BANK FINANCING AND CORPORATE GOVERNANCE: EMPIRICAL EVIDENCE FROM VIETNAM

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ABSTRACT

This paper examines the role of debt resulting from bank financing for corporate governance towards the activities of withdrawing cash and assets to controlling shareholders' account to benefit their rights by capturing secondary data for 250 non-financial firms listed in the Vietnam Index, considered as one of the emerging stock markets, during the period from January 2006 to December 2016. The authors build three models to investigate in explaining whether the negative impact of intercorporate loan on predicted firms' performance or not, the level of constitution by the aforementioned loans to debt financing and the simultaneous influence of both debt and these loans to firms' performance. We employ two regression methods including system Generalized Method of Moments (system-GMM) as well as Two Stage Least Squares (2SLS) for estimating three proposed models to ensure consistent and unbiased results. The findings show that the Vietnamese companies could use debt to control the majority shareholders' expropriation. However, the overuse bank financing and weak corporate governance might adversely lead to future firms' performance.

Contribution/ Originality: This study contributes to the existing literature by employing system-GMM and 2SLS to explain the relationship between bank financing and corporate governance from country research, Vietnam. This paper is one of very few studies which have investigated the negative impact of intercorporate loan on predict firms' performance in Vietnam.

1. INTRODUCTION

Corporate governance has become a main subject of numerous recently academic studies worldwide. Denis (2001) demonstrates that this terminology is more popular in both academic and practical scope. Besides, the firms have to face their own decisions in finding the most appropriate financing resource, which strongly incorporates with governance. One of the concerned issues which has been most studied by researchers is the interests conflict between the most powerful stakeholders of the firm, called controlling shareholders and the minority shareholders by the studies of Berle and Means (1991) and Jensen and Meckling (1976). Meanwhile, Wang and Xiao (2011); Qian et al. (2010) also represents the existence of expropriation (also called tunneling and its nature of intercorporate

loan in firms). Furthermore, La Porta *et al.* (1999); Claessens *et al.* (2000) and Claessens *et al.* (2000) shows that expropriation in Asian countries was caused by weak corporate governance, which is considered as the most challenging aspects. Since then, many studies figure out one method to constrain the amount of expropriation is the use of debt, specifically bank loans. The role of bank financing in corporate governance is also an important topic for many recent researches, and plays a key role in firm's management and performance (Yazdanfar and Öhman, 2015). Nevertheless, many researches regarding the relationship between bank financing and corporate governance through tunneling are still insufficient because the difficulties in measuring this variable exist. In the previous period, the main method for evaluating this element is by market reaction at the time, which related party transactions are announced such as Peng *et al.* (2011); Bae *et al.* (2002); Faccio and Stolin (2006); Cheung *et al.* (2009) and Cheung *et al.* (2009). Interestingly, this factor is also estimated by the level of related party transactions in accordance with the studies of Juliarto *et al.* (2013) and Gao and Kling (2008). Despite of the difficulties, some researchers find that the aforementioned relationship with both positive and negative effects in Qian and Yeung (2015) and Boubaker (2005) respectively. Vietnam is one of the emerging stock markets with many potential opportunities so that it might suffer from an impact of tunneling in corporate governance, operations, which affects future performance. Therefore, the estimation for expropriation in terms of bank financing and corporate governance with country's study is necessary to deliver the sensible implications.

2. LITERATURE REVIEW

As the tunneling problem has turned globally, many researches have been carried on to find the ways control the growth of it. There are some empirical studies conducted in the past to investigate the relationship between debt and corporation through tunneling by different methodologies in diversified period as well as geographical scopes. Debt is the factor that they are looking for. In their pioneering analysis of the agency problem between professional managers and dispersed shareholders, Jensen and Meckling (1976) also examined and developed this argument. Therefore, debt can be used as a control tool, which affects corporate governance. However, the other researches results are vary, some of them has supported this hypothesis such a Brealey *et al.* (1977); Diamond (1991). In contrast, some did not consolidate it, they reveal the other aspect of debt, which is a tool for expropriation, which refers to De Miguel *et al.* (2004) and Wiwattanakantang (1999) while some show limited evidence to conclude whether there is a relation between debt and governance in accordance with Sarkar and Sarkar (2008). The reason for the heterogeneous of results might be the difference in sample selection between each country (for example, developed versus developing countries), the methodology selection (for instance, OLS, Granger Causality, co-integration, Error correction models, etc.) or the period chosen, etc. The table below indicates several past researches about the relation between debt and corporate governance. Recently, many studies that focus on the effectiveness of debt to corporate governance through expropriation are still very limited and the results have been inconclusive in overall. Vietnam also has effort to pay attention in corporate governance, typically by introducing a number of changes in the Vietnamese Enterprises Law, which is valid in 2014. The investors and shareholders' rights are clearly better protected although some extents of governance remain unclear by the study of Owoeye and Pijl (2016) which facilitates to expropriation and researches about the way to solve this problems has not yet been published. To date various methods have been developed and introduced to examine the impact of debt on corporate governance through tunneling in many researches, such as cross-sectional ordinary least square regressions by the studies of Qian and Yeung (2015) or El-Chaarani (2015) multivariate estimation as Barros *et al.* (2013) panel data regressions as Wiwattanakantang (1999). Moreover, there are some methodologies applied to estimate this relationship such as Generalized Method of Moments in De Miguel *et al.* (2004).

