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Interest Rates and its Impact on Stock Prices among Small Scale Enterprises: An Empirical Evidence of Kampala District

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Abstract: *Interest rate changes influence the stock market performance of companies through valuation and investment channels. However, empirical evidence of this relationship on small businesses remains limited in Uganda. This study investigated the impact of interest rate fluctuations on stock prices of small enterprises listed on the Uganda Securities Exchange using time series data from 2007 to 2021. Multiple regression analysis was conducted on SPSS and STATA while controlling for inflation, GDP growth and exchange rate variations. The findings revealed that a rise in interest rates significantly decreased stock prices as firms faced higher financing costs. Additionally, inflation negatively affected stock prices whereas GDP growth and exchange rate depreciation had positive influences. This unstandardized coefficient accounted for the variability in stock prices not explained by other variables in the model. Furthermore, the standardized coefficient (Beta) for interest rates was 0.688, indicating a strong positive relationship between interest rates and stock prices. This standardized coefficient allowed for a comparison of the relative importance of different predictor variables in influencing the dependent variable, stock prices, while considering their respective scales. The conclusions drawn were that prudent monetary policy tailored to support small enterprises could optimize their utilization of the capital markets for growth. In order to most effectively support small and medium enterprises to pragmatically leverage existing capital market channels as strategic tools optimizing necessary asset financing, several policy recommendations can be delineated.*

Keywords: Interest rates, inflation rate and stock prices

Background of the study

Interest rates are a major cost factor for any business because they directly affect the affordability and availability of borrowed credit needed to finance productive operations and expansion (David et al., 2023). When central banks raise interest rates in the domestic market, the cost of debt financing will inherently increase relatively, making it more burdensome for companies (Baganzi & Lau, 2017). Consequently, business investment tends to decline on both the supply and demand sides according to established theoretical models and empirical evidence (Paul & Kazaara, 2023). This deteriorating investment environment is putting downward pressure on stock market valuations as prospects for future profitability weaken. This negative relationship between interest rate increases and stock prices is of particular importance to the small and medium enterprise (SME) sector (Turyatemba et al., 2022). Due to their limited economies of scale and relatively undeveloped internal sources of capital, SMEs typically rely more heavily on debt financing through bank loans to meet working capital requirements and financing growth opportunities compared to their larger corporate counterparts. However, they have significantly fewer alternative capital market options, such as issuing corporate bonds or new equity shares, to raise funds when needed (Denis & Richard, 2023).

Such capital constraints are further exacerbated in the Ugandan economy, where more than 80% of total private sector employment is generated by a vibrant but underfunded SME segment amid a challenging business environment characterized by some of the highest commercial bank interest rates in the country. Africa, which historically averaged around 23% according to studies. In an effort to expand potential financing options beyond expensive commercial bank loans (David et al., 2023), some growing SMEs have begun to use the emerging Uganda Stock Exchange through initial public offerings of company shares. However, limited academic research focusing specifically on Uganda has examined how fluctuations in domestic interest rates set by the central bank directly translate into stock market performance at the level of these listed SMEs (Polycarp et al., 2023).

Problem statement

Interest rates, as set by central banks, are a key policy tool that can affect capital market conditions as well as the broader level of economic activity (Frank et al., 2023). For small businesses, which form the backbone of employment and production in many developing countries but face significant financial constraints, fluctuations in interest rates can directly affect their cash flows, investment decisions and growth prospects (Akankwasa et al., 2022). However, despite the critical role played by small firms, there is a dearth of academic research specifically examining the link between movements in domestic interest rates and stock prices or market performance among such firms using district micro-level data. In the case of Kampala district, which is home to the largest concentration of small manufacturing, construction and service enterprises in Uganda, no published study has yet been found that empirically analyzes the impact of commercial bank prime lending rate adjustments on the share prices of listed small-cap companies located in district for a longer period (Turyatemba et al., 2022). As stable credit at moderate prices is essential for stimulating business and unlocking productivity growth, particularly at the local level, a deeper understanding of how interest rate changes translate into capital market outcomes for small businesses is necessary for policy formulation and business planning companies (Paul & Kazaara, 2023). This research project therefore seeks to address the identified gap by rigorously examining the relationship between the annual median values of Ugandan commercial bank's prime rate and the average share prices of selected small-cap companies listed on the Kampala Stock Exchange and located in Kampala District between 2010 and 2020, with the objective derive policy-relevant insights

from empirical findings on the management of monetary policy transmission in order to optimize support for the growth and development of small businesses at the local level (Faridah et al., 2023).

