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## Article

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Journal of Risk and Financial Management

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*Suggested Citation:* Mallinguh, Edmund; Zoltan, Zeman (2022) : Financial institution type and firm-related attributes as determinants of loan amounts, Journal of Risk and Financial Management, ISSN 1911-8074, MDPI, Basel, Vol. 15, Iss. 3, pp. 1-12, <https://doi.org/10.3390/jrfm15030119>

This Version is available at:

<https://hdl.handle.net/10419/258842>

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Article

# Financial Institution Type and Firm-Related Attributes as Determinants of Loan Amounts

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**Abstract:** Access to formal credit remains critical for business operations, particularly for firms unable to generate sufficient funds internally. Using the World Bank's Enterprise Survey dataset, 2018, we analyzed 230 Kenyan firms that applied for loans. These loans are sourced from banks (private, commercial, or state-owned) or non-banking financial institutions. Specifically, the paper explores the effect of financial institution type and firm-related characteristics on loan amounts advanced. The results show that the preferred credit provider matters, with the sensitivity level varying among the three institutional types. Additionally, the collateralization value, the owner's equity proportion of fixed assets, and any existing credit facility correlate positively with the outcome variable. There is an inverse relationship between the largest shareholder's ownership and the loan amount. The study uses the new product (service) launches to measure innovation. The findings suggest that firms in the innovation process access higher loan amounts than their non-innovative peers. Be that as it may, the difference in amount effect size between the two groups is small based on Cohen's d rule. The paper highlights the theoretical and practical implications of these findings.

**Keywords:** ownership structure; loan amount; collateralization; fixed assets; product innovation



**Citation:** Mallinguh, Edmund, and Zeman Zoltan. 2022. Financial Institution Type and Firm-Related Attributes as Determinants of Loan Amounts. *Journal of Risk and Financial Management* 15: 119. <https://doi.org/10.3390/jrfm15030119>

Academic Editor: Thanasis Stengos

Received: 8 January 2022

Accepted: 18 February 2022

Published: 4 March 2022

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## 1. Introduction

The Pecking Order Theory of Capital Structure states that companies first fund their operations using the least expensive sources: retained earnings, debt, and fresh stock. The theory has attracted much interest, and many academics have looked into it from various angles. For example, [Frank and Goyal \(2003\)](#) and [\(Vasilidou et al. 2009\)](#), to name a few, concentrated on proving the theory's application and adaptability. The current research examines debt financing by imagining a company in need of internal finances but unable to issue shares. Even though technology transforms financing options; most companies still rely on traditional lenders. Credit-constrained businesses, particularly startups and growing ones, unlike established ones, replace informal loans with formal credit as they mature ([Chavis et al. 2011](#)). To be precise, the prevailing business environment influences the preferred credit provider. For example, the COVID-19 pandemic significantly impacted business access to credit ([Ellul et al. 2020](#); [Didier et al. 2021](#)).

Furthermore, empirical evidence suggests that credit-constrained firms depend on bank or government financing to address liquidity hurdles ([Khan 2022](#)). That notwithstanding, businesses in need of liquidity must choose a financier. Whenever possible, businesses seek bank financing, whether private, commercial, or state-owned. However, banks will not grant credit to certain firms for specific reasons. These reasons include but are not limited to information asymmetry ([Tang 2009](#); [Maskara and Mullineaux 2011](#)) or the risky nature of the investment for which the loan is sought ([Guiso 2018](#)). Businesses unsuccessful in securing bank finance have an alternative in non-banking financial institutions such as

insurance, investment companies, or pension funds. Such institutions play a significant role in the financial intermediation process and banks (Pirtea et al. 2008).

Nevertheless, whether the firm approaches a bank or a non-banking type financial institution, their loan pricing and non-pricing requirements may vary. For instance, on the non-pricing costs, these institutions may require utterly different securitization and related valuation. Jiménez and Saurina (2004) examine the correlation between collateralization and loan repayment. The reasons for businesses opting for debt financing are as diverse as the firms under consideration. Firms may require external financing to launch the developed product (or service) regardless of whether they are new to the firm itself or the target market. Empirical evidence shows that innovation-oriented firms face substantial hurdles in accessing formal credit, regardless of the market considered (Lorenz 2014; Lee et al. 2015). How do they compare to their non-innovative counterparts when these firms access the loans? Firm ownership is critical in the decision-making process in two areas relating to this study. The ownership decides on debt financing and whether to engage in innovation activities or not. Owners ensure the firm growth trajectory (like increasing or declining fixed asset value). The ownership structure (distribution between large and small investors) is extensively examined in the existing literature (Cho 1998; Demsetz and Villalonga 2001).

