

THE IMPACT OF BANKING RELATIONSHIP ON FIRM PERFORMANCE: EVIDENCE FROM HO CHI MINH STOCK EXCHANGE, VIETNAM

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ABSTRACT

This study aimed to investigate how close banking relationships affect Vietnamese public listed firms' financial performance based on the empirical evidence of 172 companies listed on Ho Chi Minh City Stock Exchange in the period 2017 – 2019. Regression models, including Pooled Ordinary Least Square (OLS), Fix Effects Model (FEM) and Random Effects Model (REM) were explored to test the proposed hypotheses. The results indicated that banking relationships have advantages that outweigh disadvantages, which brings a positive impact on firm performance. These results suggested that firms should pay attention to the quality of the banking relationships instead of seeking for negotiation power and diversity in sources of funds.

Keywords: banking relationship; firm performance; fixed effect model; Ho Chi Minh stock exchange; Vietnam.

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1. INTRODUCTION

Bank loan is one of the most important sources of capital of companies due to the low interest rates, comparing to the other sources (Myers, 1984). In addition, the use of bank loan capital might be useful for the companies to obtain a corporate income tax shield (Myers and Majluf, 1984). The companies, thus, made efforts to build a close relationship with the bank to access the official loans from the banking system, and improve business performance (Vu and Nguyen, 2013). The term of banking relationship (BR) represents the relationship between banks and

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companies (Boot, 2000). Accordingly, BR is measured by the number of banks that a firm has loans. Definition of close BR between firms and banks is used to describe that firms are borrowing the loans capital at less than three banks. BR is closer when the number of banks that firms maintain the loans is fewer.

From the bank's perspective, they might require their business customers to provide the confidential information about financial condition, net worth of assets, and business plan to assess the creditworthiness of these borrowers. Additionally, the bank might probably request the rights to monitor the firm's operation to be able to control the risks in the business decisions of the managers and shareholders (Diamond, 1984, 1991). Those interventions of banks in the firm's operation have led to the careful considerations of the firms to decide the number of banks to borrow the capital. This, therefore, is estimated to be an intimate relationship between the firms and the banks.

From the firm's perspective, BR plays an important role to improve credibility, reputation, and increases accessibility the official capital from the banks. This, then, aims to reduce the interest costs, and the impact arising from asymmetric information and agency problems (Vu and Nguyen 2013). However, Rajan (1992) indicated that BR might lead to an inhibition and reduction in the borrowing firm performance since the banks are able to use the obtained confidential information to interfere and/or manipulate the company's business activities. As a consequence, the conflicts in the business decisions and strategies between firm's managers and shareholders might occur. Also, the interference of the banks may aim to prevent the company from accessing the other sources of capital.

Various studies on the effects of BR on firm's performance have been conducted in developed countries such as Norway, Japan, UK, and Italy. Those studies have shown two perspectives on the influence of BR on company performance. On the one hand, it was argued that a closer BR might help firms to gain higher profitability, to increase reputation and accessibility to the diverse sources of capital, to reduce agency costs and asymmetric information (Aoki et al., 1994; Agarwal and Elston, 2001; Degryse and Ongena, 2001; Castelli et al., 2012; Vu and Nguyen, 2013; Jamil, 2015). On the other hand, Cao et al. (2010) studied the effects of BR between firms and state-owned banks on the financial performance of these firms in China. The result has shown that firms with intimate BRs exhibit lower market value than firms with less intimate BRs.

In Vietnam, 327/377 (~ 86.74%) companies listed on Ho Chi Minh City Stock Exchange (HOSE) have maintained BR and have borrowed loan capital from at least one commercial bank (statistical data calculated from the financial statements in 2019). From the scientific perspectives, several empirical studies have been carried out to examine the influences of BR on firm's performance such as Vo and Pham (2012); Le (2015); Le (2016). However, those studies mainly focused on local firms or small and medium enterprises. To the best of our knowledge, the studies on the whole market of joint stock companies listed on Ho Chi Minh City or Hanoi Stock Exchange are still limited. Accordingly, Vu and Nguyen (2013) studied the effects of BR on firm's performance listed on Ho Chi Minh City Stock Exchange between 2007 and 2010. The results of this study provided empirical evidence that the intimate BR might improve the firm's performance. Notably, the data used in the study of Vu and Nguyen (2013) was carried out during 2007-2010. The operation of companies in Vietnam, therefore, might be affected by the global economic and financial crisis in 2008. Especially, financial crisis in 2008 have resulted of

the increases in the interested rate at the Vietnamese commercial banks up to 20% per year from 2009 to 2013 and early 2014. This led to the increases in financial costs, and reduces in the operating performance of the Vietnamese firms. However, the interest rates at Vietnamese commercial banks have rapidly reduced from 2015 to the present according to the efforts of Vietnam's State Bank to rehabilitate the firm's performance and economic growth. From 2016, the loan's accessibility from commercial banks of Vietnamese firms was more advantages. This was estimated to be an important factor influencing to Vietnamese firm's performance. Hence, an empirical study to investigate the effects of BR on financial performance of Vietnamese companies after the global economic crisis is necessary to update evidence from scientific perspectives.

