The Effect of Firm Size on Financial Performance of Firm: Evidence from the Non-bank Financial Institutions of Bangladesh

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Abstract
This paper intends to find out the effect of the factors determining the firm's size on the financial performance of a firm. Non-bank Financial Institutions (NBFIs) play a predominant role as a supplement to the banks by providing financial aid to society. The positive financial growth of the NBFIs certainly attaches value to the economic growth of any country. That's why the article endeavors to investigate whether size has an impact on the profitability of the NBFIs of Bangladesh. To conduct the analysis, relevant data from all the non-bank financial institutions listed on Dhaka Stock Exchange (DSE) have been taken from the year 2012 to 2021. Pooled OLS regression has been used to find out the relationship between financial performance measured by Return on Asset (ROA) and Return on Equity (ROE) and the factors determining the size of a company (total asset, total sales, number of employees, number of branches) and some other profitability determining factors (age of a firm, and percentage of independent director of a firm). According to the analysis, a firm's size-specific factors have a positive impact on the profitability of a firm.
Keywords: size, ROA, ROE, profitability, total asset, total sales, non-bank financial institutions.

1. Introduction
Bangladesh is a developing country and the development depends largely on the financial and economic development of the country. Along with banks, Non-bank Financial Institutions (NBFIs) are also amplifying economic growth by providing additional services to the economy. Currently, 35 NBFIs are operating in Bangladesh. Among them, only 23 are listed on Dhaka Stock Exchange (DSE). The study aims to determine the relationship between size and financial performance by gathering financial data from the listed NBFIs in DSE.

The question behind the study was to know whether the size of a firm has any impact on the profitability of a specific firm. According to economic theory, profitability doesn't depend on the size of a firm if the market is perfectly competitive (Hall & Weiss, 1967) but in imperfect competition, profitability tends to vary based on the size of the firms. Factors determining the size of a firm along with some other firm-specific factors have a positive impact on the profitability (Babalola & Abiodun, 2013). Large firms tend to get more opportunities as they have the power to access large resources. But, larger firms sometimes struggle with diseconomies of scale (Imtiaz et.al, 2019). So the main motive of the study is to detect whether the size-determining variables can explain profitability for the NBFIs in Bangladesh.

The financial performance of a company measures its ability to generate revenue out of its resources. This is the projection of a firm's economic health. There's no single measure to quantify the performance of a firm. The typical way is to analyze the published annual financial report of the firms and find out the performance based on some measures like Return on Asset (ROA), Return on Equity (ROE), Earning Per Share (EPS), etc. In this study, the financial performance has been measured by ROA and ROE.

The relationship between size and financial performance has been a matter of discussion for a long time, starting from the study of Hall & Weiss (1967) to the most recent studies. There are some studies that provided outcomes that support the associations between firm size and profitability such as Dogan (2013), Serrasqueiro & Nunes (2008), etc. Whereas there is also some piece of evidence from Niresh & Thirunavukkarasu (2014), Abeyrathna & Priyadarshana (2019), etc. where there is no significant relationship found between firm size and profitability. So, this research aims to see the exact relationship between firm size and profitability of NBFIs in Bangladesh. This study includes the natural log of total assets, natural log of total sales, natural log of no. of employees, and the natural log of no. of branches as a measure of size variable. Also, this research focuses on the 10-year dataset collected from the financial institution listed on DSE from 2012-2021.

1.1 Objective of the Study
The prime objective of the study is to find whether there's any relationship between financial performance and firm-specific factors (size, age, the percentage of the independent directors of a firm) of the listed NBFIs on the DSE Bangladesh. And the specific aims are:

I.   To analyze the dependency of a firm's financial performance on the firm size.

II. To determine the interdependence of a firm's financial performance with the age of a firm.
III. To measure the linkage between profitability and the percentage of independent directors available in a firm.

2. Literature Review
2.1. Evidence from outside of Bangladesh
The positive association between size and the profitability of firms has been shown by Dogan (2013). He used the dataset from Turkey.

Babalola & Abiodun (2013) attempted to show in their study the effect of firm size on profitability by taking evidence from Nigerian manufacturing companies from the year 2000 to 2009. They came up with the outcome that firms' size is positively related to the size factors.

Hirdinis (2019) analyzed in the study "Capital Structure and Firm Size on Firm Value Moderated by Profitability" that firm size has a significant impact on the firm's value which is profitability.

