The Effect of Firm's Attributes on Credit Accessibility: An Empirical Analysis of SMEs in Bangladesh

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ABSTRACT

SMEs play a crucial role in social and economic development, employment generation, poverty alleviation, export participation, innovations, and women empowerment. The contribution of this sector is lower in comparison to other Asian countries (Moulick 2021). This sector contributes around 23 percent in the 2017-18 fiscal year. But the growth and development are most vulnerable for their hard access to bank credit due to shortage of information asymmetry and collateral. This study examines the effect of firms' attributes on access to bank loans. The methodological approach of this study is deductive. The study uses primary data collected from the semi-structured questionnaires with a view to present meaningful commentary on financial leverage in Bangladesh. The semi-structured questionnaire was administered to 400 SME firms to collect data on credit accessibility. Among the firms, only 174 firms have taken loans from banks. Multiple regression has been used to identify the effects of firms' attributes on debt accessibility. In the equation, financial leverage is the dependent variable, and firms' attributes are the independent variable. The result of the study reveals that internal capital, collateral, financial statements of the firm, tax payment, location, age of the firm, ownership style, and sector of the firm have an influence on access to a bank loans.

Key words: SMEs, Firms' Attributes, Credit Accessibility, Formal finance, Informal finance

INTRODUCTION

The Small and Medium Enterprises (SMEs) play a crucial contribution in economic growth all over the world. The noticeable social and economic contribution employment generation, government revenue earning, poverty alleviation, export participation, innovations, women empowerment and a catalyzer for local and urban area's growth are significant (Kira & He, 2012; OECD, 2004; Nguyen, 2014; Fatoki & Asah, 2011). It is mentionable that among the SME firms, most of firms are small scale and labour-intensive. In Asia 80-90 percent enterprises are SMEs and 50-80 percent of total labor force works here (Tambunan, 2008; Nguyen, 2014). But in South Asia, SME firms are over 92% of total enterprises in all countries of ASEAN (ASEAN, 2011). SMEs create 56 percent employment opportunities in Malaysia and 97 percent in Indonesia. In GDP contribution, SMEs provide 60 percent in Singapore, 56.63% in Indonesia, and about 20 – 40% in the other ASEAN countries (Nguyen, 2014). In different sectors of SMEs jointly contribute in huge industrial employment (80-85 %). The different sectors of SME firms jointly contribute twenty three percent of total employment in Bangladesh (Alauddin & Chowdhury 2015; Chowdhury 2008). In Bangladesh SMEs account for over 99% among the manufacturing organizations of private sector. The sector also accounts for 70-80 % of the other than agricultural labor force (Country report of IMF, 2012). Moreover, the contribution to GDP growth of SMEs in Developing countries like Bangladesh is 25 percent. But the contribution of SME to GDP growth in India is 40-50 percent, Malaysia and Singapore (The Financial Express, December 14 2019). In addition, accessibility bank loan promotes market entry, assists growth, diminishes risks, and encourages novelty (DALBERG, 2011). In spite of their crucial contributions to the overall development, SMEs face complication compared to large organizations. As per World Business Environment Survey on 80 countries in 1999-2000 on obstacles affronting SME firms including all sizes states that financing is the biggest barrier for the SMEs (Beck & Demirguc-Kunt, 2006).



STATEMENT OF THE PROBLEM

SMEs are measured as the fuel of economic development. SME firms represent a large number of small industries, service enterprises and trade enterprises. These three sectors of SMEs put in the highest part of employment in developing countries like Bangladesh. They also contribute more than 23 percent in 2017-18 fiscal year. But the growth and development are mostly vulnerable for their hardly access to bank credit for various reasons. The most crucial problem to SME is the shortage of adequate capital required to run the business. Most of the firms have to begin with their own capital or by borrowing from relatives, and then bank finance. Bangladesh Bank annual report (2006-07) expressed that higher growth of SME sector can eliminate the scarcity to a pleasing stage by deleting different injustice against labor intensive sector like SMEs. On the others commercial banks generally choose hand, organizations due to lower transition costs, available information, and available collateral (Nehereen, Ahmed et al., 2021). The financial information of the firms is unaudited and do not provide quality information. So, due to asymmetric information, bankers create credit rationing following by adverse selection or moral hazard. Against these backdrops, this research is, therefore, appropriate and timely as it gave attention on the examination of the determinants of credit accessibility by SMEs in Bangladesh.