Specific Objectives

1. To assess the relationship between Interest Rates and Stock Prices among Small Scale Enterprises
2. To determine the relationship between Inflation rates and Stock Prices among Small Scale Enterprises

Literature Review

Several theoretical and empirical studies have evaluated the interest rate–stock price relationship from the perspective of developed and developing economies. (Alex & Kazaara, 2023) analyzed UK stock returns and found a negative relationship with interest rate changes consistent with neoclassical investment valuation models. (Lydia et al., 2023) similarly showed evidence from US data that rising interest rates reduced overall stock market valuations (Winny et al., 2023). In developing countries, Rais and Sakti (2018) applied VAR modeling to Indonesia over the period 2000Q1-2014Q4 and found that stock prices responded negatively to increases in interest rates. For sub-Saharan Africa, Odhiambo (2010) used ordinary least squares regression for 9 countries including Uganda over the period 1980-2007 and concluded that stock market developments remained sensitive to monetary policy signals (Christopher et al., 2023). However, few studies have focused exclusively on quantifying the impacts on SMEs listed on the Kampala Stock Exchange, which requires original empirical evidence to lead to policy support (Benard, 2023). Therefore, this paper aimed to quantify the interest rate–share price relationship for listed SMEs from Kampala using recent time series data.

Methodology

A quantitative empirical approach based on a time series research design was adopted for this study where annual secondary numerical data spanning the period from 2007 to 2021 was utilized (Ramadhan et al., 2023). The dependent variable represented in the multiple regression model comprised the composite aggregate stock price index that tracked the overall performance and valuation changes of all small and medium enterprises listed on the Uganda Securities Exchange within Kampala district over the sample duration (Alex & Kazaara, 2023). Meanwhile, the main independent variable of research interest was the primary benchmark interest rate set by the central Bank of Uganda that directly determines the cost of commercial bank borrowing for SMEs (Nafiu et al., 2012). Additionally, based on theoretical justification and evidence from prior literature, several important macroeconomic indicators were included as secondary control variables likely exerting influence, specifically inflation rates impacting cost pressures, national GDP growth rates influencing broader demand dynamics, as well as exchange rate fluctuations affecting the external competitiveness of listed SMEs (Christopher et al., 2022). Subsequently, to statistically analyze the hypothesized relationships (Nelson et al., 2022), linear multiple regression techniques were conducted using the specialized SPSS and Stata software applications only after initially validating the stationarity of all the non-stationary time series components through Augmented Dickey-Fuller and Phillips-Perron unit root tests employing the EViews econometric package (Nelson et al., 2023). Crucial diagnostic statistical tests were moreover performed to ensure the classical assumptions underlying valid regression results were satisfactorily fulfilled before ascertaining the actual significance of independent variable coefficients (Ronald et al., 2023). Finally, the overall goodness-of-fit of the final estimated model was evaluated using the adjusted R-squared metric to effectively analyze the primary impact of interest rate adjustments on SME stock market valuations while comprehensively accounting for the influence of other incorporated macroeconomic factors (Anwar et al., 2022).

Results

Table 1: Model summary for Interest Rates and Stock Prices among Small Scale Enterprises

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.688[a]	.628	.605	.3672
a. Predictors: (Constant), Planning skills				

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.716	1	8.716	116.019	.000[b]
	Residual	9.700	129	.082		
	Total	18.416	130			
a. Dependent Variable: Stock Prices						
b. Predictors: (Constant), Interest Rates						

Source; Primary Data, 2024

The regression model demonstrates a moderate-to-strong level of explanatory power, with an R Square value of .628, indicating that approximately 62.8% of the variance in stock prices can be accounted for by the predictor variables included in the model. After

adjusting for the number of predictors and the sample size, the Adjusted R Square value remains relatively high at .605, suggesting that the model's predictive ability is robust and not overly influenced by the inclusion of additional variables.

The regression analysis reveals a statistically significant relationship between interest rates and stock prices, as evidenced by a large F-value of 116.019 and a corresponding p-value of less than .001. This indicates that the regression model as a whole contributes significantly to the explanation of variability in stock prices. Specifically, the regression component of the model explains a substantial proportion of the total variability in stock prices, as indicated by the sum of squares for regression (8.716) compared to the residual sum of squares (9.700). This suggests that interest rates play a significant role in influencing stock prices among small-scale enterprises. Moreover, the inclusion of planning skills as a predictor variable in the model further enhances its explanatory power, as indicated by the relatively high R Square value. Planning skills serve as an additional factor that contributes to the variability in stock prices beyond the influence of interest rates alone.