Table--1. Researches related to the relationship between debt financing and corporation governance

Significant	Source	Data Span	Empirical approach	Remarks
(+)	Harvey *et al.* (2003)	1,014 firms in 18 emerging markets (Argentina, Brazil, Malaysia, Peru, Singapore, Thailand, Turkey), 1995-1996	Cross-sectional OLS regressions	A certain types of debt contract can limit expropriation by managers or controlling insiders.
(+)	Peng *et al.* (2011)	All Chinese non-financial listed firms, 1998 -2004	OLS regressions	The level of expropriation by controlling shareholders is likely to increase in firms with sound financial conditions, and vice-versa.
(+)	Boubaker and Labégorre (2008)	377 French firms, 1998-2000	Multivariate analysis	Evidence shows that lower financial leverage ratios depict the likelihood of expropriation, while firms with higher debt level can against it.
(+)	El-Chaarani (2015)	5,050 listed firms in eight European countries (France Italy Spain Germany Austria Switzerland UK Ireland), 2012	OLS regressions	Debt is used as a disciplinary tool to constrain the private benefits expropriation in the situation where the protection of investors is high.
(+)	Okiro *et al.* (2015)	98 companies in East African Securities Exchange, 2009-2013	OLS regressions	The relation between financial leverage and corporate governance, firm performance is found to be significantly positive.
Have the relationship	Sarkar and Sarkar (2008)	Indian listed manufacturing firms, year 1996, 2000 and 2003	OLS regressions	There is limited evidence to show the usage of debt being used as an expropriation mechanism in-group firms.
Have the relationship	Ismiyanti and Mahadwartha (2007)	All non-financial Indonesian listed firms, 1995-2004	OLS regressions and Wald test	Debt affects the corporate governance depends on the debt characteristics.
Have the relationship	Yaseen and Al-Amarneh (2013)	All Jordan listed firm in ASE, 2005-2011	OLS regressions	Funds and institutional holdings has a significant negative impact on financial leverage, while large shareholders holdings have a positive relationship with leverage.
(-)	Wiwattanakantang (1999)	All Thailand listed firms, 1996	Panel data analysis	Evidence finds that financial leverage used by family owners is a means of expropriation.
(-)	De Miguel *et al.* (2004)	All firms in Spanish Security Exchange Commission, 1990-1999	GMM	It is confirmed that debt can be a tool of expropriation.

(-)	Faccio *et al.* (2001).	5 West European economies (France, Germany, Italy, Spain, and the U.K.) and 9 East Asian economies (Hong Kong, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand), 1996	Cross-sectional OLS regressions	In Asian institutions, the increase in financial leverage leads to more resources to expropriate.
(-)	Huang *et al.* (2012)	Chinese firms, 2001-2006	Cross sectional regressions	Debt can play an opposite role when the agency problem appears between controlling shareholders and minority shareholders.
(-)	Mande *et al.* (2012)	900 American firms, 1998-2006	OLS regressions	It is suggested that equity is preferred to debt financing in firms with high quality of corporate governance.
(-)	Bai *et al.* (2013)	Chinese state-owned enterprises, 1996-2001	Simultaneous Estimation model	It is found that there is a positive significant relation between expropriation and debt usage.
(-)	Qian and Yeung (2015)	All Chinese list firms, 1995-2009	Fixed effect model	Inefficient banking system leads to weak corporate governance.

(**Source:** The authors' summary)

The major objective of this study was to investigate the effect of bank financing on corporate governance through tunneling based on Vietnamese non-financial firms in Ho Chi Minh Stock Exchange in period 2006-2016. Firstly, this study attempts to validate the corporate governance measurement by showing that tunneling has a strong predictive power on firm future performance. This first objective is to represent that tunneling by controlling shareholders is a value-destroying factor, decreasing firm future performance and hurting minority shareholders, which is the same results as other recent researches. Next, the authors further investigates that there is a negative relation between bank loans, financial leverage and tunneling activities, respectively by using the appropriate model. The second objective is to find that bank financing can be used as a discipline tool for controlling tunneling. Finally, the attempt to analyze that bank loans have an impact on firm future performance through tunneling.

3. IDENTIFICATION AND RESEARCH HYPOTHESES

3.1. Financing Decisions and Expropriation

The controlling shareholders often decides to withdraw assets and cash from firms or not, they take into account to perform their trade off in short-term and long-term interest. It might trigger higher future cost of capital when approaching new financing sources. The activities done by the majority shareholders to transfer these equivalent benefits by occupying in the periods are called 'tunneling' or 'expropriation'.