Research objective

To examine the effect of firms' attributes on accessibility to bank loan in Bangladesh based on capital Structure theory.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Age of the Firm

The younger firms face more difficulties in compared to large organizations in accessibility to bank loan due to information asymmetry. The firm begins in small scale and with the passes of time goodwill on credit reputation is its big asset. The reputation on credit diminishes the moral hazard dilemma and makes the way of entrance in bank loan (Kira & He 2012). The larger SME firms can adopt tough economic conditions than the younger firm. The longer firms have ability to provide the signal against opportunistic behavior (Chandler 2009). The newly generated firm depends more on informal fiancé than on bank finance (Klapper, 2010). For the younger firms, it is very much difficult to access bank credit due to shortage of asymmetric information (Ngoc et al. 2009).

Therefore, H_{o1}: Debt finance and firm's age do not have significance relationship.

Owners' Equity of the firm

Bank loan is main source of formal financing for the SME firms in the under developed and developing economics

due to their undeveloped financial market and financial institutions (Kumar & Rao, 2015). So owner's capital is the main source of fund for the new, small and young firms (Berger & Udell, 1998). Moreover it is not possible for the SME firms to offer lucrative investment amenities due to absence of corporate governance to ensure stakeholders rights. They have to depend on equity finance and create financing gap for such organizations (Donepudi et al., 2020). Owners' capital is comparatively expensive in compared to other sources of finance. So, SMEs have to move other informal sources of fund as their requirements. Life cycle theory proposed by Penrose supports this statement. But the investor fells unsecured due to firms' information asymmetry and financial strength which measures capability to reimburse the loan.

Therefore, H₀₂: Owners' equity and debt accessibility do not have significance relationship.

Taxation

The combination of debt and equity finances forms capital structure of SME firms. Capital structure theory of Modigliani & Miller (1958) expresses that tax is the crucial factor in determining capital structure decisions as cost of debt is lower compared to equity capital, the risk raises with increasing of debt and interest on debt is tax deductable. So usage of debt capital decreases cost of capital and enhances shareholders' wealth. Lower cost of capital makes the firm more profitable and banks feel interest to provide loan to the firm due to its enhanced repayment capacity. But it has to maintain the risk level to keep away from the probability of costly bankruptcy (Moulick 2021). So, tax and debt accessibility are positively related.

Therefore, H_{03} : There is no significance relationship between taxation and debt financing.

Firm's Size

The information asymmetry that gives the chills the SMEs from appealing for bank credit is severe for small and newly generated firms because their accounting records are not as better as larger firms (Canton et al. 2013; Gertler 1988; Cassar (2004). The small firms are so weak in maintaining good relation with the commercial banks (Chakravarty and Xiang 2013). Larger firms can be more diversified and less probability of failure, so size is assumed to be an opposite for the chance of bankruptcy (Honhyan 2009). The larger firms have spontaneous access to bank credit because of their good relationship, reputational capital, wider network, available financial information (Quartey et al. 2017; Diamond 1991). In the same way, Lee and Drever (2014) found that smaller firms have to face to more complexity in getting bank loans compared to larger firms. Furthermore banks select size as a proxy for creditworthiness (Cowling, Liu and Ledger 2012). Banks are doubtful to give loan to newly generated and small firms for their lower profit margin and high fixed cost (Levenson & Willard 2000; Chakravarty & Yılmazer 2009).

Thus, we propose the following hypotheses:

Therefore, H₀₄: Firm's size and debt accessibility do not have significance relationship.

Collateral

SMEs affront complexity to get bank loan for the firms due to shortage of resources to be mortgaged. For this reason SMEs fizzle out to operate successfully because of their shortage of fund for mortgaged collateral (Fatoki and Asah 2011). Bougheas et al. (2005) showed that the necessity of mortgage asset is a significant issue for the SME firm to access bank loan. Mortgaged loan reduces the jeopardy of the loan financed by the banks and other financial institutions because the financial institutions settle their claim on the outstanding debt by selling the mortgaged property. Hence, mortgage can unravel hazard arrived from information asymmetry in appraisal of the projects, dubiousness about the future and profitability of projects and future uncertainty of credit holders, and troubles arrived from the charge of controlling or monitoring of borrowers' behavior. Collateral also knocks off moral hazard problems (Fatoki and Asah 2011).