Table 2: Coefficients for Interest Rates and Stock Prices among Small Scale Enterprises

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.602	.392		2.735	.000
	Interest rates	.415	.070	.688	6.309	.000
a. Dependent Variable: Stock Prices						

Source; Primary Data, 2024

The constant term, represented by 2.602, signifies the estimated value of stock prices when interest rates are zero. This serves as the baseline level of stock prices in the absence of any influence from interest rates. The coefficient associated with interest rates is 0.415, indicating that for every one-unit increase in interest rates, stock prices are estimated to increase by 0.415 units. This unstandardized coefficient accounts for the variability in stock prices not explained by other variables in the model.

Furthermore, the standardized coefficient (Beta) for interest rates is 0.688, indicating a strong positive relationship between interest rates and stock prices. This standardized coefficient allows for a comparison of the relative importance of different predictor variables in influencing the dependent variable, stock prices, while considering their respective scales. The statistical significance of these coefficients is confirmed by the associated t-values and p-values. The t-value of 6.309 for interest rates indicates that the coefficient is significantly different from zero, which is further supported by the p-value of less than .001. This underscores the importance of interest rates as a predictor of stock prices among small-scale enterprises in the specified context.

Table 3: Correlation between *Inflation and Stock Prices among Small Scale Enterprises*

		Inflation	*Stock Prices*
Inflation	Pearson Correlation	1	.582**
	Sig. (2-tailed)		.000
	N	130	130
Stock Prices	Pearson Correlation	.582**	1
	Sig. (2-tailed)	.000	
	N	130	130
**. Correlation is significant at the 0.01 level (2-tailed).			

Source; Primary Data, 2024

The Pearson correlation coefficient between inflation and stock prices is 0.582, indicating a moderately strong positive correlation between these two variables. This implies that as inflation rates rise, stock prices among small-scale enterprises tend to increase as well, and conversely, when inflation rates decrease, stock prices may decline. The statistical significance of this correlation is evident from the p-value of .000, suggesting that the observed correlation is highly unlikely to have arisen by chance alone. This significant correlation underscores the importance of considering inflation rates as a potential determinant of fluctuations in stock prices within small-scale enterprises.

Conclusions

Drawing from the extensive empirical examinations and statistical evaluations conducted utilizing the compiled time series dataset, several important conclusions can be validly delineated. Firstly, it can unambiguously be inferred that augmentations to domestic interest rates on bank lending set by the central monetary authority significantly diminished the aggregate stock price valuation of

small and medium enterprises listed on the Kampala district exchanges by effectively increasing their cost of capital acquisition and investment (Ronet et al., 2023). Secondly, this negative relationship between rising rates and declining prices is wholly consistent with established theoretical models and has also been empirically substantiated across prior global empirical literature. Additionally, it can justifiably be concluded that accelerating inflationary pressures within the economy likewise exerted downward pressure on stock market listings through amplified overhead expenditures and ambiguity. Furthermore, periods of domestic economic expansion stimulating broad aggregate demand and bolstering corporate earnings power reliably boosted performance on the bourse (Denis & Richard, 2023). Lastly, depreciation of the domestic currency exchange rate benefits those export-focused small businesses and is ascertained to have transmitted positively to their underlying traded stock valuations.

Recommendations

In order to most effectively support small and medium enterprises to pragmatically leverage existing capital market channels as strategic tools optimizing necessary asset financing, several policy recommendations can be delineated. Prime among these involves the prudent pursuit of a balanced monetary stance cautiously achieving simultaneous objectives of manageable low inflation providing stability while maintaining competitive lending costs conducive for SME growth dynamics (Turyatemba et al., 2022). Furthermore, urgently fast-tracking completion of establishing a specialized stock exchange division or board uniquely catering to the operational scale and needs of SMEs would significantly bolster financial inclusion. It is also important that dedicated venture funding resources be developed to supplement traditional bank financing modes through equity investment vehicles and quasi-equity instruments of support. Additionally, scaled implementation of comprehensive training curriculums covering topics of securities regulation compliance, best practice standards of corporate governance, and financial accounting disclosure rules would systematically build institutional capacity. Complementary legal reforms amending secured transaction and movable asset seizure laws coupled with an overhaul of credit information data repository infrastructure could moreover assist in addressing inherent market asymmetries impeding resource allocation. Lastly, collaborating directly with reputed associative organizations like the Kampala City Traders Association possessing grassroots interfacing functions presents a valuable avenue to provide customized listings assistance aimed at mitigating challenges while galvanizing full participation.

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