Due to this phenomenon, the majority shareholders seem to negatively influence minority ones if they expect to have new financing. However, it exists distinguishing features when choosing the capital market funding or debt financing. The financing by bank loan will support firms to avoid the problems regarding corporate governance. Therefore, firms use secured loan from banking system at reasonable costs to control the tunneling. Furthermore, firms need to recognize the effects of these criteria on firms' performance towards expropriation.

3.2. Research Hypotheses

The authors construct three research hypotheses to test empirical evidence regarding the effect of tunneling on debt financing as well as firm's performance as follows:

H_1: The tunneling is an element run by corporate governance to predict firm future performance

H_2: The relationship between tunneling and bank loan financing

H_3: The interaction by both bank loan financing and tunneling to future firm performance

4. RESEARCH DATA AND METHODOLOGY

4.1. Research Data Sample and Variable

This study uses the secondary data collected from financial statements of 250 firms' annually audited consolidated financial statements from the year 2006 to 2016, such as the amount of existing loans, other receivables, firm characteristics, governance, etc. Excluding financial firms and some inappropriate firms in Ho Chi Minh Stock Exchange leave 2,750 firm-year observations in total, but the exactly numbers in each analysis model are varies depends on the situation. The sample covers 73.96% of the companies and 70% of total market capitalization in Ho Chi Minh Stock Exchange.

The authors use controlling shareholders' borrowing from firms to calculate tunneling (or expropriation, called intercorporate loans as in the study of Jiang *et al*. (2010). The main variable used in this paper is 'tunneling' or 'expropriation' is under term of 'other receivables' (ORECTA), which is different with trade receivables under the practices of using title 'account receivables'. Then, this variable separates with the ordinary business transactions.

Table-2. Definition of variables

Variables	Description
ORECTA	Other receivables (short term plus long term other receivables) divided by total assets.
Bank loan	Total bank loans scaled by total assets
Liabilities other than bank loans	A ratio of total liabilities minus total bank loans over total assets
ROE	A ratio of Earning after tax over equity.
ROA	A ratio of Earning after tax over total assets.
EBITA	A ratio of Earnings before interests and taxes over total assets.
Firm size	The logarithm of total assets.
Leverage	A ratio of total liabilities over total assets.
Board size	The logarithm of total members of the board of directors
Board independence	The percentage of board members that are overseas investors.
Managerial ownership	The percentage of shares, which the CEO has.
Institution investors	The percentage of shares, which the institutional investors have.
International auditor	A dummy variable which equals one if the firm's annually financial reports is audited by one of Big four audit companies and equals zero if otherwise.

(**Source:** The authors)

4.2. Methodology

In this study, the authors employ both Fixed Estimated Model (FEM) and Random Estimated Model (REM) for all the research models with panel data. The FEM model is allow reflecting the unique feature of individual units and it also appropriate in situations, where the individual specific intercept may be correlated with one or more factors but consumes many degrees of freedom when the number of cross-sectional units is very large.

Meanwhile, the REM model is assumed that the intercept value of an individual unit is a random drawing from a much larger population with a constant mean and is appropriate in situations where the (random) intercept of each cross-sectional unit is uncorrelated with the elements. Next, the authors will use the Hausman Test to choose consistent model (FEM or REM). Afterwards, Heteroscedasticity, autocorrelation and endogeneity test will be performed for each research models in order to ensure that these models are persistent, consistent and unbiased. Finally, the authors decide to eliminate all concerns regarding models by using system Generalized Method of Moments (system-GMM) as well as Two Stage Least Squares (2SLS) by Blundell and Bond (2000); Blundell and Bond (1998) and Lee (2007). If system-GMM result cannot be concluded because of the p-value of the first autocorrelation test is significance and the p-value of the second autocorrelation test is not significance, then, 2SLS regression will be used to estimates to find the consistent and persistent model, which can be explained.

5. SUMMARY STATISTICS

The panel below demonstrates the features of 250 researched firms with the initial statistics.

Panel-1. Characteristics of Firm

	N	Mean	Median	Standard deviation	25% quartile	75% quartile
Size (total Assets in USD thousand)	2,750	10.084	10.372	2.495	9.541	11.261
MV (Market Capital in USD thousand)	2,750	53,972	7,210	321,519	1,938	23,880
TMV (Market Capital of tradable shares)	2,750	53,504	7,047	320,164	1,937	23,533
OREC (in USD million)	2,750	3,317	353.17	14,939	67.19	1,567
Book - to - market (%)	2,750	25.182	20.370	42.812	28.370	64.330
Leverage (%)	2,750	46.257	49.190	23.604	28.370	64.330
ROA (%)	2,750	7.199	5.295	14.261	1.800	10.230
ROE (%)	2,750	12.977	12.210	25.969	4.440	20.100
EBITTA (%)	2,750	9.911	8.395	9.773	4.150	13.980
ORECMV (%)	2,750	16.229	2.210	111.218	0.160	9.770
ORECTMV (%)	2,750	16.201	2.220	111.006	0.160	9.840
ORECTA (%)	2,750	3.127	1.050	6.213	0.280	3.090