The study examines specific factors that determine the loan amount granted to businesses seeking external finance. We explore the financial institution type role and firm-specific factors (like ownership, fixed assets, and current credit facilities). Furthermore, the study explores whether there is a difference in loan amounts advanced to innovation-oriented firms and those not. Specifically, we crystalize the statistical significance of this difference if it exists. The findings offer more insights into firm debt financing in emerging economies. The study focuses on the Kenyan economy, situated in East Africa. There have been notable changes in the market's banking industry in the recent past. For instance, in 2016, the Central Bank issued a circular setting its (policy) rate as the reference rate for private commercial banks. The net effect was severe funding hurdles for domestic enterprises, especially the risky ones (Alper et al. 2020). Some of these firms opted for financing options outside the control of the Central Bank. Through pressure emanating from International Finance Corporation (IFC), the control was scrapped three years later. However, before business financing normalized, COVID-19 struck, dealing most businesses a significant blow. The prevailing business environment made providers of credit introduce stringent rules of business financing. The situation has forced most firms to re-strategize while others closed shop in extreme circumstances. Thus, this study comes at a unique time for firms in the Kenyan economy while exploring their external financing programs.

## 2. Materials and Methods

### 2.1. Materials

Firms in a particular economy must decide which financial institution to approach for funding. These include but are not limited to private commercial banks (PCBs), state-owned banks/agencies (SOBAs), and non-bank financial institutions (NBFIs) such as insurance companies, pension funds, investment banks, mutual funds, among others. Be that as it may, the success rate of whether the requested amount is disbursed fully or in part also depends on the financier. Whether private or state-owned, bank loan performance depends on specific factors. These factors may guide their lending behavior and include their size, liquidity levels, non-performing to total loan ratio, total liabilities, and inflation rate (Tomak 2013; Panizza 2021). Although PCBs are mainly profit-driven, state-owned commercial banks must balance profitability and politically driven policies. Existing empirical evidence suggests that PCBs outperform SOBAs (Kamarudin et al. 2016). Is the risk tolerance level one explanation for the performance difference? Do state-owned banks trade-off stringent risk assessment protocols when funding risky businesses to grow the economy? For example, (Jackowicz et al. 2013) examined state-owned banks in 11 Central European economies from 1995 to 2008. They conclude that the lower profitability level of

state-owned banks is primarily due to charging lower interest rates on loans. Additionally, these banks are a tool serving the political interests of these countries' leadership.

**Hypothesis 1.** *The financial institution type has no substantial effect on the loan amount advanced to the borrowing firm.*

The most critical question is whether states should engage in the banking business. Levy-Yeyati et al. (2004) answer the question. They point out that state-owned banks may neither promote economic growth nor financial development. However, they finance projects shunned by private commercial banks with high social returns but low profitability. Non-banking financial institutions play a critical role in any economy. They are a primary funding source for micro, small, and medium enterprises, particularly those shunned by PCBs and SOBAs (Khowaja et al. 2021). However, NBFIs can introduce excessive risk levels in the financial industry and the general economy (Liang and Reichert 2012). Thus, regulators' primary challenge is balancing the sector's benefit optimization and potential loss minimization (Buttigieg et al. 2020). In a nutshell, banks and NBFIs are fundamental to a stable and sound financial system. When developed together, the two sectors can offer critical synergies for fostering economic growth. Banks may dominate the financial system, but businesses require various financial products to choose from, provided by NBFIs (Pirtea et al. 2008).

