Determinants of Financial Inclusion among Small and Medium Enterprises in the Sub-Saharan Context: Empirical Evidence from Kitwe, Zambia

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ABSTRACT

This investigation delineates the determinants of financial inclusion among Small and Medium Enterprises (SMEs) within the Kitwe District of Zambia, a region vital to the nation's industrial fabric yet plagued by persistent credit accessibility constraints. Employing a rigorous quantitative correlational research design, the study uses a sample of 312 SMEs to examine the relationship between supply-side factors, demand-side variables, market opportunities, borrowing costs, collateral requirements and financial inclusion. The empirical evidence, derived through hierarchical multiple regression analysis, demonstrates that demand-side factors ($\beta = 0.232$, $p < 0.1\%$), market opportunities ($\beta = 0.260$, $p < 0.1\%$), collateral requirements ($\beta = 0.224$, $p < 0.1\%$), and the cost of borrowing ($\beta = 0.206$, $p < 0.1\%$) constitute statistically significant predictors of financial inclusion. Conversely, supply-side factors ($\beta = -0.101$, $p > 5\%$) yield an insignificant influence when other variables are controlled, suggesting a profound demand-side dominance in the Zambian credit market. These findings underscore that the mere proliferation of financial institutions is insufficient to bridge the inclusion gap without accompanying reforms in SME internal capacity and the mitigation of prohibitive capital costs. The research offers a substantial contribution to the development finance discourse in Sub-Saharan Africa by providing a localized empirical foundation for policy interventions aimed at rectifying the systemic exclusion of the enterprise sector in Zambia.

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1. Introduction

The architectural integrity of the Zambian economy is fundamentally anchored in the performance of its Small and Medium Enterprise (SME) sector. These enterprises represent an overwhelming 97% of the total business environment, contributing approximately 70% to the national Gross Domestic Product (GDP) and accounting for 88% of aggregate employment (Chilembo, 2021). Beyond these macroeconomic metrics, SMEs serve as the primary vehicle for inclusive growth, possessing the unique capacity to absorb vulnerable labor segments, including youth and women, into the formal value chain (Zaloumis and Foya, 2022). Consequently, the financial inclusion of these firms is not merely an economic objective but a strategic prerequisite for national stability and social equity. Despite their central role, Zambian SMEs operate within an exclusionary equilibrium characterized by a widening chasm between their potential and their access to formal financial resources (Mukendi and Manda, 2022).

A critical research problem is identified in the paradox of Zambia's recent economic trajectory. While the government's economic recovery initiatives targeted real growth exceeding 3% by 2022, empirical data from the Bank of Zambia and the International Labour Organization manifest a little to no improvement in financial participation. Access to formal bank credit for SMEs remains low (Kaulu, Simutami, Mwape and Lubinda, 2023). This stagnation occurs amidst a global push for universal financial access and FDI inflows (Haabazoka and Kaulu, 2023), highlighting a systemic failure in the transmission mechanisms of credit within the domestic market. The persistence of this gap suggests that traditional interventions focused on banking infrastructure have reached a point of diminishing returns, necessitating a more granular investigation into the underlying determinants of exclusion.

A contextual gap pervades the existing literature on development finance in Zambia. While broader studies have examined financial inclusion among individuals and in the capital city of Lusaka or agricultural hubs like Choma

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(Zaloumis and Foya, 2022), the Kitwe District—a critical mining and commercial node—has remained empirically neglected. Kitwe's unique economic profile, driven by mining-related services and high-volume trade, suggests that the determinants of credit access may manifest with idiosyncratic intensity. This study addresses this deficiency by evaluating five primary research objectives: the influence of supply-side factors, demand-side characteristics, market opportunities, borrowing costs, and collateral requirements on the financial inclusion of Kitwe-based SMEs.

This article is structured to provide a sophisticated progression through the empirical investigation. Following this introduction, the theoretical framework synthesizes capital structure and information asymmetry theories to establish the study's conceptual boundaries (Bose, Saha, Khan and Islam, 2017). The methodology section details the quantitative rigor of the correlational design, followed by an exhaustive analysis of results utilizing hierarchical regression. The discussion section interprets these findings within the broader Sub-Saharan African context, culminating in a series of targeted policy recommendations aimed at government stakeholders, financial institutions, and SME management.