This panel summarizes the information about variables of firm characteristics for 2,750 observations, including 250 listed firms in Ho Chi Minh Stock Exchange for the period between the periods from 2006 to 2016. It presents the mean, median, standard deviation and observations of each variable at 25% and 75% percentile. The variables are firm size in USD (calculated by the logarithm of total assets), MV in USD (the market value of listed shares), TMV in USD (the market value of tradable shares), Book to market (a ratio of firm's book value over its market value), Return on Assets (ROA), Return on Equity (ROE), Earning before interests and taxes divided by total assets (EBITTA), other receivables scaled by market value (ORECMV), by trade market value (ORECTMV) and by total assets (ORECTA). The exchange rate is 22,700VND/USD.
(**Source:** The authors' calculation)

As shown in panel, listed firms in Vietnam are comparable to other countries' listed firms with the average total assets over 10,084 thousand USD and market capitalization about 53,972 thousand USD. The financial leverage ratio has a mean value of 46.26% and reaching to a high level at 64.33% in the 75% percentile, while the ORECTA ratio averages nearly 3.13%.

Panel 2 depicts the sample firms' bank loan observations, using two items in the financial statements: short and long-term loan during 2006-2016. It reports the number of firms 'observations which has and do not have the amount of bank loans. Then, it summarizes the statistics of bank loans through mean, median, max and min value of the variables. As it can be seen in the panel below, firms without bank loan amount from 2006-2016 take 14.33% of the total. The average amount of total bank loan is about 696 billion VND with the domination of long-term loan, which takes over 50% of the total amount. The average amount of short-term loan is around 309 billion VND. .

Panel 2. Bank loan form 2006 – 2016

Panel-2. Bank loan form 2006 - 2016

	# of observations			Statistics summary			
	Total	Zeros (%)	Nonzero	Mean	Median	Max	Min
Bank loan amounts (VND Billion)							
Short-term loan	2,750	17.38	2,272	309.00	78.50	9,210	0.00
Long-term loan	2,750	34.76	1,794	389.00	14.30	34,200	0.00
Total bank loan	2,750	14.33	2,356	696.00	131.0	41,100	0.00
Bank loan/total assets (%)							
Short-term loan	2,750	17.78	2,261	16.818	9.58	937.32	0.00
Long-term loan	2,750	35.13	1,784	8.368	2.42	100.27	0.00
Total bank loan	2,750	14.36	2,355	25.182	20.37	942.26	0.00

This panel presents the observation number of firm, which has and does not have any amount of bank loans. Then, it summarizes the amount of bank loans and a ratio of bank loan over total assets taken from each firm for 11 years (2006-2016) through mean, median, max and min. Bank loans include three items from annual financial statement of each firm in Ho Chi Minh Stock Exchange.
(**Source:** The authors' calculation)

Panel 3 describes the percentage of other receivables over total assets each year for 250 non-financial firms. It also shows the mean, median, standard deviation, 75% and 25% percentile value. Overall, the average percentage of ORECTA increases significantly over 11 years. In 2006, ORECTA takes 1.66% of the total assets. It continuously increases for the next years and reaches its peak in 2015, which is 5.77%, then slightly drops to nearly 5% in 2016.

Panel-3. ORECTA (%) by each year for total firms

Year	Number	Mean	Median	Standard deviation	25% quartile	75% quartile
2006	250	1.662	0.17	4.807	0.00	1.29
2007	250	2.167	0.51	5.871	0.05	2.00
2008	250	2.926	1.07	5.325	0.28	2.63
2009	250	2.628	0.85	4.628	0.25	2.9
2010	250	2.801	0.865	4.855	0.31	2.85
2011	250	2.875	0.96	4.606	0.37	3.16
2012	250	2.805	1.015	4.637	0.31	2.73
2013	250	2.963	1.145	5.028	0.38	2.84
2014	250	2.814	1.135	4.868	0.42	3.01
2015	250	5.777	2.245	10.871	0.85	5.78
2016	250	4.991	2.275	8.428	0.75	5.28

The panel depicts the mean, median, standard deviation and the observation of ORECTA (other receivables divided by total assets) for each year in 25% and 75% percentiles. There are 250 firms in each year from 2006-2016.
(Source: The authors' calculation)

6. RESEARCH MODELS AND CORRELATION MATRIX

6.1. Research Models

The authors propose the research models to estimate and test the empirical for the above hypotheses.