This study aims to investigate the influences of BR on the financial performance of joint stock companies in Vietnam based on the evidences from the companies listed on Ho Chi Minh City Stock Exchange (HOSE), where accounting for 90% of the market capitalization of the listed companies in Vietnam (Thanh Ha, 2020). Since commercial banks play as the intermediate institutions to supply financial sources for the firms, the results of this study are expected to provide up-to-date scientific evidences on the effects of BR on the performance of firms, not only in Vietnam, but also in other countries to figure out the alternatives to enhance the banking relationships of the firms in order to access the low-cost loans and improve the operation efficiency.

The 2nd section of this paper provides the theoretical framework and research model; the 3rd section aims to provide the materials and methods; the 4th section presents the results and discussion parts; and the conclusions and implications of the study address in the last section.

2. THEORETICAL FRAMWORK AND RESEARCH MODEL

2.1. *Theoretical framework*

Prior studies mainly explored the indicators of accounting efficiency, including capital structure, sales, costs, profit, and profitability ratios (i.e., return on average equity - ROE, return on average assets - ROA, and return on net sales - ROS) to measure firm's financial performance (Castelli et al., 2012). In this study, ROA is used to measure the financial performance as suggested by Degryse and Ongena (2001); Jamil (2015); Le (2016); Hitt et al. (1997).

In this study, the pecking order theory, which was developed by Myers (1984), is applied to examine the impacts of BR on firm performance based on the evidence from the enterprises listed on HOSE. Accordingly, debt is indicated as the lowest cost of capital of outside financial sources of firms. Thus, it plays a vital role in firm's business activities. Nevertheless, information asymmetry problems have resulted in the adverse selection. Thus, creditors have to face extremely high default risk. Furthermore, with differences in risk tolerance between the lenders and the borrowers, agency problem might arise, which may bring lenders higher default risk (Jensen and Meckling, 1976).

In order to deal with the above problems, banks create a strong relationship with firms through confidential information exchange and operation monitoring (Diamond, 1984, 1991).

Specifically, banks request detailed information about firm's projects and financial health (usually confidential information) to secure the repayment ability of firms in the future (Boot, 2000). The information is usually collected through the initial inspection stage and through the time when banks play the role of a supervisor, which are: (i) information that is not published, (ii) information updated through supervision phase and (iii) information supposed to be kept in secret.

From the bank's perspective, the initial purpose of BRs is to minimize the agency cost and other expenses, which have resulted from information asymmetry phenomenon (Diamond, 1984). However, it should be noticed that a close relationship might lead to a soft budget constraint since the banks probably extract the ex-post loans for the companies, which are their existing customers and might be on the verge of bankruptcy (Maskin, 1996; Boot, 2000). The problem comes when those enterprises recognize how easy it is to renegotiate a new contract with a bigger loan. This has resulted in their irresponsible behaviors on the loans which they were received from the banks. Consequently, these behaviors are supposed to increase risks and negatively affect the bank's performance.

From the firm's perspective, the building of good BRs helps to reduce agency conflict related to financial intermediation, to decrease the negative impact of asymmetric information, to increase accessibility to loans, and to lower interest cost (Diamond, 1984, 1991; Rajan, 1992; Houston and James, 1996). Besides that, close BR between bank and firm might enhance the monitoring of the bank in the firm's operation. This, then, might prevent the illegal lucre transfer from creditors to shareholders, which arises from the agency problem-related issues (Limpaphayom and Polwitoon 2004). As the moral issues are taken seriously, public information about the BRs might improve the firm's prestige and gain more opportunities to expose to other funding channels from the capital market (Diamond, 1991; Kutsuna et al., 2007). In addition, firms are able to receive the special sponsors from the familiar-connected banks to overcome financial or business distress (Hoshi et al., 1990).

In spite of the benefits from familiar connection with the banks, it might be costly for firms to associate with those kinds of relationships. Rajan (1992) figured out that those costs come mainly from the sharing of confidential information from firms to the banks. Then, firms have to deal with the manipulative risks from the banks. Besides that, banks might disclose information which have been collected from BRs to firm's competitors in order to prevent the breaking the relationship with the firms. Bank, which is handling the confidential information of firm, might self-break down the prior negotiations with the firms to increase the interest rates, and/or to reject the loans requested from firm. Consequently, firms, which have made effort to improve the operation performance to access to credit from other banks, and/or extend a wider range of funds to minimize the interest costs though this might take away the advantages of the firms having the initial BRs (Massa and Dass, 2006). These problems can be argued based on the theory of agency, which is caused by the conflicts of interests in risk tolerance between the shareholders of firms and the banks (Jensen and Meckling, 1976). In particular, the shareholders expect the higher return ratios for firms. They, therefore, might accept the high-risk project with high potential returns. In contrast, the banks probably interfere with the firm's operations to deny the high-risk projects in order to guarantee the solvency of the firms. These, thus, become the hold-up pressures of the banks on the firm's operation.