Serrasqueiro & Nunes (2008) attempted to show that there is a positive correlation between a firm's size and profitability. The study was done taking evidence from Portuguese SME companies. Further, in their study, it was also found that the relationship is negative between the size and profitability of large companies.

Manoppo & Arie (2016) demonstrated a positive relation between firm size and company value.

According to the study of Niresh & Thirunavukkarasu (2014), there is no significant relationship between size and profitability from the analysis of the data from Sri Lanka.

Yadav et. al., (2022) noticed in their study that firm size and profitability has a positive relation until the firm gets bigger in size. A small firm's profitability increases but as it grows old, the profitability reduces.

A study was conducted by Simbolon et. al., (2022) to determine the impact of working capital, firm size, and liquidity on profitability by taking data from 83 listed companies on the Indonesia Stock Exchange. It revealed that firm size has an influential power to explain profitability.

2.2. Evidence from Bangladesh
Hossain & Saif (2019) took data from 10 listed banking companies in Bangladesh from 2011 to 2015. Their study revealed that there is a significant association between firm size on the profitability of a firm. It was also found that controlled variables like age and independent directors have a negative impact on the financial performance of a firm.

Taking the panel data of 816 observations from Bangladesh, Dey et. al., (2018) conducted a study and used ROA, ROE, and EPS to measure a firm's financial performance. The analysis reveals that the financial performance of a firm is significantly positively related to the size of a firm.

Imtiaz et. al., (2019) conducted a study taking 8 independent variables to find out the profitability of NBFIs in Bangladesh. They took the sample of 12 NBFIs and the result showed that the size variable is not significant enough to describe the profitability of a firm.

Ima & Nahar (2022) found that profitability is independent of the size of a company in their study named "impact of firm-specific factors on profitability".

Hasan et. al., (2014) projected in their analysis that firm size has a profound impact on the performance of a firm. The measures of profitability used in the study were ROA, ROE, EPS, and Tobin's Q. The result shows size has a noticeable impact on ROA and EPS.

3. Methodology
This study incorporates the insights from literature and the financial data from listed NBFIs in Bangladesh to complete the analysis. Panel data have been used to assess the dependency of the financial performance of a firm on the size of the firm. To determine the outcome, pooled regression model has been used.

3.1. Data Source
Secondary data were used in this study. There are a total of 35 NBFIs operating in Bangladesh. Among them, 23 are listed on DSE. All the listed NBFIs have been taken to conduct the study. The time span of the data is from 2012 to 2021.

3.2. Variables
A total of 8 variables have been taken to conduct the study. Among these, 2 are dependent variables, 4 are independent variables and 2 are controlled variables. The summary of the variables is depicted in table 3.1.
3.2.1 Dependent Variables
No variable alone can provide the true picture of the financial performance accurately. And to achieve an exact output, 2 dependent variables have been used in this study. According to previous studies of profitability, it has been observed that the most used variables to measure the firm's financial performance are ROA and ROE.

Hossain & Saif (2019) also used these two variables in their study to quantify the financial performance of the firms.

I. Return on Asset (ROA): One of the literature-proven methods to measure the firm's financial performance is the Return on Asset. ROA measures the ability of the firm to convert its asset into profits (Babalola & Abiodun 2013). It is one of the commonly used methods used by previous authors like Niresh & Thirunavukkarasu (2014) to judge the efficiency of a firm. The formula for ROA is defined as Profit after tax/ total asset.

II. Return on Equity (ROE): The second most used variable to measure the financial performance of a publicly traded firm is the Return on Equity (ROE). It projects the capacity of the firm to manage its shareholders' capital and how efficiently the firm is turning the equity into profit. It is calculated by dividing the after-tax profit by the shareholders' equity. The higher the ROE, the better the financial performance of the company.

3.2.2. Independent Variables

There are 4 independent variables used separately in the study to measure the size of a firm. The proxies for the independent variables are total assets, total sales, the number of employees, and the number of branches of a firm.

I. Total Asset: A lot of scholars including Hirdinis (2019) and Saliha & Abdessatar (2011) used total assets to measure the size of a firm. Here, in this study, the natural logarithm of the total asset has been used.

II. Total Sales: The natural logarithm of total sales has been used as a proxy for the size of a firm. Rajan & Zingales (1995) also used this measure to show the size of a firm. The expected relationship between sales as the size of a firm and the financial performance of a firm is positive.

III. Number of Employees: The number of employees of a firm can be used as a proxy for the firm size. Here it is used as an independent variable to measure the influence on profitability. The natural logarithm has been used here.