2. Literature Review

2.1. Introduction

The theoretical landscape of development finance necessitates a multi-dimensional lens to capture the complexities of the SME financing gap. Relying on a singular theoretical construct often obviates the nuanced realities of emerging markets, where institutional voids and market frictions are endemic. In Zambia, the persistence of the SME credit gap suggests a failure of classical financial paradigms to account for the specific behavioral and structural constraints faced by indigenous firms.

2.2. Theoretical Literature Review

The foundational discourse on financial inclusion must be interrogated through the Irrelevance Theorem of Capital Structure proposed by Modigliani and Miller. This theorem posits that in a frictionless market, a firm's value is independent of its financing method, implying that internal and external funds are perfect substitutes. However, the Zambian context exacerbates the flaws in this theorem; the high degree of market friction and institutional fragility ensures that internal and external resources are far from interchangeable. For Kitwe's SMEs, the "irrelevance" of capital structure is a luxury they cannot afford, as the lack of external credit often precipitates business failure regardless of the firm's underlying value.

Contrasting this is the Trade-Off Theory, which suggests that firms establish a target debt-to-equity ratio by balancing the tax advantages of debt against the potential costs of bankruptcy. While this provides an elegant framework for large, listed corporations, its applicability to Zambian SMEs is constrained by the "structural ossification" of the credit market. Many SMEs in Kitwe do not seek an optimal balance but rather experience a perpetual state of capital starvation where the marginal cost of formal credit—inclusive of interest and bureaucratic friction—frequently exceeds the marginal benefit of tax shields.

The Pecking Order Theory, developed by Myers and Majluf, offers a more robust explanation for the credit paradox in Zambia (Choongo, Paas, Masurel, van Burg and Lungu, 2019). This theory, predicated on the existence of Information Asymmetry, suggests that firms follow a hierarchy of financing sources, prioritizing internal funds first, followed by safe debt, and only utilizing external equity as a last resort. In Kitwe, Information Asymmetry manifests acutely; SME owners possess superior knowledge of their operational risks, while financial institutions, lacking reliable credit scoring data, perceive SMEs as high-risk entities. This information gap leads to the imposition of stringent collateral requirements and high interest rates, effectively trapping Zambian SMEs at the first stage of the pecking order. This reliance on internal funds is not a strategic preference but a defensive necessity driven by the prohibitive costs of crossing the threshold into formal credit.

2.3. Empirical Literature Review

Global empirical trends highlight a consistent narrative: SMEs are the engines of innovation yet remain financially marginalized. In high-income economies, formal SMEs contribute significantly to GDP, whereas in Sub-Saharan Africa, the sector often stagnates due to infrastructure deficits and delayed payments. Studies from Kenya (Bekele, 2023), Nigeria (Akingunola, Olowofela and Yunusa, 2018; Aladejebi, 2019; Okoroafor, Adeniji, Awe, David, Oluseyi and Emmanuel, 2018), Uganda (Lakuma, Marty and Muhumuza, 2019; Eton, Mwosi, Okello-Obura, Turyehebwa and Uwonda, 2021), and Ethiopia Desalegn (2021); Oshora, Desalegn, Gorgenyi-Hegyes, Fekete-Farkas and Zeman (2021) corroborate that while SMEs are the backbone of employment, they face idiosyncratic hurdles ranging from a lack of

managerial expertise to severe regulatory burdens. In Ghana, for instance, SMEs employ 60% of the workforce but are hindered by credit constraints that limit their technological integration. Similarly, in Tanzania, despite early SME development policies, firms struggle with high interest rates and limited access to raw materials.

Zambia-specific literature manifests significant inconsistencies regarding the definitive predictors of inclusion. While researchers like Zaloumis and Foya (2022) identify a stark gender gap in Lusaka and Choma—noting that women-owned MSMEs predominantly utilize informal mobile money services over formal bank accounts—other studies find no significant correlation between owner age or gender and financial participation. Recent investigations in the Copperbelt suggest that while financial literacy is vital, it does not always translate to credit access if collateral hurdles remain insurmountable (Kaulu et al., 2023). This study juxtaposes these regional findings with the unique commercial environment of Kitwe, arguing that the digital divide and the shift toward mobile finance may be altering the traditional determinants of inclusion (Nan and Park, 2022), yet the core barrier remains the structural cost of formal capital.

