especially those in the early stages of development, lack the necessary assets to meet these collateral requirements, leading to a significant financing gap. This gap prevents many viable businesses from accessing the funds needed for expansion and innovation, stifling their growth potential (Beck & Demirgüç-Kunt, 2023; IFC, 2023).

In response to the limitations of traditional financing, collateral-free financing has emerged as a viable alternative for SMEs. This form of financing allows businesses to access loans without the need to pledge physical assets as security. Instead, lenders may use alternative methods to assess creditworthiness, such as evaluating cash flow, business performance, or the entrepreneur's character (Ghosh & Kumar, 2023). In Lagos State, several financial institutions and fintech companies have introduced collateral-free loans aimed at enhancing financial inclusion and supporting business growth. These innovations have been pivotal in improving access to finance for underserved SMEs, enabling them to contribute more significantly to the economy (World Bank, 2023).

Despite the recognized importance of small and medium-sized enterprises (SMEs) in driving economic growth and employment, access to finance remains one of the most significant challenges these businesses face, particularly in developing economies like Nigeria. The emergence of collateral-free financing presents a promising solution to the financing constraints faced by SMEs.

Therefore, this study seeks to critically examine the impact of collateral-free financing on financial inclusion for SMEs in Lagos State, with a focus on understanding its effectiveness, sustainability, and the associated risks within the existing regulatory landscape.

The study on the impact of collateral-free financing on financial inclusion for SMEs in Lagos State holds significant importance due to its potential to address one of the most critical barriers faced by small and medium-sized enterprises: access to finance.

### 2.0 Literature Review

The emergence of collateral-free financing presents a promising solution to the financial inclusion challenges faced by SMEs in Lagos State. Traditional financial institutions often impose stringent collateral requirements, which many SMEs cannot meet, thereby limiting their access to formal credit markets. Collateral-free financing, offered by fintech companies and microfinance institutions, bypasses the need for physical assets as loan security. Instead, lenders use alternative methods, such as cash flow analysis and behavioral data, to assess creditworthiness. This innovative approach has significantly broadened access to finance for SMEs, enabling them to invest in their operations, expand their businesses, and contribute more effectively to economic growth (McKinsey & Company, 2023).

Financial Inclusion Theory centers on the concept of making financial services accessible to all segments of society, including marginalized and underserved populations such as small and medium-sized enterprises (SMEs). This theory asserts that equitable access to financial services is crucial for economic development, poverty alleviation, and the enhancement of overall economic stability. The theory underscores the role of financial institutions in bridging gaps in financial access, particularly for those who have traditionally been excluded from the formal financial system (Demirgüç-Kunt et al., 2021).

One of the fundamental aspects of Financial Inclusion Theory is the notion that access to financial services, including credit, savings, insurance, and payment systems, plays a vital role in enabling economic participation and growth. For SMEs, which often face barriers to accessing traditional financial services, collateral-free financing represents a significant breakthrough. By removing the need for collateral, financial institutions can offer credit to SMEs that might otherwise be unable to secure financing, thus fostering business growth and promoting financial inclusion (Beck et al., 2020).

Overall, Financial Inclusion Theory provides a robust framework for understanding the significance of collateral-free financing in enhancing access to financial services for SMEs. By addressing barriers to financial access and promoting inclusive financial practices, this theory supports the development of more equitable and resilient economic systems. As recent research continues to validate the benefits of financial inclusion, the role of collateral-free financing in achieving these outcomes remains a key area of focus (Demirgüç-Kunt et al., 2021; Beck et al., 2020).

Adegbite & Alabi (2023) carried out a study titled "Effect of Collateral-Free Loans on Financial Inclusion of Small Enterprises in Lagos." Covering the period from 2016 to 2021, this

research utilized the Difference-in-Differences method to evaluate the effects of collateral-free loans on the financial inclusion of small enterprises in Lagos. The results indicated that SMEs experienced higher financial inclusion rates due to easier access to loans without collateral requirements, thereby allowing these businesses to thrive in a competitive market.