2.2. Hypothesis and research model

The hypothesis and theoretical research model of this study are simulated in Figure 1. The number of banks, which firms have maintained the relationships is the most appropriate factor to examine the effects of BR on the firm's performance in the related previous studies (Yosha, 1995; Rajan, 1992; Degryse and Ongena, 2001; Castelli et al., 2012; Vu and Nguyen, 2013; Jamil, 2015). Accordingly, firms are supposed to have a close relationship with bank since they only have the loans at less than three banks. Rajan (1992) have indicated that firms tend to switch from familiar relationship to non-familiar relationship in order to reduce the interest cost, and to settle down the effect of hold-up problems as discussed in the agency theory. Hiraki et al. (2003) reinforced this view, and claimed that firms, which have multiple BRs, are able to wider the range of loans options, and to cope with the hold-up problems. The firms, then, are expected to have much more negotiation power and are able to deny the sharing of confidential information with banks.

However, it should be noticed that the establishment of relationships with multiple banks require the certain costs to improve the internal auditing systems in order to incur restructuring debt claim. Moreover, firms might probably lose the goodwill of interest cost in the non-familiar relationships with the banks, compared to the familiar connection situation (Yosha, 1995; Castelli et al., 2012; Vu and Nguyen, 2013). Those negative effects are predicted to be larger than benefits of the contribution of multiple BRs (Jamil, 2015). Hence, it is hypothesized that firm, which increase the number of BRs, tends to decrease its performance.

H₁: Firm performance decreases as the number of banking relationships increases.

Additionally, various related studies have disclosed that the ratio of total amount of bank loans to the total debts of the firm, is even explored to represent for the BRs of firms because it demonstrates the intention of the firms in using bank loans capital (Agarwal and Elston 2001; Hiraki et al., 2003; Cao et al., 2010). Firms, which have accessed to a huge amount of bank loans, might withhold the confidential information and/or avoid being controlled by banks. Nevertheless, previous studies have stressed that the larger ratio of bank loans amount to the total debts have led to the greater decrease in the firm's performances (Hiraki et al., 2003; Cao et al., 2010). Therefore, in this study, it is hypothesized that the performance of firm is predicted to be declined when firm uses more bank debt or increases the level of bank credit.

H₂: Firm performance decreases as the ratio of bank loans to total debts increases.

In this study, firm characteristics, including leverage, structure of assets, firm's experience, operation scale, and shareholders structure, are included as the control variables to explore the determinants of the firm's performance (Loderer and Waelchli, 2010). As suggested by Hamdani (2020), firm leverage, which is measured by the ratio of total liabilities to equity in a fiscal year, might negatively affect firm's liquidity, and might increase the cost of capital. Thus, an increase in the leverage causes a decrease in the firm's performance. The structure of firm's asset is estimated to influence the firm's performance (Pouraghajan et al., 2012). The ratio of fix assets to total assets might have a positive relationship with the financial performance of firms. This means that firms investing more in fix assets such as machines and technology systems might

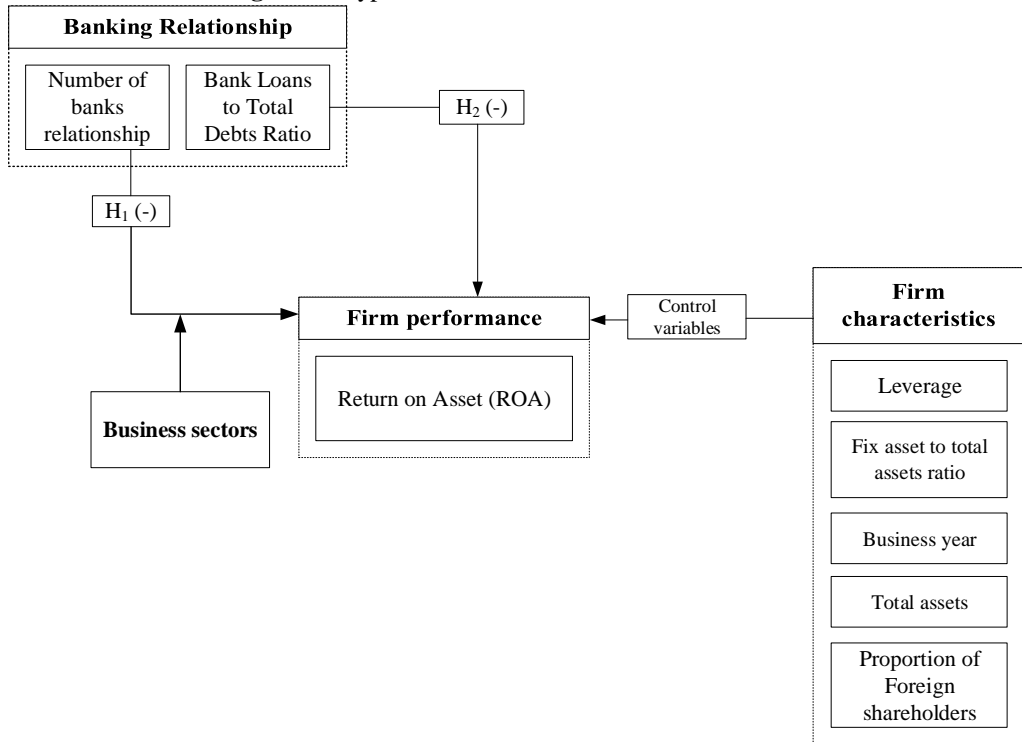
have more advantages to extend the operating scale and improve performance. However, Zeitun and Titan (2007) indicated that heavy investment in fixed assets might result in the out of working capital and a decline in the liquidity of firm. These, then, are predicted to negatively impact the firm's competitive advantages and performance.