IV. Number of Branches: The natural logarithm of the number of branches has been used as the last proxy for the firm size in this study. Researchers including Hossain & Saif (2019) have used this as a size indicator.

Sl. No.	The Name of the Variable	Type of the Variable	Formula	Expected Relation with Dependent variables
1.	Return on Asset (ROA)	Dependent Variable	Profit after Tax/Total Asset	-------
2.	Return on Equity (ROE)	Dependent Variable	Profit after Tax/Total Equity	-------
3.	Total Assets	Independent Variable	Natural Logarithm of Total Asset	Positive
4.	Total Sales	Independent Variable	Natural Logarithm of Total Sales	Positive
5.	No. of Employees	Independent Variable	Natural Logarithm of No. of Employees	Positive
6.	No. of Branches	Independent Variable	Natural Logarithm of No. of Branches	Positive
7.	Age	Controlled Variable	Listing Age of Firm	Negative
8.	The Percentage of Independent Director	Controlled Variable	No. of Independent Directors/ No. of Total Directors	Negative

Table 3.1: Summary of the variables

3.2.3. Controlled Variables

Control variables are the variables that assist to build a causal relationship among the other variables and reduce the biases of the study. Here, 2 controlled variables have been used in this study. These are the age of the firm and the percentage of independent directors. To find out the percentage of independent directors, the ratio of independent directors to the total number of directors has been employed. Age is used as the listing age of each

firm.

3.3. Model Specification

There are eight models used in this study to assess the impact of size on the financial performance of a firm. Four of the variables are used as proxies for size and these are used separately to assess the relationship. On the other hand, ROA and ROE have been used separately as dependent variables in different models. Other variables are constant in each model.

Model 1	$ROA_{it} = \beta_0 + \beta_1$ Size as Total Assets$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 2	$ROA_{it} = \beta_0 + \beta_1$ Size as Total Sales$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 3	$ROA_{it} = \beta_0 + \beta_1$ Size as Employee$_{it} + + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 4	$ROA_{it} = \beta_0 + \beta_1$ Size as Branches$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 5	$ROE_{it} = \beta_0 + \beta_1$ Size as Total Assets$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 6	$ROE_{it} = \beta_0 + \beta_1$ Size as Total Sales$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 7	$ROE_{it} = \beta_0 + \beta_1$ Size as Employee$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$
Model 8	$ROE_{it} = \beta_0 + \beta_1$ Size as Branches$_{it} + \beta_2$ Age$_{it} + \beta_3$ Independent directors$_{it} + \varepsilon_{it}$

Note: "it" refers to the specific data of firm i for the t period.

Table 3.2: Model specification

4. Results and Analysis

4.1. Descriptive Statistics

Table 4.1 shows the descriptive statistics of the variables used in the study. The number of observations is 210 for each variable. The mean value of ROA is 0.00355% and the mean of ROE is -8.27%. The mean values of the independent variables are 10.42, 9.17, 2.18, and .733 for the log of total assets, the log of total sales, the log of employees, and the log of branches respectively. The mean values of controlled variables are 21.89 and .25% for age and percentage of independent directors respectively.

Variables	Observations	Mean	Standard Deviation	Min	Max
ROA	210	.000355	.0766256	-.72443	.111467
ROE	210	-.8266098	10.55495	-120.98	2.93502
Log of Total Asset	210	10.41994	.4098979	9	11.55
Log of Total Sales	210	9.171888	.5816616	7	11
Log of Employees	210	2.183774	.425659	1.23045	3.1807
Log of Branches	210	.7334236	.3846293	0	1.47712
Age	210	21.89524	7.447968	9	45
Percentage of Independent Directors	210	.256287	.1375923	0	1

Table 4.1: Descriptive Statistics

The standard deviation of the variables ranges from 0.13 to 10.55 for all the variables. The highest standard deviation is observed in the value of ROE.

4.2. Correlation matrix

The multicollinearity test is done to see if there's any collinearity problem among the independent variables. The test was done in four sections.

Particulars	ROA	ROE	Total Assets	Age	Percentage of Independent Directors
ROA	1.0000				
ROE	0.1733	1.0000			
Total Assets	-0.0862	0.1134	1.0000		
Age	0.0492	-0.1548	0.5378	1.0000	
Percentage of Independent Directors	-0.3160	-0.1360	0.0798	-0.0413	1.0000

Table 4.2: Correlation matrix (keeping the natural log of the total assets as the size variable)

In table 4.2, the log of total assets is used as the size variable. It can be observed that no independent variable is highly correlated with each other. The correlation of total assets with ROA is negative and with ROE it is positive. Age has a positive correlation with ROA and a negative with ROE. In the case of the percentage of independent directors, the relationship is negative with both ROA and ROE.