The company ownership structure influences critical decisions (such as financing and innovation programs) and, ultimately, performance. (Chen et al. 2009) note that the controlling shareholders affect operational efficiency, which varies across firms. Although some firms have a well-spread distribution between the ownership held by large and small shareholders, others have huge disparities. One prominent investor may hold a significant ownership proportion (an individual or institution) in firms with differences. (Chen et al. 2014) demonstrate that an enterprise performance is higher at a low controlling ownership level but declines with an increasing controlling stake. Such a negative effect on performance at high controlling ownership results from weaker internal governance and vice versa. An investor with a significant shareholding may override minority shareholder decisions such as funding. Roberts and Yuan (2010) explore the correlation between firm ownership and bank borrowing. Their findings suggest that ownership tends to increase the loan cost at high concentration levels due to the related agency fee. Still, firms in which the most prominent investor is an institution pay substantially lower borrowing costs than those without such a shareholder and those with an individual as the largest investor (Paige Fields et al. 2012). Nevertheless, does such ownership influence the amount borrowed and that advanced? Similarly, what is the effect of such high costs on the firm's final decision on whether to borrow or not? Be that as it may, the entrenchment effect due to the concentrated ownership structure enhances the firm's external financing cost (Chu et al. 2014).

**Hypothesis 2.** *The hypothesis examines the relationship between firm-related factors and loan amount. In particular, the hypothesis is simplified as shown next:*

**H2a.** *The proportion of ownership of the largest shareholder has no substantial effect on the loan amount advanced.*

**H2b.** *The collateralization value effect on the loan amount advanced is definitively different from zero.*

**H2c.** *The proportion of owner equity in fixed assets impact on the loan amount advanced to the firm is insignificant.*

**H2d.** *There exists a substantial correlation between the loan amount and active credit facilities held by the firm.*

Firms unable to generate sufficient funds internally must explore external options such as bank financing. Financial institutions are often faced with adverse selection and information asymmetry problems. Banks have price costs (such as interest rates, fees, and commissions) and non-price requirements for their loans. [Wasiuzzaman \(2021\)](#) finds that capital invested, and firm standings are determinants of non-pricing terms, while soft information provision is highly related to price and non-price terms. One such non-pricing requirement, particularly for risky borrowers, is loan securitization or collateralization ([Coco 2000](#)). Using the World Bank's Enterprise Survey, ([Fan et al. 2020](#)) analyzed borrowing from 131 economies from 2005 to 2017. Their findings reveal that generally, more than 77% of loans require collateral pledging. Moreover, small firms and NBFI loans are less often associated with collateralization, where the collateral type pledged is strongly associated with the loan-to-value ratio. The required collateral value is higher for more indivisible and illiquid assets (like land and buildings). However, collateral pledging may also be associated with a borrower riskiness profile but as a negotiating tool for lower loan pricing while enhancing amounts sought ([Benmelech and Bergman 2009](#)). The collateral requirement/commitment decreases relative to the business-bank relationship duration ([Voordeckers and Steijvers 2006](#)). ([Jiménez et al. 2013](#)) demonstrate that pledged security value is higher for businesses that borrow far from their locality. Thus, having an excellent relationship with the banker and a business borrowing within its locality minimizes information asymmetry.

Furthermore, firms must ensure that they increase shareholder value, as demonstrated by growth in their valuation. Owner equity proportion of the core capital remains a critical factor for credit providers should a company opt for external financing. Extensive literature examines the optimal capital structure part, which narrows on the owner equity component. For instance, [Shamki \(2014\)](#) notes that while the equity ratio substantially impacts the value relevance of an individual book value, it has no such effect on earnings. [Chu et al. \(2014\)](#) show that equity costs the firm, which is higher for those with a concentrated ownership structure ([Chu et al. 2014](#)). Equity financing remains critical, particularly for small and medium enterprises (SMEs) aiming at innovation processes. The business environment is constantly evolving, and only proactive innovation-wise firms may remain competitive. Firms need to continuously monitor their product(service), process, marketing, and organizational activities while engaging. The financing of innovation processes may be equity or debt-driven based on the firm's financial health. For instance, in the case of SMEs, equity is more important for young firms that must rely on their owner original equity investment. These firms have not accumulated sufficient retained earnings, while bank financing may be unpredictable ([Müller and Zimmermann 2009](#)).