Therefore, H₀₅: Collateral provided by the firm and debt financing do not have significance relationship.

Business information

Financial institutions use information of the financial position of the firms to investigate their current status and forecast upcoming performance of the firms. The information of the financial position of the business organization collected from the financial statements prepared by the firm performs as pointer of firm's prospects and capability to repay the borrowed money with interest (Balogun et. al. 2016; Grunert & Norden 2011; Berger & Udell 2006). The financial information is crucial for the stakeholders in taking various investment and other kinds of decisions. The beneficiaries of this financial information are customers, government and their agencies, suppliers, employees, lenders, other creditors, and the general public. The shortage of sufficient information leads to information asymmetry, credit rationing and may jeopardize access to credit finance (Altman et. al. 2008; Sarapaivanich and Kotey 2006).

Therefore, H_{06} : Business information and debt financing do not have significance relationship.

Location of the Firm

Closeness to town areas where commercial banks and other financial institutions are located are a influencing factor in granting loan decision making process to SME firms (Arena & Dewally 2012; Bates & Robb 2015). Proximity between financial institutions and owner of the firms has a significant influence on access to bank credit. The financial institutions that are geographically closeness to their clientele are able to use soft available qualitative

information to ascertain the accessibility of their clientele (Berger and Udell 2006). The geographical area of the firm has significant influence for its access to credit. Firms in urban areas have greater chance of winning in compared to firms located in village areas. The geographically closeness can set up a relationship in access to the marketplace, supplies, capital, labor, and land. Geographically attachment between supplier and creditor of the loan can develop a suitable environment that assist the SME firms to get bank credit from the supplier of the loan (Gilbert 2008; Fatoki and Asah 2011; Chidokufa 2009).

Therefore, H₀₇: Firm's location and debt financing do not have significance relationship.

Firms' profitability

Firms' profitability perceive access to bank loan as easier than do firms that have oppressed a loss in its operation. Over and above, profitability of the firms is more affirmative in accessibility to bank loans than firms that are in no profit or no loss position. So the performance of the firm in financial statement is vital for financial institutions in loan decision procedures (Erdogan, 2019; Moulick 2020; Zhu et al., 2021). Olutunla and Obamuyi (2008) indicate that interdependence exists between the SMEs profitability and bank loans.

Therefore, H_{o8}: Firms' profitability and debt financing do not have significance relationship.

Firms' Sector

The sector (Manufacturing, Trade and Service) in which the firm is in business does not make an impression on capital structure directly. Nevertheless it might do so circuitously by the composition and character of the firm's assets (Andrieu et al. 2017; Balogun et. al. 2016; Donepudi, 2020). The association between the firms' industrial categorization and accessibility of bank credit in the capital formation creates from the theory that narrate that firms' industrial categorization is a proxy for business hazard (Barbosa & Moraes, 2004). The theory of capital structure point out that the organization run in the identical industry, the atmosphere and monetary attributes have to bear the identical effect turn the industry that might affect profitability and expansion.

Therefore, H₀₉: Firms' industry and debt financing do not have significance relationship.

RESEARCH MODEL

Statistical Model

The researchers use the multiple regression equation to attain the objective of the study.

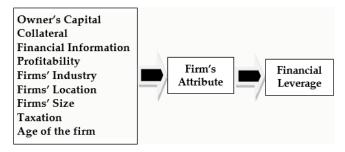
FL = α + β 1 Internal finance + β 2 Collateral + β 3 Financial information+ β 4 profitability + β 5 Firms' Location + β 6 Firms' Size + β 7 Firms' Taxation + β 8 Firms' Age + β 9 Sector+ ε



Dependent variable Financial Leverage (FL) is the dependent variable.

Financial Leverage (FL) = Total Debt (TD) / Total Asset (TA)

CONCEPTUAL FRAMEWORK



DATA AND METHODOLOGY

The pilot study was conducted through semi structured questionnaire covering fifteen SME firms to discover problems faced within the questionnaire and to include the respondent's opinion to attain the objectives of the study. The study investigates the effect of firm's attributes on financial leverage in Bangladesh: An Empirical Analysis of SMEs in Bangladesh. A deductive approach has been used to observe the problem. The study uses primary data collected from semi structured questionnaire to appear meaningful commentary about credit accessibility. The questionnaire was administered to 400 SME firms to draw out meaningful data related to financial leverage. Multiple regression has been used to find out the effect of firm's attributes on financial leverage. In this equation financial leverage is the dependent variable and on the other side firm characteristics are as independent variables. The SPSS 22 has been used.