Particulars	ROA	ROE	Total Sales	Age	Percentage of Independent Directors
ROA	1.0000				
ROE	0.1733	1.0000			
Total Sales	0.2670	0.2316	1.0000		
Age	0.0492	-0.1548	0.1942	1.0000	
Percentage of Independent Directors	-0.3160	-0.1360	-0.2296	-0.0413	1.0000

Table 4.3: Correlation matrix (keeping the natural log of total sales as the size variable)

In table 4.3, the log of total sales is used as the size variable. It can be observed that no independent variable is highly correlated with one another. The correlation of total sales is positive with ROA and ROE as well. Age shows a positive correlation with ROA and a negative one with ROE. In the case of the percentage of independent directors, the relationship is negative with both ROA and ROE.

Particulars	ROA	ROE	No. of Employees	Age	Percentage of Independent Directors
ROA	1.0000				
ROE	0.173	1.0000			
No. of Employees	0.1833	0.1459	1.0000		
Age	0.0492	-0.1548	0.5904	1.0000	
Percentage of Independent Directors	-0.3160	-0.1360	-0.3133	-0.0413	1.0000

Table 4.4: Correlation matrix (keeping the natural log of employees as the size variable)

In table 4.4, the log of total employees is used as the size variable. It can be observed that no independent variable is highly correlated with one another. The correlation of the number of employees is positive with ROA and ROE as well. Age depicts a positive correlation with ROA and a negative one with ROE. In case of percentage of independent directors, the relationship is negative with both ROA and ROE.

Particulars	ROA	ROE	No. of Branches	Age	Percentage of Independent Directors
ROA	1.0000				
ROE	0.1733	1.0000			
No. of Branches	0.0859	0.0812	1.0000		
Age	0.0492	-0.1548	0.3904	1.0000	
Percentage of Independent Directors	-0.3160	-0.1360	-0.2374	-0.0413	1.0000

Table 4.5: Correlation matrix (keeping the natural log of the total branch as the size variable)

In table 4.5, the log of total branches is used as the size variable. It can be observed that no independent variable is highly correlated with one another. The correlation of the number of branches is positive with ROA and ROE as well. Age holds a positive correlation with ROA and a negative one with ROE. In the case of the percentage of independent directors, the relationship is negative with both ROA and ROE.

4.3. Data Analysis

There are a total of 8 models in pooled regression analysis. Each table contains one dependent variable and one independent variable along with the controlled variables. The significance is showing at 1%, 5%, and 10% significance levels (99%, 95%, and 90% confidence levels accordingly). These tables also contain the VIF value of each variable so that it can be observed whether there's any multicollinearity problem.

Model 1	Coefficient	p> |t|	VIF	1/VIF
Total Asset	-.0345676	0.018 **	1.41	0.707427
Age	.0013917	0.082 *	1.41	0.710746
Percentage of Independent Directors	-.181078	0.000 ***	1.01	0.993629
Constant	.3764835	0.009		
R Squared: .1253	Prob> F: 0.0000	F Statistics: 9.84	No. of Obs: 210	Mean VIF: 1.28

Table 4.6: Model 1 of pooled regression analysis (dependent variable: ROA and independent variable: Total Asset as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

It is observed in table 4.6 that all three variables are significant. That means these variables have a significant impact on ROA. Total asset is significant at a 5% significance level, Age is significant at a 10% significance level and the percentage of independent directors is significant at a 1% significance level. Total

assets and percentage of independent directors show a negative influence on ROA while age shows a positive impact on ROA. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is also below 10.

Model 2	Coefficient	p> |t|	VIF	1/VIF
Total Sales	.0270858	0.003***	1.10	0.913112
Age	-.0000183	0.978	1.04	0.962276
Percentage of Independent Directors	-.149724	0.000***	1.06	0.947280
Constant	-.209299			
R Squared: .1398	Prob> F: 0.0000	F Statistics: 11.16	No. of Obs: 210	Mean VIF: 1.06

Table 4.7: Model 2 of pooled regression analysis (dependent variable: ROA and independent variable: Total sales as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

It is noticed in table 4.7 that total sales and the percentage of independent directors of the three variables are significant. That means these variables have a significant impact on ROA. Both are significant at a 1% significance level. Total sales show a positive impact on ROA and the percentage of independent directors shows a negative impact on ROA. This also resembles the previous studies. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is also below 10.