**Hypothesis 3.** *There is no significant difference in bank financing of firms engaged in the innovation process and those not.*

Nevertheless, these firms can finance their innovation processes thru external debt. Firms in diversified markets are privileged since the banks there facilitate their innovation processes ([Qi and Ongena 2020](#)). [Micucci and Rossi \(2017\)](#) show that firms relying on external financing have a higher probability of investing more in research and development. Additionally, the relationship between innovative firms and banks is long-lasting, with such an association fostering innovation due to reduced information asymmetry. Be that as it may, is there any difference in the financing of firms engaged in innovation activities and those not financed by the banks? Van der [Zwan \(2016\)](#) explores this question by examining bank financing of innovative and non-innovative firms across 29 European markets from 2009 to 2014. Based on the results, firms implementing innovation programs have a lower probability of receiving the requested loan amounts than those not. The findings hold for the product, process, and organizational innovations. In support of these findings, ([Gregori et al. 2021](#)) executed a similar study between 2014 and 2019 but focused on 11 European economies. Their study arrived at the same conclusion, only that in their

case, the difficulty in securing the entire borrowed amount depends on whether the firm engages in multi-innovation profiles.

## 2.2. Methods

### 2.2.1. Sampling

The study uses the World Bank's Enterprise Survey (ES) data from 2018 on Kenyan companies to answer the research. Raw data extracted from their database shows that 1001 firms were surveyed during the period. These firms cut across the country into different sectors of the economy and different sizes. The researchers focused on enterprises that applied for a credit facility and secured all or part of the requested funds. From the analysis, 230 firms met the set criteria for inclusion in this study. Please note that ES by the World Bank has two categories. The first category considers time through repeatedly exploring how the enterprises perform over a specified period. The second one, which this study focuses on, is the business performance over a point in time, in this case, the financial year 2018. We use log transformation to minimize the skewness of the study variables. West (2021) opines that a reference interval may be determined where the distribution becomes close to normal. Other scholars call for caution when using such an approach for data normalization (Feng et al. 2014).

The surveyed firms are broadly categorized into three groups namely 'manufacturing', 'retail services', and 'others'. Over half of the sampled firms (53%) are in manufacturing, 13% in retail services, and 34% in others or in between the first two groups. Likewise, financial institutions offering credit to these enterprises are in four groups. The results show that most businesses opted for private commercial banks (63%) as their preferred financial. State-owned banks are second at 24%, the non-bank financial institutions (5%) and others (8%). The surveyed enterprises are spread across the country and sectors with concentration being in urban centers. Thus, the finding from the sample employed is a true reflection of the situation in the Kenyan economy.

### 2.2.2. Model Specification and Variables

Equation (1) illustrates the model used in answering the study objective;

$$\begin{aligned} \log Amount Approved &= \beta_0 + \beta_1(largestSH) + \beta_2(InstiType) + \beta_3(\log CollReq) \\ &+ \beta_4(\log EquityFA) + \beta_5(\log FacBal) + \varepsilon_{it} \end{aligned} \quad (1)$$

The dependent variable "logAmountApproved" denotes the loan amount advanced to firms that sought credit facilities from financiers during the period under review. "New-Prod," as shown in Table 1, is a categorical variable where 1 = affirms that an enterprise introduced a new product (service) in its production line or the market, while 0 = No. However, it is not part of the equation but dealt with in subsequent sections. Likewise, "Fin InstiType" is a categorical variable representing the financial institution type advancing the credit facility. Specifically, 1 = Private Commercial Banks (PCBs), 2 = State-Owned Banks/Agencies (SOBAs), 3 = Non-Banking Financial Institutions (NBFIs) such as insurance companies and investment banks, and 4 = "Other" sources (leasing, hire purchase companies). The variable is dummy coded in the analysis as shown in Table 1. "Largest SH" is the proportion of ownership in the firm held by the largest shareholder. "LogCollReq" indicates the collateral value required as security before the loan is advanced; this value is zero in cases where there is no collateralization. "LogFacBal" is the value of any existing credit facility, whether an overdraft, loan, or amount owed to suppliers. "LogEquityFA" is the proportion of owner equity in fixed assets held by the firm. The term "log" on the numeric variables is the logarithm base 10, used by authors in previous studies such as Fajaria and Isnalita (2018); (Fang et al. 2009). Furthermore,  $\beta_0$  = is the model's intercept term,  $\beta_1 \dots \beta_5$  = regression coefficients.  $\varepsilon_{it}$  = the disturbance term, which implies that it follows the assumptions of classical linear regression.