Total years of firm's operation, which is defined as the total number of years since the firm was formed, represent the firm's experience in the entire industry. Generally, firms with a longer history in operations are believed to have more experience and market shares, which helps them perform better. However, prior research conducted by Agarwal and Gort (2002); Loderer and Waelchli (2010) found a contradict result. The results of those studies claimed that old-established firms might experience a phase of distress that negatively affect the firm performance. Long-established firms are usually conservative with business decisions and operating systems. Thus, these firms are expected to have lower performance.

Operation scale has been argued as a decisive factor of firm's performance. Large-scale firms, which is commonly measured by total asset value in the related studies, are estimated to be challenged to gain a high-performance because the operation process is complicated, and it might be difficult to monitor all stages of business in those firms (King and Santor, 2008). This has resulted in the abusive and lucrative acts. Conversely, Vo (2014) indicated that the large-scale firms are able to gain the economics of scale and improve the competitive advantages and performance. Moreover, large-scale firms are supposed to easily access financial funds in order to invest in modern technology and/or new projects and improve internal management systems. Shareholder's structure is also one of the determinant factors of firm's performance as suggested by Vo (2014). In fact, firms, which are partly owned by foreign investors, are expected to boost its performance. This is because the foreign investors, especially foreign institutions, who are known to be professional with more experience in business, have efficient operating methods and deep knowledge that can help firms to improve their own operations.

On the other hand, Nguyen (2013) stressed that the difference in business sector is correlated with the firm's performance. Vu and Nguyen (2013) also indicated that the business sector might be the moderator factor that affects firm's performances and BRs since each business sector has different capital structure and cost of capital due to the difference in the accessibility of capital from banks and formal financial institutions. Moreover, the business sector might also influence the investment decisions of investors on the stock markets. These, then, have led to the difference in firm value and performance.

Figure 1: Hypothesis and Theoretical Research Model



3. METHODOLOGY

3.1. Data collection

To test the proposed hypotheses, the panel data was randomly collected from the subgroups of business sectors categorized by HOSE in July 2020. In Vietnam, the Covid-19 pandemic occurred in the early 2020. Therefore, the data used in this study was obtained based on the financial statement from 2017 to 2019 in order to exclude the effects of the COVID-19 pandemic. Balanced data are gathered from the financial and annual reports during the period from 2017 to 2019 of 340 non-financial companies listed on the HOSE. First, those non-financial companies were ordered by business sectors¹, and sorted by name. Second, the sampling of 172 firms was chosen from total 340 companies (~ 50.6%) with the step of one. This means that the number of observations included in the database is 516 (see Table 1). Total number of banks working with the observed companies is 98, which includes 2 State Development and Policies

¹ The groups of business sectors are categorized by HOSE.

banks, 31 Joint-Stock Commercial banks, 2 Joint-Venture banks and 61 Foreign Capital banks and Foreign bank branches. Financial companies listed on the HOSE, including fund of investment institutions, insurance firms and securities firms, are not included in the samples due to the differences in the structures of assets and capital, compared to non-financial firms (Thanh Ha, 2020).

Table 1: Structure of Data Sampling

Business sectors of non-financial firms*	Whole of HOSE (Number of firms)	Observed samples (Number of firms)	Proportion of observed samples to the whole of HOSE (%)
Consumer staples	76	38	50.0
Utilities	25	13	52.0
Health care	12	6	50.0
Energy	10	5	50.0
Information technology	6	3	50.0
Industrials	105	53	50.5
Materials	59	30	50.9
Real estate	47	24	51.1
Total	340	172	50.6

3.2. Data Analysis

With the use of panel data, regression models including pooled ordinary least square model (Pooled OLS), fixed effect model (FEM) and random effect model (REM) were employed to analyze the effects of BR on firm performance. Statistical tests, including F-test, Breusch-Pagan Lagrange multiplier test, and Hausman test, then, were conducted to figure out the best fit model ($P < 0.05$). Firstly, F-test was applied to compare the goodness of fit between Pooled OLS model and FEM, while the Breusch-Pagan Lagrange multiplier test was used to test the goodness of fit of Pooled OLS and REM. The rejections of null hypothesis mean that FEM and REM were the better fit models than Pooled OLS. Finally, the Hausman specification test was employed to compare the goodness of fit between FEM and REM in case Pooled OLS was not appropriate to use. In addition, the Durbin-Wu-Hausman test was explored to check the existences of the endogenous phenomenon between the BR and firm performance as suggested by Baum et al. (2007). The basic function is presented as follows:

$$Y_{it} = \beta_0 + \sum_{j=1}^n \beta_{jit} x_{jit} + \varepsilon_{it} \tag{1}$$

where dependent variable Y_{it} describes the firm performance measured by ROA of firm i^{th} ($i = 1, \dots, 172$) at year t^{th} ($t = 2017, 2018, 2019$); x_{jit} ($j=1, n$) are explanatory variables which are observed as the potentially influencing factors of the performance of firm i^{th} ($i = 1, \dots, 172$) at year t^{th} ($t = 2017, 2018, 2019$); β_0 is the intercept; β_{jit} indicates the parameters respective to the explanation of x_j on firm performance of firm i^{th} ($i = 1, \dots, 172$) at year t^{th} ($t = 2017, 2018, 2019$); ε_{it} is error term.