$$\text{ROA}_{i,(t+1)} = \beta_0 + \beta_1 \text{ROA}_{i,t} + \beta_2 \text{R\_ORECTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_j + \varepsilon_t \qquad \text{(Model 1.1.)}$$

$$\text{ROE}_{i,(t+1)} = \beta_0 + \beta_1 \text{ROE}_{i,t} + \beta_2 \text{R\_ORECTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_j + \varepsilon_t \qquad \text{(Model 1.2.)}$$

$$\text{EBITTA}_{i,(t+1)} = \beta_0 + \beta_1 \text{EBITTA}_{i,t} + \beta_2 \text{R\_ORECTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_{j,t} + \varepsilon_t \qquad \text{(Model 1.3.)}$$

It denotes that $\text{ROA}_{i,(t+1)}$ is the future firm's performance whereas $\text{ROA}_{i,t}$ demonstrates the current situation of firm performance on the criteria of Return On Assets. R_ORECTA is the ranking of 'Other Receivables', which is collected from financial statements. In order to ensure the persistent without omitting variables, the authors choose the groups of vectors for controlling variables, which denotes $\vec{\theta}_{j,t}$. Similarly, the other research variable is ROE (Return On Equity), EBITTA (EBIT over total assets), respectively.

$$\text{ORECTA}_{i,t} = \beta_0 + \beta_1 \text{TLTA}_{i,t} + \beta_2 \text{TLTLTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_j + \varepsilon_t \qquad \text{(Model 2.1.)}$$

$$\text{ORECTA}_{i,t} = \beta_0 + \beta_1 \text{LEV}_{i,t} + \beta_2 \text{TLTLTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_j + \varepsilon_t \qquad \text{(Model 2.2.)}$$

The two model above aims to investigate the three main relationship between total bank loan over total assets and other receivables (as tunnel), other loan over total assets and expropriation, the financial leverage and the activity of withdrawing cash and assets by the controlling shareholders. It also includes the group of controlling vectors variables here.

The last three models tries to explain the interaction of both ORECTA and bank loan (denotes R_ORECTA multiple with TLTA) to firm performance in the future.

$$\text{ROA}_{i,(t+1)} = \beta_0 + \beta_1 \text{ROA}_{i,t} + \beta_2 \text{R\_ORECTA} \times \text{TLTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_j + \varepsilon_t \qquad \text{(Model 3.1.)}$$

$$\text{ROE}_{i,(t+1)} = \beta_0 + \beta_1 \text{ROE}_{i,t} + \beta_2 \text{R\_ORECTA} \times \text{TLTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_j + \varepsilon_t \qquad \text{(Model 3.2.)}$$

$$\text{EBITTA}_{i,(t+1)} = \beta_0 + \beta_1 \text{EBITTA}_{i,t} + \beta_2 \text{R\_ORECTA} \times \text{TLTA}_{i,t} + \sum_{j=1}^{k} \beta_j \vec{\theta}_{j,t}$$
$$+ \varepsilon_t \qquad \text{(Model 1.3.)}$$

6.2. Correlation Matrix

There are three table of correlation matrix among the variables for three models. In the first table, the variables used for model 1.1.; 1.2.; 1.3. are ROE, ROA, EBITTA in year (t+1) and year t, leverage, size and R_ORECTA (the rank of the ORECTA). The relationships between R_ORECTA and other variables are significantly negative,

except with the financial leverage and size, it shows a positive correlation. All the figures values are less than 0.8, so there is no multi-correlation. The second table illustrates the number of correlation between all the variables used in model 2, which are ORECTA, bank loan ratio, leverage, other liabilities ratio, size, book to market and other governance variables. The relationship between bank loan ratio, leverage and ORECTA are negative with the value are -0.05 and -0.0001, respectively. The correlation between bank loan ratio and other liabilities is -0.845, which is more than 0.8, so there is a multi-correlation in the model.

For the third table, the variables including R_ORECTA (the rank of ORECTA), bank loan ratio, the interaction between them, ROA, ROE, EBITTA in year (t+1) and in year t, size and other control variables for corporate governance. The correlation of the interaction between R_ORECTA and bank loan ratio to firm performance variables, which is ROA, ROE, EBITTA in year t, (t+1) are all significantly negative (the values are -0.093, -0.099, -0.045, -0.074, -0.127, -0.138, respectively). The correlation of bank loan and the interaction of it with R_ORECTA is 0.805 more than 0.8, which causes multi-correlation.

Table-3. Correlation Matrix among the variables in model 1.1., 1.2., 1.3.

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)	ROE t	1.0000								
(2)	ROE (t+1)	0.1627	1.0000							
(3)	ROA t	0.3749	0.1637	1.0000						
(4)	ROA (t+1)	0.1999	0.374	0.4649	1.0000					
(5)	EBITTA t	0.5699	0.2479	0.5932	0.406	1.0000				
(6)	EBITTA (t+1)	0.2638	0.5602	0.3453	0.5726	0.5858	1.0000			
(7)	Leverage	-0.0010	-0.0585	-0.1412	-0.1295	-0.2071	-0.2127	1.0000		
(8)	Size	0.1014	-0.0300	0.0998	0.0212	0.2057	0.0512	0.4752	1.0000	
(9)	R_ORECTA	-0.0521	-0.0867	-0.0476	-0.0687	-0.0422	-0.0823	0.1000	0.2528	1.0000

(**Source:** The authors)

Table-4. Correlation Matrix among the variables in model 2.1. and 2.2.