3. Methodology

3.1. Research Design

The selection of a quantitative correlational design was a strategic mandate intended to provide the statistical rigor necessary for a high-impact academic investigation. This design facilitates the prediction of outcomes and clarifies the direction and strength of relationships between multiple independent variables and the dependent variable of financial inclusion. By transforming survey-based perceptions into quantifiable metrics, the study applies econometric modeling to test hypothesized relationships within the Kitwe SME sector with a level of precision that corroborates international peer-review standards.

The research focuses on the population of SMEs in the Kitwe District of Zambia. Utilizing the Raosoft sample size calculator with a 95% confidence level and a 5% margin of error, the sampling frame was established at 377, from which 312 valid responses were secured. A random systematic sampling method was employed to ensure that the findings maintain external validity and are representative of the diverse industries—retail, manufacturing, and services—that constitute the Kitwe economy. This sample size is statistically sufficient to satisfy the requirements of normality and allows for the application of robust regression techniques.

The model specification for this study is defined by the following multiple regression equation:

$$FI = \beta_0 + \beta_1(SS) + \beta_2(DS) + \beta_3(MO) + \beta_4(COB) + \beta_5(CR) + \epsilon$$

In this model, FI represents Financial Inclusion as the dependent variable. The independent variables are SS (Supply-side factors), DS (Demand-side factors), MO (Market Opportunity), COB (Cost of Borrowing), and CR (Collateral Requirements), with ϵ representing the error term.

To ensure the reliability of the research instrument, Cronbach's Alpha scores were calculated for each construct. The Supply-side factors yielded a score of 0.935, while Financial Inclusion achieved a high internal consistency of 0.958. Market Opportunity (0.962), Cost of Borrowing (0.863), and Collateral Requirements (0.845) all exceeded the 0.70 threshold for reliability. Even Demand-side factors, at 0.661, remained within the acceptable parameters for social science research.

Before the multivariate analysis, the dataset was subjected to rigorous preliminary statistical checks. Tests for Skewness, Kurtosis, and the Kolmogorov-Smirnov test confirmed that the data adhered to normality assumptions. Furthermore, the assessment of multicollinearity indicated that the predictor variables were distinct, ensuring that the regression models would provide a valid representation of the unique contribution of each determinant to the variance in financial inclusion.

4. Results and Analysis

The transition from raw survey data to actionable economic insight necessitates a detailed analysis of the sample profile alongside correlation and regression outputs. The results underscore the necessity of moving beyond surface-level observations to identify the specific levers that either facilitate or impede the inclusion of SMEs in Kitwe's formal financial ecosystem.

Table 1
Sample Profile and Organizational Characteristics (n=312)

Characteristic	Category	Frequency	Percentage
Gender	Male	255	81.7%
	Female	57	18.3%
Academic Qualification	Primary or Below	42	13.5%
	Grade 12	100	32.1%
	Certificate/Diploma	116	37.2%
	Degree/Masters/PhD	54	17.3%
Organization Type	Partnership	171	54.8%
	Sole Proprietor	56	17.9%
	Public Limited Company	70	22.4%
	Family-owned Business	15	4.8%
Finance Source	Financial Institution Credit	217	69.6%
	Personal Savings/Friends	95	30.4%

Table 2
Pearson Correlation Matrix

Variable	1	2	3	4	5	6
1. Financial Inclusion	1.000					
2. Supply-side	0.387**	1.000				
3. Demand-side	0.515**	0.407**	1.000			
4. Market Opp	0.555**	0.389**	0.435**	1.000		
5. Cost of Borrow	0.496**	0.354**	0.352**	0.456**	1.000	
6. Collateral Req	0.547**	0.366**	0.428**	0.589**	0.545**	1.000

Note. ** $p < 0.01$

4.1. Descriptive and Correlation Analysis

The demographic profile of the 312 respondents reflects a predominantly male-led entrepreneurial landscape, with nearly 82% of firms headed by men. Interestingly, the majority of these firms (54.8%) operate as partnerships, suggesting a collaborative approach to resource pooling in a restrictive capital environment. Academic qualifications vary significantly, though a plurality (37.2%) holds a certificate or diploma, highlighting a baseline level of formal education among Kitwe's entrepreneurs.

To assess the bivariate relationships between the variables, a Pearson Correlation Matrix was generated, revealing a robust association between the hypothesized determinants and the inclusion outcome.