Consistence with the theoretical research model, return on assets (ROA) is an indicator of firm performance. Besides that, the explanatory variables, including the number of BRs and bank loans to total debts ratio, have been added to the regression model in order to examine the effects of BRs on the firm performance. Control variables consists of leverage, ratio of fix assets to total assets, total business year of firms, operation scale which is measured by the value of total assets, and the proportion of shares owned by foreign shareholders. Regarding the effect of business sector on firm performance as well as according to the data published on annually financial reports of the firms listed on the HOSE in 2019, the value of market capitalization of real estate firms was highest in the non-financial firms' group. Vu and Nguyen (2013) indicated that real estate firms might mortgage the potential projects to access the bank loans. The capital structures and cost of capital of firms in this industry, thus, are distinct from those in other business sectors. In this study, the interaction variable between a dummy variable of real estate firms and the number of BRs is coded as the treatment group to identify the moderating effect of a dummy variable of real estate firms on the relationship between BR and firm performance.

The description of variables included in the regression models was shown in Table 2. As can be seen in Table 2, ROA in the samples has positive skew distribution with mean and standard deviation of 8%, while maximum value up to 55%. The average number of banks (Brnumber) that companies have lending relation is 4.45 and the maximum number of banks which firms have lending relationship is 16. These numbers is found to be higher than the number recorded in study of Vu and Nguyen (2013) when the number of banks that companies having lending relation has an average value of 2.65 and maximum value of 8. This difference contributes to the fact that there are changes in Vietnam economy and firm's credit intention at present (2017-2019) compared to the period 2007-2010. The average level of bank credit, which is measured by the ratio of bank loans to total liabilities, is 39% and the maximum level of bank credit is 97%.

Table 2: The Statistical Description of Factors Affecting Firm's Performance Included in the Regression Models, Calculated based on Data Published on Financial Report of 172 Non-Financial Listed Companies on HOSE from 2017 to 2019

Variables	Descriptions	Mean (N=516)	SD	Min	Max
Dependent variable	Return on Assets (ROA)	0.08	0.08	-0.19	0.55
Independent variables					
X_1	Banking relationships (Number of banking relationships of observed firms in the samples)	4.45	3.16	0.00	16.00
X_2	Interaction variables between the number of banking relationships and the real estate firms observed in the samples	0.53	1.56	0.00	12.00
X_3	Bank loans to total debts ratio (%)	0.39	0.26	0.00	0.97
X_4	Fix assets to total assets ratio (%)	0.24	0.22	0.00	0.94
X_5	Leverage (%)	1.44	2.21	0.03	27.57

Variables	Descriptions	Mean	SD	Min	Max
		(N=516)			
X_6	Logarithm of business years	2.96	0.56	0.69	4.03
X_7	Logarithm of the value of total assets	7.87	1.41	4.97	12.91
X_8	Proportion of shares owned by foreign shareholders (%)	0.14	0.17	0.00	0.80

4. RESULTS AND DISCUSSION

4.1. Results

As can be seen in Table 3, correlation coefficients between explanatory variables included in the regression models are less than 0.5. This suggested that the existence of multicollinearity can be ignored (Guajarati, 2003).

Table 3. Correlation Matrix

Variables	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1	1.0000							
X_2	0.0679	1.0000						
X_3	0.3596	-0.2063	1.0000					
X_4	0.0525	-0.2865	0.4145	1.0000				
X_5	0.1945	0.0195	0.0923	-0.1250	1.0000			
X_6	0.0326	-0.0766	0.0488	-0.0788	0.0710	1.0000		
X_7	0.4266	0.3189	-0.0783	-0.0856	0.1855	-0.0626	1.0000	
X_8	0.0591	0.0265	-0.1311	-0.0574	-0.0945	0.0689	0.2578	1.0000

The results of Pooled OLS, FEM, and REM regression models are presented in Table 4. Overall, the estimated results of those regression models indicate that both BR indicators, including the number of banks that firms have relationship and bank loans to total debt ratio negatively affect ROA ($P < 0.01$). This suggests that firms with close BRs tend to have a lower performance ($P < 0.01$).

Table 4: The Estimated Results of the Pooled OLS, FEM, and REM Regression Models

Variables	Pooled OLS	FEM	REM
X_1	-0.008***	-0.007***	-0.007***
X_2	-0.005**	0.001	-0.006*
X_3	-0.094***	-0.070***	-0.081***
X_4	-0.030*	-0.059**	-0.025
X_5	-0.006***	-0.023***	-0.010***
X_6	0.015**	-0.088***	-0.003
X_7	0.005	0.005	0.002
X_8	0.089***	0.022	0.060**
Constant	0.060**	0.397***	0.138***
Number of Observation	516	516	516
F - test	27.63***	16.20***	

Chi – square test	156.88***
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Note: ***, **, * denote the significant level at 0.01, 0.05, 0.1, respectively.