**Table 1.** Descriptive Statistics and the Correlation Matrix.

Variable	Mean	SD	1	2	3	4	5	6
1. largest SH Prop	0.67	0.22						
2. Fin. Instit Type	1.85	0.58	−0.08					
			[−0.21, 0.05]					
3. New Prod/Serv	1.69	0.46	0.02	−0.08				
			[−0.11, 0.15]	[−0.20, 0.05]				
4. Equity Prop. WC	0.05	0.08	0.07	0.06	−0.12			
			[−0.06, 0.19]	[−0.07, 0.19]	[−0.25, 0.01]			
5. Credit Fac. Balance	2.90	3.52	−0.06	0.38 **	−0.20 **	−0.06		
			[−0.18, 0.07]	[0.27, 0.49]	[−0.33, −0.08]	[−0.18, 0.07]		
6. Collateral Require.	2.87	3.63	0.03	0.33 **	−0.12	−0.10	0.46 **	
			[−0.10, 0.16]	[0.21, 0.44]	[−0.24, 0.01]	[−0.23, 0.03]	[0.35, 0.56]	
7. Amount Approved	3.76	3.57	−0.11	0.49 **	−0.13 *	0.03	0.66 **	0.64 **
			[−0.24, 0.02]	[0.38, 0.58]	[−0.26, −0.00]	[−0.10, 0.16]	[0.59, 0.73]	[0.56, 0.71]

Source: Own Computations via R-Studio Using ES Data Set by the World Bank Group. Notes: M and SD represent the mean and standard deviation, respectively. \* and \*\* indicate significance at 10% and 5% levels, respectively. Bracketed values indicate the 95% confidence interval for each correlation.

### 3. Results

#### 3.1. Descriptive Statistics and Correlations

Table 1 shows the variable descriptive statistics, correlations, significance levels, and confidence intervals (CI). The term “log” is dropped for convenience purposes while fitting the variables into the table. Be that as it may, the variable names are captured in full in the preceding tables. The credit balance and collateral requirement have a variability of 3.52 and 3.63, respectively. However, the proportion of owner equity proportion in fixed assets had the lowest mean and standard deviation (M = 0.05, SD = 0.08). The outcome variable has a strong relationship with almost all the predictors at different significance levels. The bivariate correlations suggest an absence of multicollinearity between the study variables.

#### 3.2. Main Results

Table 2 presents the Ordinary Least Square (OLS) regression estimates, corresponding P-values, and confidence levels. The model constant is positive but insignificant ( $\beta_0 = 0.17$ , CI = −1.17 to 0.51). Financial institution type, a categorical variable with four levels, is dummied  $d1-d3$ , with the fourth category, “Others,” being redundant. The institution type effect on loan amounts advanced is definitively different from zero as there is no zero in the bootstrap CI. Differences exist among these three financial institution types based on the significance levels. Specifically, PCBs are sensitive to amounts lent out ( $\beta_{11} = 2.182$ ,  $p$ -value =  $1.40 \times 10^{-7}$  at 0.1%) than SOBAs ( $\beta_{12} = 1.854$ ,  $p$ -value = 0.005 at 1%) and NBFIs ( $\beta_{13} = 3.01$ ,  $p$ -value = 0.028 at 5%).

**Table 2.** Ordinary Least Square Regression Estimates and associated Confidence Intervals.

	Estimate	Std Error	Pr(>  t )	Lower CI	Upper CI
Intercept	0.17	0.410	0.264	−1.17	0.51
Private Commercial Banks ( $d1$ )	2.182	0.401	$1.40 \times 10^{-7}$ ***	1.39	2.97
State-Owned Banks/Agencies ( $d2$ )	1.854	0.652	0.005 **	0.569	3.14
Non-Bank Financial Institutions ( $d3$ )	3.010	1.357	0.028 *	0.336	5.68
Largest SH ownership Proportion	−1.52	0.655	0.021 ±	−2.81	−0.229
Collateral Requirement (value)	0.358	0.047	$5.28 \times 10^{-13}$ ***	0.266	0.449
Equity Proportion in Fixed Assets	3.953	1.769	0.028 *	0.421	7.14
Credit facility balance	0.392	0.049	$1.04 \times 10^{-13}$ ***	0.295	0.489
R squared	0.6492				
Adjusted R Squared	0.6381	$p$ -value	$<2.2 \times 10^{-16}$		

Source: Own Computations through R-Studio Using ES Data Set by the World Bank Group. Notes: \*, \*\*, \*\*\* and ± indicate significance at 0.05, 0.01, 0.001 and 0.1 levels, respectively.  $d1$ ,  $d2$ , and  $d3$  are dummy variables representing PCBs, SOBAs, and NBFIs, respectively.