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)	ORECTA	1.0000										
(2)	Bank loan ratio	-0.0544	1.0000									
(3)	Leverage	-0.0001	0.3238	1.0000								
(4)	Other liabilities ratio	0.0559	-0.8447	0.2329	1.0000							
(5)	Size	0.1004	0.1455	0.4566	0.1087	1.0000						
(6)	Book to market	0.0240	-0.0165	-0.0260	0.0023	0.0248	1.0000					
(7)	Managerial ownership	-0.0251	0.2345	0.0941	-0.1878	-0.0099	-0.0141	1.0000				
(8)	Board size	-0.0220	-0.0209	0.0106	0.0275	0.0657	-0.0143	0.0074	1.0000			
(9)	Independence	0.0276	-0.0841	-0.1552	-0.0013	0.0729	-0.0238	0.017	0.3466	1.0000		
(10)	Institution ownership	-0.0843	-0.0912	-0.0898	0.0431	0.0273	-0.0313	-0.3964	0.0394	0.1155	1.0000	
(11)	Audit	0.0271	0.0299	0.0602	0.0033	0.1587	-0.0093	-0.0471	0.0477	0.0819	0.1134	1.0000

(**Source:** The authors)

Table-5. Correlation Matrix among the variables in model 3.1., 3.2. and 3.3.

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	R_ORECTA	1.0000												
(2)	Bank loan ratio	-0.0216	1.0000											
(3)	R_ORECTA*Bank loan ratio	0.3138	0.8047	1.0000										
(4)	ROA t	-0.0464	-0.0828	-0.0933	1.0000									
(5)	ROA (t+1)	-0.0680	-0.0809	-0.0995	0.4649	1.0000								
(6)	ROE t	-0.0500	-0.0349	-0.0448	0.3749	0.1999	1.0000							
(7)	ROE (t+1)	-0.0854	-0.0523	-0.0742	0.1637	0.3740	0.1627	1.0000						
(8)	EBITTA t	-0.0399	-0.1231	-0.1273	0.5932	0.4060	0.5699	0.2479	1.0000					
(9)	EBITTA (t+1)	-0.0809	-0.1227	-0.1377	0.3453	0.5726	0.2638	0.5602	0.5858	1.0000				
(10)	Size	0.2678	0.1565	0.1449	0.0998	0.0212	0.1014	-0.03	0.2057	0.0512	1.0000			
(11)	Institution ownership	-0.0551	-0.0903	-0.0855	0.1102	0.1192	0.0574	0.0694	0.1423	0.153	0.0273	1.0000		
(12)	Other liabilities ratio	0.0859	-0.8322	-0.6523	0.002	0.0069	0.0352	0.0193	0.0046	0.001	0.1185	0.0412	1.0000	
(13)	Managerial ownership	-0.0520	0.2276	0.1484	-0.0547	-0.0581	-0.0163	-0.0267	-0.0779	-0.0819	-0.0123	-0.3958	-0.1821	1.0000

(**Source:** The authors)

7. EMPIRICAL FINDINGS

7.1. The Prediction of Other Receivables to Firms' Future Performance

In this part, the authors discuss the results extracted from the regression approach by doing with three proposed kinds of model above.

Table-6. The prediction of other receivables to firms' future performance by REM

	ROA (t+1)		ROE(t+1)		EBITTA (t+1)
ROA	0.46***				
	[0.02]				
ROE			0.16***		
			[0.02]		
EBITTA					0.57***
					[0.02]
R_ORECTA	–0.02**		–0.06***		–0.01***
	[0.008]		[0.02]		[0.005]
Leverage	–0.04***		–0.06**		–0.03***
	[0.01]		[0.03]		[0.01]
Log (total assets)	0.0005		–0.0002		–0.0002
	[0.0005]		[0.001]		[0.0003]
Constant	0.06***		0.17***		0.07***
	[0.01]		[0.02]		[0.01]
Year random effect	Yes		Yes		Yes
Firm random effect	Yes		Yes		Yes
Observations	2,500		2,500		2,500
Adjusted R-squared	0.2223		0.0352		0.3544

This table shows the economic consequences of the firms' funds expropriation by large shareholders by using Random Effect Model. The dependence variables are Return on Assets (ROA), Return on Equity (ROE), and a ratio of Earning before Interests and Taxes over Total Assets (EBITTA) in year (t+1). The independent variables are ROA, ROE, EBITTA and R_ORECTA in year t, respectively. The authors uses the rank of ORECTA (R_ORECTA) for the regression. This rank has ten deciles and taken number between zero and one (R_ORECTA equals one for firms in the highest ORECTA decile and equals zero for firms in the lowest decile and the gap between each decile is allocated evenly). Other explanatory variables include leverage, firm size. There are 2,500 observations used in each regression during the 10 years period 2006-2015. Standard errors are clustered by firm and reported in parentheses. The significance level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
  (**Source:** The authors)