Table 5: Statistical Test Results

Specification test	Test value
F-test	15.42***
Breusch – Pagan Lagrange multiplier test	331.65***
Hausman test	41.75***
Wu-Hausman test	7.64 ^{ns}
Durbin-Wu-Hausman test	7.53 ^{ns}

Note: ***, **, *, ns denoted the significant level at 0.01, 0.05, 0.1, and insignificant respectively.

As can be seen in Table 5, the statistical results of F-test and Breusch-Pagan Lagrange multiplier test indicate that FEM and REM demonstrate better goodness of fit than Pooled OLS model ($P < 0.01$). The result of Hausman specification test shows that FEM is the fitter model, compared to REM ($P < 0.01$). The estimated result of FEM, thus, is explored to address the effects of BRs on the firm’s performance. The result of Durbin-Wu-Hausman specification test indicates that there is no endogenous in the regression model.

According to the results of FEM, the number of BRs has a negative effect on ROA ($P < 0.01$). This result corresponds to initial hypothesis and is consistent with previous related works of Yildirim (2020); Gustafson et al. (2017); Boot (2000); Dennis and Mullineaux (2000). Regarding the bank loans to total debts ratio, the result in Table 3 indicates a negatively significant coefficient ($P < 0.01$), which means that firms with a higher ratio of bank credit loans to total debts have a lower performance. This finding is in line with the original assumption and previous studies conducted by Hiraki et al. (2003); Cao et al. (2010); Agarwal and Elston (2001).

In addition, based on the estimated results in Table 4, firm characteristics have a strong correlation with firm performance. Specifically, financial leverage has a negative influence on the firm performance ($P < 0.01$). Recent result is corresponding with the scholars of Simerly and Li (2000). Business years are found as a significant factor that causes a reduction in firm performance ($P < 0.01$). This suggests that firms with more operation experiences might have a lower performance than less experienced firms. This result is contrary to previous studies of Agarwal and Gort (2002); King and Santor (2008).

4.2. Discussion

The regression results in Table 4 show the statistically effect of both representative factors of BRs on firm performance, including the number of BRs and the level of bank credit. The loans from various banks might negatively affect borrowing firm’s performance. Consistence with this result, Yildirim (2020) have suggested that the loans from only one bank might reduce the default probability and increase the efficiency of a borrowing firm. This relationship creates the benefits for both bank and borrower since main bank is able to collect private information of the borrower which can be used to monitor the borrower’s operational performance to guarantee the loans, reduce default risk, avoid moral hazard, mitigate adverse selection, and better evaluate the future loans application. In the long terms, these main banks might gain expertise in the

screening and monitoring of loans, which also benefits the operation of the borrowing firm's business (Gustafson et al., 2017).

Conversely, Degryse and Ongena (2001); Castelli et al. (2012); Jamil (2015) indicated that more BRs helps firm to boost performance, suggesting that firms with the decision to borrow from a main bank may overlook the other opportunities to obtain the alternative sources of funds, such as access to public debt markets with lower interest rates. Moreover, firms, which access the loans from various banks, are able to reduce the default risks in case the main bank is acquired (Hale and Santos 2009). However, a positive relationship between BR and firm performance does not mean that firms should borrow more from multiple banks to improve performance. Vu and Nguyen (2013) pointed out that if the financial leverage increases, in other words, if firm increases the amount of bank loan, the performance of this firm will decrease. Bank loans cost firm interest cost, which reduces the profit of firms. Furthermore, firms having more debt usually have to face with much more credit risk that might affect firm's performance in the end.

Beside the main factors as discussed above, it is clearly shown through the research results in Table 4 that the age of firm strongly affects the performance of firm. This means that firms with longer years of operation tend to have lower performance. This can be explained by the fact that Vietnam capital market is young with just approximately 20 years of operations. So, old-established firms are equitized state-owned companies. These state-owned firms usually perform inefficiently due to their conservative managing structure and irresponsible operation resulted from soft budget constraint.

5. CONCLUSION AND POLICY IMPLICATION

This study uses a sample of 172 non-financial companies listed on Ho Chi Minh City Stock Exchange in Vietnam, including 516 observations in period 2017-2019 in order to examine the impact of BRs on firm performance. The empirical findings of the study imply that the larger the number of BRs that firms have, the lower efficiency that firms perform. This result is completely consistent with the analysis that firms choosing to maintain few BRs will have advantages of BRs such as reducing information asymmetry, agency problems and earning goodwill of interest cost, which outweigh negative effects related to hold-up problems.