There is a positive association between an enterprise’s ability to secure requested collateral/guarantee and the credit facility issued ( $\beta_3 = 0.358$ ,  $p$ -value =  $5.28 \times 10^{-13}$  at 0.1%). Still, the proportion of owner equity in fixed assets significantly influences credit facility value based on the CI ( $\beta_4 = 3.953$ , CI = 0.421 to 7.14 at 5%). Additionally, there is a linear relationship between an active existing credit facility and the loan amount advanced ( $\beta_5 = 0.392$ ,  $p$ -value =  $1.04 \times 10^{-13}$  \*\*\* at 0.1%). On the converse, there is an inverse correlation between the largest shareholder proportion of ownership and the credit facility ( $\beta_4 = -1.52$ ,  $p$ -value =  $-2.81$  to  $-0.229$  at 10%). In a nutshell, the loan amount advanced is more susceptible to three factors (private commercial banks, collateral requirements, and existing credit/loan balances) than the rest. Be that as it may, these factors explain approximately 64% ( $p$ -value <  $2.2 \times 10^{-16}$ ) of the change in credit value advanced to a borrowing firm.

Table 3 explores any significant difference between the amounts advanced to firms engaged in innovation programs and those not. As previously stated, innovation is assumed when an enterprise launches one or more products new to its production line or the market over the next three years. The analysis shows that firms not involved in innovation activities but seeking credit were twice as innovative counterparts. Innovative firms accessed more funds (mean = 4.45) than their non-innovative counterparts (mean = 3.45). Furthermore, there is no noticeable difference in their mean variability based on the standard deviation. The one sample independent  $t$ -test results ( $t = 1.980$ ,  $p = 0.049$ ) reveal a significant difference between the means of the credit facilities accessed by firms engaged in innovation activities and those not. There is no zero within the bootstrap confidence interval. Moreover, the effect size based on Cohen’s  $d$  is substantial (point estimate = 0.282, CI = 0.001 to 0.561). Nonetheless, such an effect is small in size.

**Table 3.** New Product (Service) Launch Effect on Loan Amount Approved.

	Y/N	Firms	Mean	Std Dev (Error)	Lower CI	Upper CI
New products/Services	Yes	72	4.45	3.55 (0.418)		
	No	158	3.45	3.54 (0.282)		
		$t$	$Sig$	Mean Diff (Std Error)		
Equality of Means Equal Variance Assumed	$p = 0.154$	1.980	0.049	0.999 (0.504)	0.0048	1.992
				Point Estimate		
Effect Size (Cohen’s $d$ )				0.282	0.001	0.561

Source: Own Computations through SPSS (v.28) Using ES Data Set by the World Bank Group.

Finally, interchanging terms in our model specification equation results in the best fitting OLS model (Equation (2)). For example, if we assume the firm approaches a private commercial bank, then the equation takes the form of:

$$\begin{aligned}
 \text{Amount Approved} = & 0.17 + 2.182(PCB) + 0.358(\log CollReq) + 3.953(\log EquityFA) \\
 & + 0.392(\log FacBal) - 1.52(largestSH) + \epsilon_{it}
 \end{aligned}
 \tag{2}$$

#### 4. Discussion

Our first hypothesis examines the role played by the financial institution type on the loan amount. The varying significance levels of the three financial institutions (of 0.1%, 1%, and 5% for PCBs, SOBAs, and NBFIs, respectively) may relate to the risk tolerance levels. Tölö and Virén (2021) show that a defective risk analysis model results in weak growth in lending levels due to non-performing loans (NPLs), erosion of profitability, core capital, and increased funding costs. That notwithstanding, financial institutions use different risk analysis models to safeguard themselves against NPLs, particularly in a competitive market (Jiménez et al. 2013; Nagel and Purnanandam 2019). Credit providers employ different lending models based on risk appetites to determine the loan pricing