Model 3	Coefficient	p> |t|	VIF	1/VIF
Total Employees	.0200758	0.203	1.76	0.567792
Age	-.0002906	0.734	1.59	0.628522
Percentage of Independent Directors	-.1571618	0.000***	1.15	0.870141
Constant	.0031559			
R Squared: 0.1082	Prob.> F: 0.0000	F Statistics: 8.33	No. of Obs.: 210	Mean VIF: 1.50

Table 4.8: Model 3 of pooled regression analysis (dependent variable: ROA and independent variable: No. of employees as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

It can be perceived from table 4.8 that only the percentage of independent directors of the three variables is significant. That means it has a significant impact on ROA. This is significant at a 1% significance level and it shows a negative relation with ROA. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is 1.50 which is below 10.

Model 4	Coefficient	p> |t|	VIF	1/VIF
No. of Branches	-.0007156	0.961	1.25	0.798593
Age	.0003872	0.601	1.18	0.844829
Percentage of Independent Directors	-.1755806	0.000***	1.06	0.940547
Constant	.037402	0.061		
R Squared: 0.1012	Prob.> F: 0.0000	F Statistics: 7.73	No. of Obs.: 210	Mean VIF: 1.17

Table 4.9: Model 4 of pooled regression analysis (dependent variable: ROA and independent variable: No. of the branches as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

It is revealed from table 4.9 that only the percentage of independent directors of the three variables is significant. That means it has a significant impact on ROA. This is significant at a 1% significance level and it shows a negative relation with ROA. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is 1.17 which is below 10.

Model 5	Coefficient	p> |t|	VIF	1/VIF
Total Assets	6.858554	0.001***	1.41	0.707427
Age	-.4298066	0.000***	1.41	0.710746
Percentage of Independent Directors	-9.764511	0.057*	1.01	0.993629
Constant	-60.37911	0.003		
R Squared: 0.0945	Prob.> F: 0.0001	F Statistics: 7.16	No. of Obs.: 210	Mean VIF: 1.28

Table 4.10: Model 5 of pooled regression analysis (dependent variable: ROE and independent variable: Total assets as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

It is interpreted from table 4.10 that total assets, age, and the percentage of independent directors, all three variables are significant in this model. That means they have a significant influence on ROE. Total Assets and age are significant at a 1% significance level. The percentage of independent directors is significant at a 10% significance level. Total asset shows a positive effect on ROE and the other two variables (age and percentage of independent directors) reflect a negative impact on the ROE of a firm. That means size has a positive effect on ROE but the controlled variables have a negative impact. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is also below 10.

Model 6	Coefficient	p> |t|	VIF	1/VIF
Total Sales	4.57223	0.000***	1.10	0.913112
Age	-.2937716	0.002**	1.04	0.962276
Percentage of Independent Directors	-6.653315	0.202	1.06	0.947280
Constant	-34.62524	0.003		
R Squared: 0.1022	Prob.> F: 0.0001	F Statistics: 7.82	No. of Obs.: 210	Mean VIF: 1.06

Table 4.11: Model 6 of pooled regression analysis (dependent variable: ROE and independent variable: Total sales as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

From table 4.11, it is summarized that total sales and age have a significant impact on the dependent variable, ROE. Total sales and age both are significant at a 1% significance level. Total sales show a positive effect on ROE and age shows a negative effect on ROE. That means size has a positive dominance on ROE but the control variable "age" has a negative impact. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is also below 10.

Model 7	Coefficient	p> |t|	VIF	1/VIF
No. of Employees	8.563109	0.000***	1.76	0.567792
Age	-.5107926	0.000***	1.59	0.628522
Percentage of Independent Directors	-3.27601	0.545	1.15	0.870141
Constant	-7.502981	0.094		
R Squared: 0.1120	Prob.> F: 0.000	F Statistics: 8.66	No. of Obs.: 210	Mean VIF: 1.50

Table 4.12: Model 7 of pooled regression analysis (dependent variable: ROE and independent variable: No. of the employees as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

Table 4.12 projects that no. of employees and age have a strong impact on the dependent variable, ROE. No. of employees and age both are significant at a 1% significance level. No. of employees has a positive effect on ROE and age has a negative interrelation with ROE. That means size has a positive influence on ROE but the control variable, age has a negative impact. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is also below 10.