Ogunleye (2022) conducted an investigation titled "Impact of Non-Collateralized Credit on the Performance of SMEs in Lagos." The study, which analyzed data from 2014 to 2021, used a panel data approach to assess how non-collateralized credit influences the performance of SMEs in Lagos. The findings revealed that non-collateralized credit significantly improved SME performance, particularly in terms of sales growth and market expansion, highlighting the critical role of accessible financing in fostering business development.

Adewale & Fadeyi (2022) performed a study titled "Collateral-Free Lending and SME Development in Nigeria." Spanning data from 2013 to 2020, the research adopted a qualitative case study method to explore the impact of collateral-free lending schemes by microfinance institutions on the financial inclusion of Lagos-based SMEs. The study found that these schemes played a pivotal role in enhancing financial inclusion, allowing SMEs to access the necessary capital to grow and sustain their operations.

Johnson & Ojo (2021) conducted a research titled "Evaluating the Impact of Government Intervention in SME Financing in Lagos." This study, which covered data from 2012 to 2019, utilized a mixed-method approach to analyze the effects of government-backed, collateral-free loans on SME financial inclusion and growth. The findings demonstrated that these loans significantly boosted financial inclusion and enabled SMEs to expand their operations, thereby contributing to overall economic development in Lagos State.

Oke & Lawal (2021) carried out a study titled "Collateral-Free Microcredit and Small Business Sustainability in Lagos State." The research, focusing on data from 2014 to 2020, employed a probit regression method to examine the relationship between microcredit without collateral and the sustainability of small businesses. The study found that such microcredit reduced default rates and improved business sustainability, indicating that collateral-free financing mechanisms are vital for the long-term success of small enterprises.

Ademola & Akinyele (2020) conducted a study titled "Financial Inclusion and Access to Credit for SMEs in Lagos State." This research analyzed data from 2015 to 2019 using a logistic regression analysis to assess how the absence of collateral requirements impacted credit access for SMEs in Lagos. The results indicated that SMEs benefited significantly from easier access to credit, which in turn enhanced their financial inclusion and enabled them to compete more effectively in the market.

Balogun & Oni (2020) conducted a study titled "The Effects of Microcredit on Financial Inclusion in Lagos State SMEs." Covering data from 2013 to 2018, this research used a panel data analysis to explore the impact of microcredit schemes without collateral on the financial inclusion of SMEs in Lagos. The study found that these schemes were instrumental in enhancing financial inclusion, enabling SMEs to access much-needed funds to grow and sustain their businesses.



Olowokere & Ajayi (2019) performed a study titled "Collateral-Free Financing and SME Growth: Evidence from Lagos State." This research, which analyzed data from 2010 to 2017, employed a time series analysis to evaluate the impact of collateral-free financing on SME growth in Lagos State. The findings revealed that collateral-free financing significantly positively impacted SME growth, highlighting the importance of accessible credit in driving business expansion and economic development.

# 3.0 Methodology

The research study used a quasi-experimental research design methodology, which effectively combines theoretical principles with empirical observations to extract comprehensive insights from the available data. This approach is particularly suited for examining the impact of credit risk management on the performance of loan portfolios.

The population of the study comprises all SMEs in Lagos State, Nigeria. The study employed convenience sampling techniques. Secondary data utilised in this study was collected from the CBN statistical bulletin and World Development Indictors.

# 3.1 Model Specification

The regression equation for this work is specified as:

 $FINC_t = \beta_0 + \beta_1 ACGFS_t + \beta_2 SMEF_t + \beta_3 INT_t + \beta_4 EXR_t + \mu_t \dots 1$ 

the regression coefficients, denoted as  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ 

Where;

FINC = Financial inclusion (a proxy for credit to private sector as a percentage of the GDP).

ACGSF = Agricultural Credit Guarantee Scheme.

SMEF = SMEs financing

INT = Interest Rate

EXR = Exchange Rate

The present study employs panel data multiple regression analysis to investigate the relationships between response and predictor variables. Panel data, which combines elements of time series and cross-sectional data, allows for analysis across various individuals or entities observed over multiple time points. By using this technique, the study assessed the associations among variables without imposing complex distributional assumptions, focusing instead on minimizing the sum of squared errors to fit the regression model. This approach supports the study's objective of identifying significant predictors of financial inclusion and analyzing their influence over time.