The correlation matrix manifests a robust moderate-to-strong association between Market Opportunity (r=0.555) and Financial Inclusion, followed closely by Collateral Requirements (r=0.547). This underscores that the strategic positioning of a firm and its ability to navigate asset-based requirements are more influential than mere supply availability.

4.2. Hierarchical Regression Results

The hierarchical multiple regression analysis provides a sophisticated evaluation of how each construct contributes to the total variance in financial inclusion while controlling for demographic and organizational characteristics.

Table 3
Hierarchical Multiple Regression (Dependent Variable: Financial Inclusion)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		
	Beta	**S.E 1**	**Beta**	**S.E 2**	**Beta**	**S.E 3**	**Beta**	**S.E 4**	**Beta**	**S.E 5**	**Beta**	**S.E 6**	**VIF**
Control Variables													
Gender	-0.143*	0.101	-0.083	0.102	-0.051	0.096	-0.021	0.092	-0.022	0.089	-0.002	0.087	1.290
Academic qualification	0.223***	0.027	0.181**	0.026	0.126*	0.025	0.049	0.025	0.020	0.024	-0.029	0.024	1.472
Type of organisation	0.202***	0.050	0.137	0.051	0.125*	0.048	0.099*	0.046	0.086	0.044	0.076	0.043	1.261
Finance start up for the business	-0.069	0.066	-0.054	0.065	-0.029	0.060	-0.026	0.058	-0.021	0.056	0.007	0.055	1.046
Independent Variables													
Supply-Side Factors			0.239***	0.058	0.125*	0.056	0.034	0.056	-0.059	0.058	-0.101	0.057	1.871
Cost of Borrowing					0.366***	0.060	0.320***	0.058	0.232***	0.060	0.206***	0.059	1.493
Demand-Side Factors							0.314***	0.075	0.276***	0.073	0.232***	0.072	1.687
Collateral Requirements									0.282***	0.067	0.224***	0.067	1.997
Market Opportunity											0.260***	0.047	1.932
F	16.398***		17.091***		24.449***		27.349***		28.373***		28.950***		
F Change	16.398***		16.544***		48.088***		30.542***		22.195***		19.617***		
R	0.420		0.467		0.570		0.622		0.654		0.681		
R Squared	0.176		0.218		0.325		0.386		0.428		0.463		
R Squared Adjusted	0.165		0.206		0.311		0.372		0.413		0.447		
R Squared Change	0.176		0.042		0.106		0.062		0.042		0.035		

*** Sig at 0.1%, ** Sig at 1%, * Sig at 5%

A critical transformation is observed in the Supply-side variable. While Supply-side factors appeared statistically significant in Model 2 (β = 0.239), they became entirely insignificant in the final Model 6 (β = -0.101, p > 5%) when demand-side and cost variables were introduced. The negative direction of this coefficient, though insignificant, suggests that increased supply without accompanying reforms might exacerbate bureaucratic friction or highlight product mismatches. In contrast, Market Opportunity (0.260) and Demand-side factors (0.232) emerged as the most potent predictors, explaining a cumulative 44.7% of the variance.

5. Discussion of Findings

The interpretation of these empirical findings within the broader Sub-Saharan development context underscores a systemic "credit paradox." The evidence highlights a failure in the supply-side paradigm; the mere proliferation of financial institutions does not equate to inclusion if the services offered are not affordable or appropriately tailored. The insignificance of supply-side factors in the final regression model suggests that Kitwe's credit market suffers from a saturation of presence that does not translate into utilization.

The identified "Demand-Side Dominance" (β = 0.232) provides empirical weight to the argument that internal firm characteristics—strategic planning, managerial experience, and formal bookkeeping—are the true gateways to credit. This corroborates the Pecking Order Theory (Choongo et al., 2019), as firms with robust internal structures are better positioned to mitigate Information Asymmetry and signal their creditworthiness to lenders (Esubalew and Raghurama, 2020). Furthermore, the dominance of Market Opportunity (β = 0.260) as the strongest predictor suggests that financial institutions in Kitwe are highly risk-averse; they do not lend based on firm potential alone but require clear evidence of market growth and technological adaptability. This environmental sensitivity implies that in times of economic volatility, even well-managed SMEs will face exclusion if the market outlook is stagnant.