Model 8	Coefficient	p> |t|	VIF	1/VIF
No. of Branches	3.781485	0.070*	1.25	0.798593
Age	-.3021427	0.004***	1.18	0.844829
Percentage of Independent Directors	-8.600476	0.109	1.06	0.940547
Constant	5.219636	0.063		
R Squared: 0.0594	Prob.> F: 0.0054	F Statistics: 4.34	No. of Obs.: 210	Mean VIF: 1.17

Table 4.13: Model 8 of pooled regression analysis (dependent variable: ROE and independent variable: No. of the branches as size)
Note: 1%, 5%, and 10% significance levels are denoted by ***, **, and * respectively.

Among the three variables, no. of branches and age show a strong association with the dependent variable, ROE in table 4.13. No. of branches is significant at a 10% significance level and age is significant at a 1% significance level. No. of branches has an influential positive impact on ROE and age has a negative effect on ROE. That means size has a positive impact on ROE but the control variable "age" has a negative impact. The VIF and tolerance level measured by 1/VIF show that there's no multicollinearity problem in the study. The mean VIF is also below 10.

4.4. Findings

According to the models described above, size has a strong positive impact on the financial performance of firms. Total asset is a significant factor for both ROA and ROE. Model 1 shows a negative association which doesn't match the initial expectation but model 5 shows a positive association. The result has been proved by previous literature by Babalola & Abiodun (2013) and Hossain & Saif (2019). Total sales have a strong positive impact on both ROA and ROE. Both no. of employees and no. of branches have a strong positive impact on ROE but don't show a strong relationship with ROA. The controlled variable "age" has a strong negative impact on ROE and "the percentage of independent directors" has a negative impact on ROA. In only one model, the percentage of independent directors has a strong negative association with ROE. So it can be said that size has a positive influence on the financial performance of a firm. This is also proven by previous authors like Dogan (2013), Serrasqueiro & Nunes (2008). In the controlled variable, age has a negative impact on a firm's financial performance which is previously shown by Coad et. al., (2013) in their research. And the last controlled variable which is the percentage of independent directors also has a negative impact on the firm's financial performance.

Conclusion

The paper endeavors to show the impact of size variables on the measure of the financial performance of a firm. To do this, data from all the financial institutions listed on DSE have been taken from 2012-2021. Two variables: ROA and ROE have been used to measure the financial performance of these firms. The log of total assets, log of total sales, log of no. of employees, and log of no. of branches have been used as the proxy of the size of these firms. The controlled variables were the age of the firms and the percentage of the independent directors of these firms. The investigation from the dataset exhibits that the size variables have a positive impact on the financial performance of these firms whereas the control variables have a negative impact on the profitability. The dataset is also free from multicollinearity problems. As a whole, the research tried to add value to the country's research by fulfilling the previous research gaps and providing scope for the imminent researchers. The potential researchers may extend the work by considering other industries. They may also add different measures of financial performance and size. Thus, a holistic sight can be observed.

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Appendix

The list of the firms used in the study:

Sl. No.	Name of the Firm	Industry Name
1.	Bay Leasing & Investment Limited	Financial Institutions
2.	Bangladesh Finance Limited	Financial Institutions
3.	Bangladesh Industrial Fin. Co. Ltd.	Financial Institutions
4.	DBH Finance PLC.	Financial Institutions
5.	Fareast Finance & Investment Limited	Financial Institutions
6.	FAS Finance & Investment Limited	Financial Institutions
7.	First Finance Limited	Financial Institutions
8.	GSP Finance Company (Bangladesh) Limited	Financial Institutions
9.	Investment Corporation Of Bangladesh	Financial Institutions
10.	IDLC Finance Ltd.	Financial Institutions
11.	International Leasing & Financial Services Ltd.	Financial Institutions
12.	IPDC Finance Limited	Financial Institutions
13.	Islamic Finance & Investment Ltd.	Financial Institutions
14.	LankaBangla Finance Ltd.	Financial Institutions
15.	MIDAS Financing Ltd.	Financial Institutions
16.	National Housing Fin. and Inv. Ltd.	Financial Institutions
17.	Phoenix Finance and Investments Ltd.	Financial Institutions
18.	Peoples Leasing and Fin. Services Ltd.	Financial Institutions
19.	Premier Leasing & Finance Limited	Financial Institutions
20.	Prime Finance & Investment Ltd.	Financial Institutions
21.	Union Capital Limited	Financial Institutions
22.	United Finance Limited	Financial Institutions
23.	Uttara Finance and Investments Limited	Financial Institutions