# 4.0 Results

**Table 1: Descriptive Statistics** 

	FINC	ACGCF	SMEF	INT	EXR
Mean	9.704784	3556502.	6912.135	13.10488	126.1207
Median	8.248989	1050982.	8011.783	13.50000	118.5667
Maximum	19.62560	12456251	56209.90	26.00000	565.6540

Ojogbo, Nwagbara & Oko-Osi – financial planning for salaried employees and strategies for tax savings in Lagos State, Nigeria

Minimum	4.957522	24654.90	0.437393	6.000000	0.617708
Std. Dev.	3.758833	4074516.	8502.963	3.889201	136.2923
Skewness	0.856140	0.676690	4.575014	0.666053	1.302698
Kurtosis	2.919301	1.902103	27.63882	4.572982	4.298571
Jarque-Bera	5.264662	5.441319	1237.673	7.612395	15.18326
Probability	0.071911	0.065831	0.000000	0.022233	0.000505
Sum	417.3057	1.53E+08	297221.8	563.5100	5423.191
Sum Sq. Dev.	593.4107	6.97E+14	3.04E+09	635.2871	780174.9
Observations 43		43	43	43	43

Source: Researcher's computation 2024

# Mean and Median Analysis

The means represent average values across the dataset, while the medians indicate the central tendency, highlighting any skewness in the data. FINC (average financial indicator) has a mean of 9.70 and a median of 8.25, showing that most values are close to these averages with a slight skew towards higher values. ACGCF (aggregate gross capital formation) has a much higher mean (3,556,502) and median (1,050,982), suggesting a highly skewed dataset with occasional high values, as confirmed by a larger skewness value. SMEF (small and medium enterprise finance) has an average of 6,912, with a median of 8,011, indicating lower values may skew the distribution. INT (interest rate) and EXR (exchange rate) show means close to their medians, suggesting these variables are relatively symmetric.

### Standard Deviation and Volatility

Standard deviation measures how spread out the data points are. Here, FINC, INT, and SMEF have relatively lower standard deviations, indicating lower volatility. However, ACGCF and EXR, with deviations of 4,074,516 and 136.29, respectively, exhibit much higher variability. This variance in standard deviation suggests that while some financial metrics are stable, others, particularly capital formation and exchange rates, are highly volatile and may reflect economic conditions' impact on these variables.

### Distribution Characteristics (Skewness and Kurtosis)

Skewness and kurtosis provide insights into the data's symmetry and peakness. A skewness value of 0.86 for FINC and 0.67 for INT implies a moderately right-skewed distribution, whereas SMEF's skewness of 4.57 indicates a very asymmetric, right-skewed distribution. Kurtosis values above 3, such as SMEF (27.64) and EXR (4.30), suggest a leptokurtic distribution with heavy tails, indicating outliers or extreme values are more likely.

The kurtosis for ACGCF (1.90) suggests a relatively flatter, platykurtic distribution, indicating fewer extreme values.

# Normality and Jarque-Bera Test

The Jarque-Bera test assesses normality in the dataset. The probability values show that SMEF, INT, and EXR have significant deviations from normality (with probabilities near or below 0.05), suggesting that these variables do not follow a normal distribution. FINC and ACGCF, however, have probabilities above 0.05, indicating they may not significantly deviate from normality. This suggests that further transformations or non-parametric methods might be more appropriate for analyzing SMEF, INT, and EXR if assuming normality in statistical tests.

In summary, this dataset presents mixed distributions and variabilities across financial variables. While some indicators (like FINC and ACGCF) show moderate dispersion and a closer-to-normal distribution, others (like SMEF and EXR) demonstrate significant skewness, kurtosis, and departures from normality. This variability in characteristics suggests diverse underlying economic or financial factors influencing each metric.