DATA ANALYSIS

Normality test

Table 1: The Table showing Minimum, Maximum, Mean, Standard deviation, Skewness, and Kurtosis of some independent variables.

	Descriptive Statistics							
	Minimum	Maximum	Mean	Std.	Skewness	Kurtosis		
				Deviation				
profit 17	5.00	1000.00	38.2265	82.92556	9.535	106.753		
Ln_profit	1.61	6.91	3.0812	.93957	.661	.597		
internal fund	5.45	1300.00	91.2622	223.45101	3.901	14.794		
Ln_ intfinan	1.70	7.17	3.3928	1.23766	1.241	1.271		
age of the firm	2.00	31.00	12.0920	5.44575	.703	1.304		
Ln_agef	.69	3.43	2.3726	.53498	-1.098	1.725		
tax 17	.03	10.00	.4356	1.07239	7.411	60.009		
Ln_tax	-3.46	2.30	-1.4625	.90719	1.181	2.445		

Source: Survey Data

In statistics, normality tests are conducted to make certain that the data set is normally distributed. But, the outcomes show that equity capital, profit of the firm, taxation and firm's age are not distributed normally. So the data set is converted into logarithm function to distribute normally.

Reliability test

Here, Cronbach's alpha and average inter-item correlation test express the internal consistency and reliability for the independent items. The value of the average inter-item correlation is 0.25 and the value Cronbach's Alpha is 0.784. So the result of study is reliable and valid.

	Reliability Statistics	
Cronbach's	Cronbach's Alpha Based	N of
Alpha	on Standardized Items ^a	Items
.695	.784	09
Source: Survey D	ata	

Generating dummy variable

The dummy variable takes the value 0 or 1 to identify the nonexistence or existence of several categorical effects that can change the outcome.

Ramsey's RESET Tests for Model Specification Error

 H_0 : The model does not suffer from any omitted variable

T value	0.324
Beta	2.905
Prob>F =	0.758

Source: Survey Data

In 1969 Ramsey developed and recommended the regression specification error test. By the powers of the fitted values of the Debt Accessibility or financial leverage, RESET test is done to make sure that the model does not have any variable omission bias. Here t value is 0.324 and p value (Prob > F) is 0.758. So, the null hypothesis is accepted. So the model does not have any omitted variables.

Homoscedasticity Test

Homoscedasticity affirms a situation in which the error term (the random disturbance in the relationship of the dependent and independent variables) is the alike across all values of the independent variables. Heteroscedasticity is the violation of homoscedasticity. The result of Breusch-Pagan and Koenker indicates that the residuals to be normally distributed. The model does not suffer heteroscedasticity.

Breusch-Pagan and Koenker test statistics and sig-values

H₀: Heteroscedasticity not present (homoscedasticity).

	LM	Sig	
BP	3.700	0.834	
Koenker	4.320	0.724	
Source: Survey Data			

Since the significance level 0.834 and 0.727, the null hypothesis is accepted. So heteroscedasticity is not present here.

Multicollinearity Test

The multicollinearity test identifies whether the independent variables of the study are correlated. Whether the value of Variance Inflation Factor (VIF) is between 1 and 10 then there is absence of multicollinearity.

Table 2: The Table shows the variance inflation factor

Model	Tolerance	VIF
Location	.974	1.026
Sector	.780	1.282
Financial Statement	.641	1.560
Mortgage rate	.664	1.505
Ln_intfinan	.132	7.556
Ln_agef	.889	1.125
Ln_tax	.336	2.979
Ln_profit	.206	4.852
Size of firm	.141	7.109

Source: Survey Data

Pearson Correlation Analysis

Correlation is a statistical method for examining the relationship between two continuous variables. Pearson's correlation coefficient assesses the power of the relationship between the two variables.