This research also points out that the level of bank credit, financial leverage as well as firm age negatively affect firm performance. These results noticed that the higher financial leverage, which was measured by the ratio of bank debt to liabilities, the lower ratio of return on average total assets. It might be because the constraining problems, such as debt management transaction costs, agency costs, free rider problem, might probably be existed. Firms that used the large amount of bank's loan might face to the higher interest costs, and decreases in efficiency. In addition, the higher interest costs might lead to the changes in the investment decision of firms to the higher risk projects in order to cover the interest costs. This, then, might reduce the firm's payment ability. This suggested that the management of firm's capital structures in order to utilize the low-cost financial sources should be considered carefully. Firms should pay more attention to the quality of the relationship established with banks instead of seeking for negotiation power and diversity in sources of funds. Ease in credit relationships is harmful as it can lead to free rider problems and agency conflicts inside firms. In this study, the endogenous problem between banking relationships and firms performance probably was not found based on

the Durbin-Wu-Hausman test. The results of this study, therefore, are estimated to be useful platform for the firms to manage the financial sources, and improve the business performance. However, from bank's perspective, it is suggested that banks need to pay more attention to self-appraise firm's solvency and avoid relying on previous firm loans to accept firm's credit. Changes happen so there is no guarantee that borrowing firm will continue to perform well. Banks should tighten the relationships with borrowing firms by asking these firms to provide confidential information and by playing monitoring role in order to secure firm's debt solvency. This proposes that firms with the higher business performance might improve the bank relationships, putting forward the scientific study to examine the correlation between firm performance and bank relationships should be conducted to figure out the alternatives, not only to enhance the firm's efficiency, but also to help the commercial bank systems for reducing the credit risks and maintaining the profitability.

DATA AVAILABILITY STATEMENT

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to the copyright belongs to the funding administration.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest

REFERENCES

- Agarwal, R., & Elston, J. A. (2001). Bank-firm relationship, financing and firm performance in Germany. *Economic Letters* 72(2), 225–232. doi:10.1016/S0165-1765(01)00427-X.
- Agarwal, R., & Gort, M. (2002). Firm and product life cycles and firm survival. *American Economic Review*, 92(2), 184–190. doi:10.1257/000282802320189221.
- Aoki, M., Patrick, H., & Sheard, P. (1994). *The Japanese main bank system: An introductory overview*, in Masahiko Aoki and Hugh Patrick, eds: *The Japanese Main Bank System*. Oxford, UK: Oxford University Press.

- Baum, C. F., Schaffer, M. E., & Stillman, S. (2007). Enhanced routines for instrumental variables/generalized method of moments estimation and testing. *The Stata Journal*, 7(4), 465-506.
- Boot, A. W. A. (2000). Relationship banking: What do we know?" *Journal of Financial Intermediation* 9(1): 7–25. doi:10.1006/jfin.2000.0282.
- Cao, W., Chen, J., & Chi, J. (2010). "Bank firm relationship and firm performance under a state-owned bank system: Evidence from China." *Banks and Bank Systems*, 5(3), 68–79.
- Castelli, A., Dwyer, G. P. J., & Hasan, I. (2012). "Bank relationships and firms' financial performance: The Italian experience". *European Financial Management*, 18(1), 28-67.
- Degryse, H., & Ongena, S. (2001). Bank relationships and firm profitability. *Financial Management*, 30(1), 9–34. doi:10.2307/3666389.
- Dennis, S. A., & Mullineaux, D. J. (2000). Syndicated loans. *Journal of Financial Intermediation* 9(4), 404–426. doi:10.1006/jfin.2000.0298.
- Diamond, D. W. (1984). Financial intermediation and delegated monitoring. *Review of Economic Studies*, 51(3), 393–414. doi:10.2307/2297430.
- Diamond, D. W. (1991). Monitoring and reputation: The choice between bank loans and directly placed debt. *Journal of Political Economy*, 99(4), 689–721. doi:10.1086/261775.
- Guajarati, D. N. (2003). *Basic econometrics (4th ed.)*. New York: McGraw Hill.
- Gustafson, M. T., Ivanov, I. T., & Meisenzahl, R. R. (2017). Bank monitoring: Evidence from syndicated loans. *Journal of Financial Economics*, 139(2), 452–477. doi:10.1016/j.jfineco.2020.08.017.
- Hale, G., & Santos, J. A. C. (2009). Do banks price their information monopoly?. *Journal of Financial Economics*, 93(2), 185–206. doi:10.1016/j.jfineco.2008.08.003.
- Hamdani, N. A., Solihat, A., & Maulani, G. A. F. (2020). The influence of current ratio, debt-to-equity ratio, inventory turnover, and return on investment on price-earnings ratio of cement industry companies listed at Indonesia stock exchange. In Hurriyati, R., Tjahjono, B., Yamamoto, I., Rahayu, A., Abdullah, A. G., & Danuwijaya, A. A (Eds.), *Advances in Business, Management and Entrepreneurship: Proceedings of the 3rd Global Conference on Business Management & Entrepreneurship (GC-BME 3) Bandung, Indonesia (pp. 7)*. London: CRC Press.
- Hiraki, T., Ito, A., & Kuroki, F. (2003). Single versus multiple main bank relationships: Evidence from Japan. *Social Science Research Network*. Retrieved from <https://www.fs.hub.hit-u.ac.jp/>
- Hitt, M. A., Hoskisson, R. E., & Kim, H. (1997). International diversification: Effects on innovation and firm performance in product-diversified firms. *Academy of Management Journal*, 40(4), 767–798. doi:10.5465/256948.
- Hoshi, T., Kashyap, A. & Scharfstein, D. (1990). The role of banks in reducing the costs of financial distress in Japan. *Journal of Financial Economics*, 27(1), 67–88. doi:10.1016/0304-405X(90)90021-Q.
- Houston, J., & James, C. (1996). Bank information monopolies and the mix of private and public debt claims. *Journal of Finance*, 51(5), 1863–1889. doi:10.1111/j.1540-6261.1996.tb05229.x.
- Jensen, M. C., Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. doi:10.1016/0304-405X(76)90026-X.
- King, M. R., & Santor, E. (2008). Family values: Ownership structure, performance and capital structure of Canadian firms. *Journal of Banking and Finance*, 32(11), 2423–2432. doi:10.1016/j.jbankfin.2008.02.002.