Table-7. The prediction of other receivables to firms' future performance by FEM

	ROA (t+1)	ROE(t+1)	EBITTA (t+1)
ROA	0.29***		
	[0.02]		
ROE		0.007	
		[0.02]	
EBITTA			0.23***
			[0.02]
R_ORECTA	–0.02*	–0.02	0.0001
	[0.01]	[0.02]	[0.006]
Leverage	0.05**	0.08*	0.03***
	[0.02]	[0.04]	[0.01]
Log (total assets)	–0.0009	–0.004***	–0.0009**
	[0.0007]	[0.001]	[0.0004]
Constant	0.06***	0.20***	0.09***
	[0.01]	[0.03]	[0.007]
Year fixed effect	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes
Observations	2,500	2,500	2,500
Adjusted R-squared	0.1904	0.0002	0.2893

This table shows the economic consequences of the firms' funds expropriation by large shareholders by using Random Effect Model. The dependence variables are Return on Assets (ROA), Return on Equity (ROE), and a ratio of Earning before Interests and Taxes over Total Assets (EBITTA) in year t+1. The independent variables are ROA, ROE, EBITTA and R_ORECTA in year t, respectively. The author uses the rank of ORECTA (R_ORECTA) for the regression. This rank has ten deciles and taken number between zero and one (R_ORECTA equals one for firms in the highest ORECTA decile and equals zero for firms in the lowest decile and the gap between each decile is allocated evenly). Other explanatory variables include leverage, firm size. There are 2,500 observations used in each regression during the 10 years period 2006-2015. Standard errors are clustered by firm and reported in parentheses. The significance level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
(**Source:** The authors)

Before explaining the results shown on the table 6 and 7 above, the authors decides to test Hausman through the study of Durbin (1954) to choose the most appropriate as well as careful observation the research variables at any significance level for further investigation. By doing this, the authors will avoid the error in choosing models in regression models. We also perform the further test to ensure the persistent, consistent and unbiased model here.

Panel–4. Hausman test for model 1.1.; 1.2. and 1.3.

	Model 1.1.	**Model 1.2.**	**Model 1.3.**
chi2(4)	310.76	331.18	602.72
p-value	0.0000	0.0000	0.0000
Chosen model	FEM	FEM	FEM
Research variable at significance at	Yes (10%)	No	No

(**Source::** *The authors*)

The authors will choose the fixed-estimation-models to explain but we double-check with the other errors, which might arise from panel data regression. This test is a base to choose the appropriate model between models using fixed or random effect model. As results have shown, the Hausman p-values in all models are less than 0.05, so the null hypothesis (H0) in models is rejected which means that the coefficients estimated by the efficient random effects estimator are not the same as the ones estimated by the consistent fixed effects estimator. This leads to a selection of choosing the fixed effect method for all models will be more consistent to conclude.

Panel–5. Heteroskedasticity, Autocorrelation and Endogeneity

	Model 1.1	**Model 1.2**	**Model 1.3**
Heteroscedasticity	Yes	Yes	Yes
Auto-correlation	Yes	Yes	Yes
Endogeneity	Yes	Yes	Yes
Chosen model to fix	System-GMM	System-GMM	System-GMM

(**Source:** The authors)

Overall, the coefficient at significance level of each method used in regression all there models have partly signed the relation between the variables. However, to let this results be appropriate to give the final conclusions, the authors need to perform more statistical hypothesis tests to exam whether the models have problems or not, repair them by other methods and choose the most suitable models for conclusion. As the results shown above, the model 1.1.; 1.2. and 1.3. are not persistent with three errors, which can be caused such as heteroscedasticity, auto-correlation and endogeneity. Hence, the authors propose the system-GMM with two stages to eliminate this phenomenon.

The model regressed by system-GMM is persistent if there is a significance in the first autocorrelation of residual and none in the second autocorrelation.

The results, as shown in Table 8, indicate that the first autocorrelation p-values for three models are all 0.000 less than 0.05, so there are all significance. The second autocorrelation p-values of three models are 0.109, 0.197 and 0.501 more than 0.1, so there is no significance. These information leads to the assertion that the three models are persistent and their results are conclusion. A negative correlation has found between R_ORECTA in year t and ROA, ROE and EBITTA in the (t+1) (response variables) in each of the three models, which significance at level 10%, 5% and 1%. In contrast, ROA, ROE and EBITTA influence positively to their value in the next year at significance level 1%, 5% and 1%. However, firm size has a negative tendency to ROE and EBITTA in the following at level 5% and 1%. These strong evidences conduct to a conclusion that we can tunneling as predictor of firm future performance, typically tunneling is destroying value to firm future performance. The value of ROA,

ROE and EBITTA have a significance impact on their value in the future, while firm size only effects on the value of ROE and EBITTA in a negative tendency.