and non-pricing requirements (Beutler et al. 2021). The varying models and objectives pursued may explain the differences in the observed significance levels. Cornett et al. (2010) find a significant difference between the government-owned and privately owned commercial bank performance. PCBs are guided mainly by commercial interests and, thus, stringent lending policies. On the flipside, SOBAs must delicately balance between profitability and executing 'politically' influenced decisions. The SOBAs play a crucial role in complementing PCB efforts. They assist enterprises shunned by other traditional financiers for being risky or unprofitable. The argument partly explains why SOBAs have a higher risk profile than PCBs (De Nicolò and Loukoianova 2007). Still, the NBFIs have a higher risk tolerance level than both PCBs and SOBAs. Thus, they are a welcome relief for firms whose funding requests are turned down by PCBs and SOBAs. Nevertheless, when NBFIs are weakly regulated, they may introduce an excessive risk level into the financial industry (Liang and Reichert 2012). In a nutshell, based on the test results, the first hypothesis (H1) is unsupported.

There is a negative correlation between the ownership concentration of one prominent investor and the loan amounts disbursed. Insignificant dispersions in the ownership structure between the large and small owners assure credit providers that their risk is well spread. The finding concurs with Agoraki and Kouretas (2021), who establish that the firm's ownership structure influences bank lending behavior. Be that as it may, specific reasons explain the inverse relationship between such ownership concentration and the value of the credit facility advanced. For instance, the results resonate with Lin et al. (2011), who find that large shareholder perceptions of tunneling and related moral hazard activities stem from their excess control rights. Additionally, loans are priced higher to account for the bank monitoring cost, which disadvantages some firms. Firms must review their ownership structure, mainly where there are meaningful dispersions between small and large investors. Related to ownership is the equity proportion of fixed assets as it is positively associated with loan amounts. Whether the credit facility is guaranteed or not, fixed assets are a form of security should the firm go under while indebted. (Odeh et al. 2011) show that lower owner equity and repayment capacity are default indicators. Enterprises must strive to maintain and grow shareholder value, influencing future funding application outcomes.

Additionally, an enterprise's ability to provide requested collateral influences its access to requested funds. Even as firms explore external financing, they must evaluate the risk profile. The findings mirror those by Rahman et al. (2017), who find that collateral pledging is associated with borrowers perceived as risky and opaque. In certain instances, the firm may have an excellent relationship with its bankers, but the risky nature of a new project may necessitate collateralization. Firms should maintain the optimal current and fixed asset mix, especially when the guarantee is a lending requirement. Nevertheless, whereas collaterals minimize adverse effects for the lender in the event of a default, they do not eliminate the adverse selection problem (Blazy and Weill 2013). The collateral requirement value varies from firm to firm, with loan cost and borrower risk as determinants (Yaldiz Hanedar et al. 2014). Our results concur with Strahan (1999), emphasizing that riskier borrowers face harsher non-price terms (collateral). Interestingly, a strong correlation exists between currently serviced credit facilities and received loan amounts. Firms often opt for additional external funding when amounts initially advanced are insufficient. For example, an indebted firm with profitable opportunities may seek more funding. The history of a better repayment history enhances credit access and mirrors those (Brown and Zehnder 2007). Based on our results, hypotheses H2b and H2d are supported whereas H2a and H2c are not.

The third hypothesis explores whether there is a substantial difference in loan amounts advanced to firms engaged in innovation activities and those not. Firms that had launched a new product or service in their operations or market over the last three years accessed higher value credit facilities than those that had not. (Bellucci et al. 2014) concur with the present study findings. In particular, they find that bank trade-off lower collateral and higher interest rates for firms involved in innovative programs. Again, compared to their

non-innovative peers, the firms engaging in innovative processes have a lower probability of being credit rationed. However, (Lee et al. 2015) are of the contrary opinion, stating that innovative enterprises encounter hurdles in accessing finance; this worsens during crisis periods. Still, our results contradict those by van der Zwan (2016). The counterargument is that in this particular situation, the product is not in the R&D stage but the market. Its contribution to firm performance is verifiable, even to the financiers. Thus, firms must be proactive innovation-wise. Financiers may provide much sought-after credit where changes in their products or processes positively impact their performance. From the test results, the third hypothesis (H3) is unsupported.