- Kutsuna, K., Smith, J. K., & Smith, R. L. (2007). Banking relationships and access to equity capital markets: Evidence from Japan's main bank system. *Journal of Banking and Finance*, 31(2), 335–360. doi:10.1016/j.jbankfin.2006.04.007.
- Le, T. N. M. (2016). *Evaluate the impact of the number of banking relationships on the business performance of the company in Can Tho city*. Master's Thesis in Economics, Can Tho University, Vietnam
- Le, Y. X. (2015). *Impact of banking relationship on the company's operations in Vinh Long*. Master's Thesis in Economics, Can Tho University, Vietnam.
- Limpaphayom, P., & Polwitoon, S. (2004). Bank relationship and firm performance: Evidence from Thailand before the Asian financial crisis. *Journal of Business Finance and Accounting*, 31(9-10), 1577–1600. doi:10.1111/j.0306-686X.2004.00585.x.
- Loderer, C. F., & Waelchli, U. (2010). *Firm age and performance*. Retrieved from <http://dx.doi.org/10.2139/ssrn.1342248>
- Maskin, E. S. (1996). Theories of the soft budget-constraint. *Japan and the World Economy*, 8(2), 125–133.
- Massa, M., & Dass, N. (2006). *The dark side of bank-firm relationships: The (market) liquidity impact of bank lending*. Retrieved from: <http://dx.doi.org/10.2139/ssrn.891046>
- Myers, S. C. (1984). Capital structure puzzle. *National Bureau of Economic Research Working Paper No. w1393*. Retrieved from <http://www.nber.org/papers/w1393>. doi:10.3386/w1393.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. doi:10.1016/0304-405X(84)90023-0.
- Nguyen, L. T. T. (2013). *Research on factors affecting the business performance of food manufacturing and processing companies listed on Vietnam's stock market*. Master's Thesis in Business Administration, Da Nang University, Vietnam.
- Pouraghajan, A., Malekian, E., Emamgholipour M., Lotfollahpour, V., & Bagheri, M. M. (2012). The relationship between capital structure and firm performance evaluation measures: Evidence from the Tehran Stock Exchange. *International Journal of Business and Commerce*, 1(9), 166–181.
- Jamil, M. P. A. S. (2015). *The effect of banking relationship on firm performance in Malaysian public listed companies*. Master's Thesis, Universiti Utara Malaysia.
- Rajan, R. G. (1992). Insiders and outsiders: The choice between informed and arm's length debt. *Journal of Finance*, 47(4), 1367–1400. doi:10.1111/j.1540-6261.1992.tb04662.x.
- Simerly, R. L., & Li, M. (2000). Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test. *Strategic Management Journal*, 21(1), 31–49.
- Thanh Ha. (2020). *Vốn hóa thị trường trên HoSE đạt trên 2,87 triệu tỷ đồng, chiếm 57% GDP*. Retrieved December 16 2020, from nhipsongkinhdoanh.vn .
- Vo, V. D., & L. T. Pham. (2012). Analysis of factors affecting the relationship between commercial banks and companies in Can Tho. *Banking Magazine*, 10, 42–47.
- Vo, X. V. (2014). Ownership structure, operational efficiency and company value in Vietnam's stock market. *Development and Integration Journal*, 16(26), 28–32.
- Vu, H. T., & Nguyen, M. H. (2013). The effect of banking relationships on firm performance in Vietnam. *International Journal of Economics and Finance*, 5(5), 148–158. doi:10.5539/ijef.v5n5p148.
- Yildirim, A. 2020. The effect of relationship banking on firm efficiency and default risk. *Journal of Corporate Finance*, 65, 101500. doi:10.1016/j.jcorpfin.2019.101500.

- Yosha, O. (1995). Information disclosure costs and the choice of financing source. *Journal of Financial Intermediation*, 4(1), 3–20. doi:10.1006/jfin.1995.1001.
- Zeitun, R., & Tian, G. G. (2007). Does ownership affect a firm's performance and default risk in Jordan?. *Corporate Governance: The international Journal of Business in Society*, 7(1), 66–82. doi:10.1108/14720700710727122.