Table 3: The Table shows Pearson Correlation Analysis

Coefficient Correlations									
Model	Size of firm	Location	Ln_age	Sector	Mortgage	Financial	Ln_tax	Ln_profit	Ln_intfinan
					rate	Statement			
Size of firm	1.00								
Location	.028	1.00							
Ln_agef	.069	.057	1.00						
Sector	.160	.027	.016	1.00					
Mortgage rate	.055	.001	.120	.186	1.00				
Finan. Statement	.072	.025	.100	.130	.162	1.00			
Ln_tax	.018	.010	.030	.158	.226	.079	1.00		
Ln_profit	.230	.029	.082	.221	.266	.170	.330	1.00	
Ln_intfinan	.595	.106	.096	.226	.063	.011	.247	.191	1.00

Source: Survey Data

The degree of association among variables by ratio and interval scale is measured by the Pearson correlation matrix and coefficient (Wooldridge 2010). The presence of multicollinearity depends on the value of correlation exceeding 0.9 (Dormann, et. al 2012; Yu, et al. 2010). The value presents that the value of all correlation is below 0.9 ensuring the presence of no multicollinearity in the model.

Various independent variables related to SME firm' attributes are analyzed with firms' accessibility to bank loan. The R^2 and p-values are taken into account to decide the confirmation of the model. To appraise the power of their association with the dependent variable the β coefficients of the independent variables are employed.

In relation with the part of preliminary assessment of data, the average value of that variable is used in case of missing diagnostic data. Appropriate tests related heteroscedasticity, multicollinearity, normality and model misspecification are passed to determine a suitable multiple regression model. The R2 value 73.50 percent indicate the regression model to be a good fit. The regression equation provides a positive influence among the SME firms' accessibility to bank credit and the variables: collateral (Dummy Double); tax paid by the firm; location of the firm (Urban); and internal fund; financial information of the firm; firm age and firm size (Small); sector of the firm and profitability of the firm as predicted (Significance level 5%).



Table 4: Beta, T value and significant level

		-=		
		e .377		
			_	
Unstandardized Coefficients		Standardized Coefficients	t	Sig.
В	Std. Error	Beta		I
.019	.014	.205	3.374	.031
.172	.036	.787	4.750	.000
.021	.014	.162	2.455	.048
.030	.017	.244	1.735	.035
.033	.031	.095	1.081	.281
.010	.046	.021	3.208	.036
.043	.026	.130	2.654	.010
.096	.039	.182	2.442	.016
.051	.054	.116	.955	.341
.053	.056	.111	2.952	.034
.094	.033	.361	2.821	.005
.086	.024	.363	3.641	.000
.165	.031	.631	5.342	.000
	B .019 .172 .021 .030 .033 .010 .043 .096 .051 .053 .094 .086	Adjusted R Square Df 1 16 Df2 157 Sig F. Change . Unstandardized Coefficients B Std. Error .019 .014 .172 .036 .021 .014 .030 .017 .033 .031 .010 .046 .043 .026 .096 .039 .051 .054 .053 .056 .094 .033 .086 .024	R Square .735 Adjusted R Square .377 Df 1 16 Df2 157 Sig F. Change .000 Unstandardized Coefficients B Std. Error Beta .019 .014 .205 .172 .036 .787 .021 .014 .162 .030 .017 .244 .033 .031 .095 .010 .046 .021 .043 .026 .130 .096 .039 .182 .051 .054 .116 .053 .056 .111 .094 .033 .361	R Square .735 Adjusted R Square .377 Df 1 16 Df2 157 Sig F. Change .000 Unstandardized Coefficients Standardized Coefficients Beta .019

Source: Survey Data

CONCLUSION

SMEs are significant one among the higher contributors of national economy. In spite of major contribution to economic development of the country, financing constraint is a major problem for the SME firms. Consequently, it is a tremendous necessary to examine the causes of financing constraint for the SMEs. For this the study suggests a conceptual framework to examine impact of firm's attributes on credit accessibility. With the help of existing literature, the study identifies the problem of debt accessibility in the light of determinants of capital The result of the research is completely promising and will include fresh dosage to the information of financing for the SME firms. The firms attributes such as internal capital, collateral, financial statements of the firm, tax payment, location, age of the firm, ownership style and sector of the firm have influence on access to bank loan.

RECOMMENDATIONS

The study discussed only the effect of firms' attributes on financial leverage of SME firms. In further study it can be investigated the determinants of debt accessibility from supply side (financial institutions).

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