## 5. Conclusions

The paper examines financial institution types, and firm-related factor effects on loan amounts advanced to borrowing firms. The study used the World Bank's Enterprise Survey Dataset on the Kenyan economy in 2018. We analyzed 230 firms that applied and successfully secured financing, either in whole or in part. Based on the findings, the financial institution type, collateralization value, owner equity proportion of fixed assets, and existing credit facility balance positively correlate with the loan amount advanced. Conversely, the ratio of firm ownership under the largest shareholder negatively influences disbursed amounts. Equally, whereas the effect is small, a significant difference exists between the credit value advanced to firms engaging in innovation processes and those not. These findings have both theoretical and practical implications. Theoretically, our findings complement and build on related literature (firm financing and innovation literature). The study provides empirical evidence on how each of the five factors influences the external funding sought by the firm. For example, the study builds on literature focusing on firm ownership structure, the value of the firm, and innovation-related decisions.

Practically, businesses must perform a self-risk assessment before approaching potential financiers. The outcome of such an evaluation may guide them to the right financial institution type. Specifically, these institutions have varying risk tolerance levels, which ultimately influence their pricing and non-pricing requirements (like guarantees) passed to borrowing firms. Domestic enterprises must be thorough when identifying suitable financiers of their operations. The risk tolerance level of the potential firm influences an enterprise's chances of securing the sought-after credit. Oftentimes, small and medium enterprises cite credit access as one of their biggest hurdles. Unfortunately, there is a mismatch between their riskiness and the targeted financial institution. Be that as it may, maintaining a good lasting relationship with financiers is advisable. A firm with a profitable opportunity that is indebted but still requires funding, a relationship, and a good repayment history can work to its advantage. The business environment dynamics mean that firms must review their operations constantly.

Although the effect size of the difference between amounts advanced to innovative and non-innovative firms is small, clarity is paramount. One, whereas beyond the scope of this study, it should not be confused to mean that the performance of these two categories of enterprises is the same. Secondly, while the effect size is small from a general point of view, it should not be construed to imply that the impact of the advanced facility is minimal between innovative and non-innovative enterprises. Conspicuously, the sampled firms preferred private commercial banks to state-owned. Such a finding is interesting and may need further studies in the future, The presumption is that state-owned banks offer more affordable credit than the private sector. Additionally, the government easily uses them to implement its monetary policy when there is resistance from the private financial institutions. Why then are few local businesses approaching state-affiliated banks for funding, is it about their pricing or bureaucracies? Moreover, there must be efforts to grow the firm's residual value attributable to shareholders.

Finally, this study is subject to some limitations relating to the scope of the explored financiers (banks and NBFIs). Equally, innovation is multifaceted, with the product (service) explored as just one of the four types (including process, marketing, and organizational).

Future studies may broaden the present study's focus for comparison purposes. Notable previous surveys established that domestic firms particularly the small to medium enterprises engaged in limited innovation activities. Additionally, firms implementing these programs are not in all but specific sectors. Such a scenario limits their full potential or the extent to which these programs impact their performance. With government efforts aiming at improving the situation, researchers may consider these changes in future studies. Similarly, the outcome would be interesting should firm characteristics such as age, size, and management be part of the analysis. That notwithstanding, the findings of this study paint a picture of the present situation for firms seeking external funding based on the factors analyzed.

In conclusion, as stated earlier, the sample is representative of enterprises within the Kenyan economy. Despite the limitations, the results may be generalized as fair representativeness of the actual situation in the economy. Still, these findings may apply to firms in other developing economies as supported by relating studies in similar markets.

**Author Contributions:** Conceptualization, E.M. and Z.Z.; methodology, E.M.; software, E.M.; validation, Z.Z.; formal analysis, E.M.; investigation, Z.Z.; resources, Z.Z.; data curation, E.M.; writing—original draft preparation, E.M.; writing—review and editing, Z.Z.; visualization, E.M.; supervision, Z.Z. All authors have read and agreed to the published version of the manuscript.

**Funding:** The research received no external funding.

**Data Availability Statement:** The study used the Enterprise Survey Dataset by the World Bank on the Kenyan economy, 2018. The data set can be accessed through the given link <https://login.enterprisesurveys.org/content/sites/financeandprivatesector/en/library.html>. Data accessed on 10 December 2021.

**Acknowledgments:** The authors acknowledge the support offered by the Hungarian University of Agriculture and Life Science through the School of Economics & Regional Science. We also express our gratitude to the anonymous reviewers who through their contributions made the paper better.

**Conflicts of Interest:** The authors declare no conflict of interest.

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