Table 2: Regression Analysis

Dependent Variable: FINC

Method: Least Squares

Sample: 1981 2023

Included observations: 43

Variable	Coefficier t		t-Statistic	Prob.
ACGCF	0.40057	0.19016	0.426684	0.00111
SMEF	-0.050913	30.019444	-2.618413	0.0126
INT	-0.395512	20.119786	-3.301815	0.0021
EXR	0.152979	0.046295	3.304436	0.0021
С	1.085712	0.281681	3.854395	0.0004
R-squared	0.823163		ependent	0.95731 2
Adjusted R- squared	0.804548	S.D. dep	endent var	0.16046 9
S.F. of regression	0 070943	Akaike i	nfo criterior	- 2.34492 14

S.E. of regression 0.070943 Akaike info criterion 4

2.14013

Sum squared resid 0.191253 Schwarz criterion 4

Hannan-Quinn 2.26940

Log likelihood 55.41587 criter. 4

1.42083

F-statistic 44.22169 Durbin-Watson stat 1

Prob(F-statistic) 0.000000

Source: Researcher's computation 2024

Starting with the Agricultural Credit Guarantee Scheme (ACGCF), the coefficient of 0.40057 suggests a positive and significant effect on financial inclusion, with a p-value of 0.00111. This indicates that an increase in ACGCF is associated with an increase in financial inclusion, supporting the hypothesis that the scheme effectively enhances access to financial services. Given the positive coefficient, this outcome reinforces the notion that targeted credit schemes can foster financial inclusivity by providing necessary resources to underserved sectors, potentially leading to broader economic benefits.

Conversely, the variable SMEF shows a negative coefficient of -0.050913 with a p-value of 0.0126, indicating that small and medium enterprise finance negatively impacts financial inclusion. This finding may suggest that, despite efforts to support SMEs, there could be challenges in integrating these enterprises into the broader financial system, which could be limiting financial access for certain segments of the population. Additionally, the interest rate (INT) presents a significant negative coefficient of -0.395512 (p-value 0.0021), indicating that higher interest rates are associated with lower financial inclusion. This is consistent with the expectation that elevated borrowing costs may deter individuals and businesses from seeking financial services, further emphasizing the need for more favorable lending conditions to improve inclusion.

The overall model shows a strong fit, with an R-squared value of 0.823163, indicating that approximately 82.32% of the variability in financial inclusion can be explained by the independent variables included in the model. The Durbin-Watson statistic of 1.420831 indicates potential issues with serial correlation, warranting caution in interpreting the results. However, the significant F-statistic (44.22169) and its associated p-value (0.000000) affirm that the model provides a statistically significant explanation for variations in financial inclusion, supporting the hypothesis that the Agricultural Credit Guarantee Scheme positively influences financial access while highlighting areas of concern with SME finance and interest rates.

### 5.0 Discussions and Recommendations

The analysis reveals several key insights into the factors influencing financial inclusion in Nigeria. First, the Agricultural Credit Guarantee Scheme Fund (ACGSF) significantly and positively affects financial inclusion, as evidenced by a strong positive coefficient (0.40057, p = 0.00111). This result implies that government-backed credit schemes targeting agricultural sectors improve access to financial services. However, financing for small and medium

enterprises (SMEF) appears to have a negative effect on financial inclusion, with a coefficient of -0.050913 (p = 0.0126). High interest rates also negatively impact financial inclusion, as shown by their significant negative coefficients in both models. Additionally, the exchange rate (EXR) positively influences financial inclusion, suggesting a potential indirect effect of currency stability on financial accessibility.

Enhancing Agricultural Credit Programs: Policymakers should consider expanding the Agricultural Credit Guarantee Scheme Fund to further support rural and underserved sectors, as it has proven effective in promoting financial inclusion.

Improving SME Financing Models: Given the negative impact of SMEF on financial inclusion, efforts should be made to redesign SME financing policies. This could involve providing lower interest rates and reducing collateral requirements to enhance access for small businesses.

Reducing Borrowing Costs: To address the deterrent effect of high-interest rates on financial inclusion, monetary authorities should consider adopting policies aimed at reducing borrowing costs, making financial services more accessible to lower-income individuals and SMEs.

Ensuring Exchange Rate Stability: Central banks should prioritize policies that enhance exchange rate stability, as favorable exchange rates can indirectly boost financial inclusion by stimulating economic activity.

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