The significance of "Collateral and Cost" barriers (β = 0.224 and 0.206, respectively) directly exposes the root cause of the financing gap: Information Asymmetry. Because Zambian banks cannot effectively gauge the risk profile of Kitwe's SMEs, they resort to high interest rates and mandatory asset-based collateral as risk-mitigation instruments (Chilembo, 2021). This creates an environment where only "asset-rich" enterprises can participate, while innovative but asset-light firms are perpetually marginalized. The transition of the supply-side factor to an insignificant negative value in the final model is particularly telling; it underscores that adding more banks to the Kitwe landscape will not solve the inclusion problem if the structural ossification of collateral requirements and high interest rates remains unaddressed. This mismatch between institutional offerings and SME realities necessitates a fundamental shift in both government policy and institutional strategy.

6. Conclusion and Policy Implications

This investigation provides a definitive empirical contribution to the field of development finance by identifying the specific determinants that facilitate or impede SME financial inclusion in Kitwe, Zambia. The study concludes that the mere availability of financial services is insufficient to drive inclusion. Instead, the process is governed by a complex interplay of demand-side readiness, market opportunities, and the prohibitive thresholds of collateral and capital costs.

6.1. Policy Recommendations

For Government and Policymakers, the findings necessitate an immediate "Review of Collateral Policies." The state should prioritize the implementation of a national credit guarantee scheme that recognizes moveable assets and reputational collateral, thereby broadening the eligibility pool for SMEs. Additionally, the government must invest in "Targeted Financial Literacy Programs" that go beyond basic accounting to help SME owners navigate the complexities of formal debt acquisition and strategic market positioning Anshika, Singla and Mallik (2021); Dhlembeu, Kekana and Mpinda (2022). Such interventions would reduce Information Asymmetry and lower the perceived risk for lenders.

For Financial Institutions, the results demand a "Reassessment of Supply-Side Strategies." Banks must transition from traditional brick-and-mortar expansion to developing flexible, life-cycle-based credit products. This includes the adoption of more affordable interest rate structures and the utilization of digital finance platforms to reduce the "bureaucratic friction" that currently discourages SME participation Babajide (2020). Institutions should also focus on rural marketing and the expansion of services to under served commercial segments of Kitwe to capitalize on the identified market opportunities.

For SME Owners, the implication is that internal capacity building is the primary lever for inclusion. Management must prioritize formal bookkeeping, strategic business planning, and the adoption of new technologies (Toomsalu,

Tolmacheva, Vlasov and Chernova, 2019; Yang and Zhang, 2020) to enhance their firm's "market attractiveness." By improving internal transparency and operational efficiency, SMEs can transition from being passive credit-seekers to active, bankable partners within the formal financial system.

6.2. Limitations and Future Research

The research acknowledges its geographic limitation to the Kitwe district and the cross-sectional nature of the data, which captures only a temporal snapshot of the SME sector. Future research should prioritize longitudinal studies to track how the rapid expansion of digital and mobile money services impacts these determinants over time (Nan and Park, 2022). Furthermore, investigating the potential mediating effects of technology on the relationship between supply-side factors and inclusion would provide deeper insight into the negative beta observed in this study. Expanding the scope to include a comparison between mining-hub SMEs and agricultural-hub SMEs would further enrich the national discourse on Zambian development finance.

It is also important to note that there were some significant correlations among some independent variables. This introduces the potential for multicollinearity within the analytical model, which can complicate the interpretation of the results. Specifically, when predictor variables are highly interrelated, it becomes mathematically difficult to isolate the individual, independent effect of each variable on the dependent outcome. Consequently, the standard errors of the affected coefficients may be inflated, potentially reducing the statistical power to detect true associations and making the model more sensitive to minor fluctuations in the data.

Therefore, to better navigate these overlapping effects, future research on SME financing in Zambia should consider employing advanced data reduction techniques, such as principal component analysis (PCA). This would allow researchers to group highly interrelated variables—perhaps combining aspects of 'financial literacy' and 'managerial experience' into a broader 'managerial capacity' construct—to isolate their true impact. Additionally, future studies could build upon this quantitative foundation by adopting a mixed-methods approach to explore the qualitative nuances of how these regulatory and managerial factors interact. Finally, expanding the geographical scope beyond Kitwe and utilizing larger, more diverse sample sizes or longitudinal designs would help validate the distinct, long-term impact of these variables on access to finance.

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