Table-8. The system-GMM regression for model 1.1.; 1.2. and 1.3: The prediction of other receivables to firms' future performance

THE PREDICTION OF ORECTA TO FIRM S' FUTURE PERFORMANCE			
	ROA (t+1)	ROE(t+1)	EBITTA (t+1)
ROA	0.69***		
	[0.18]		
ROE		0.39**	
		[0.02]	
EBITTA			0.37***
			[0.10]
R_ORECTA	–0.03*	–0.09**	–0.04***
	[0.06]	[0.05]	[0.01]
Leverage	0.05	0.07	0.02
	[0.04]	[0.12]	[0.03]
Log(total assets)	–0.003	–0.07**	–0.04***
	[0.003]	[0.03]	[0.01]
Constant	0.10	2.11**	1.29***
	[0.06]	[0.02]	[0.21]
System GMM	Yes	Yes	Yes
Observations	2,500	2,500	2,500
p-value AR (1)	0.000	0.000	0.000
p-value AR (2)	0.109	0.197	0.501
Consistent model	Yes	Yes	Yes

This panel indicates the use system-GMM for model 1.1., 1.2. and 1.3. about the firm future prediction by ORECTA to remove the factors which violate the assumption of Estimation Cross-sectional models. The dependent variables are ROA, ROE and EBITTA in year (t+1) for each model. The independent variables are ROA, ROE and EBITTA in year t and R_ORECTA, respectively and other control variables. The independent variables are ROA, ROE, EBITTA and R_ORECTA in year t, respectively. The authors uses the rank of ORECTA (R_ORECTA) for the regression. This rank has ten deciles and taken number between zero and one (R_ORECTA equals one for firms in the highest ORECTA decile and equals zero for firms in the lowest decile and the gap between each decile is allocated evenly). The total observations are 2,500 from 250 listed firms in Ho Chi Minh Stock Exchange in 10 years, period 2007-2016. Standard errors are clustered by firm and reported in parentheses. The significance level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
(**Source:** The authors)

7.2. Bank Loan, Leverage and Other Receivables by Random Effect

This section will show the regression ORECTA on bank loan and financial leverage in model 2.1 and 2.2. by fixed and random effect model method. The other control variables are liabilities other than bank loan, firm size, book to market and governance variables such as managerial ownership, board size, independence, institutional ownership and audit. The result table of fixed effect model shows that bank loan and leverage all have a significant negatively effect on ORECTA at the level 5%. Firm size and auditing in two models also have a positive impact on ORECTA at a significant level 1%. Such variables as managerial ownership, board size, independence and institution ownership omitted since the data of them in Vietnam still restricted in some aspects. As for the result of using random effect model, the tendency and the level of significant for the relation between bank loan, leverage, firm size, auditing and ORECTA are still the same as the results using the fixed effect model method. The percentage of the liabilities other than bank loan over total assets significantly negative affects ORECTA in model 2.2 at a level 10%. In addition, institution ownership has a negative impact on dependent variable in two models at a significant rate 1%.

Table-9. Bank loan, Leverage and other receivables by REM

RANDOM EFFECTS REGRESSION (Y= ORECTA; X= Bank Loan, Leverage)		
VARIABLES	Bank Loan	Leverage
Total bank loan/total assets (%)	-0.0002**	
	[0.00007]	
(Total Liability - Bank loan)/Total assets (%)	-0.0001	0.0007*
	[0.00007]	[0.00003]
Leverage		-0.02**
		[0.007]
Log (total assets)	0.002***	0.002***
	[0.0002]	[0.0002]
Book to market (%)	0.0000003	0.0000003
	[0.0000008]	[0.0000008]
Managerial Ownership (%)	-0.04	-0.04
	[0.03]	[0.03]
Log (board size)	-0.01	-0.01
	[0.01]	[0.01]
Independence (%)	0.01	0.01
	[0.02]	[0.02]
Institution Ownership (%)	-0.02***	-0.03***
	[0.01]	[0.01]
Auditing	0.01***	0.01***
	[0.004]	[0.0003]
Constant	0.03	0.03
	[0.02]	[0.02]
Year fixed effect	Yes	Yes
Firm fixed effect	Yes	Yes
Observations	2,745	2,745
Adjusted R-squared	0.03	0.03
Number of firms	250	250

In this table, we regress ORECTA on the ratio of bank loan over total assets and other firm characteristics to find the impact of bank loans on other receivables by using fixed effect model. There are 2,745 observations from the period 2006-2016. The dependent variable is other receivables divided by total assets (ORECTA). The explanatory variables include bank loan scaled by total assets, firm size, book to market, and other liabilities, governance variables such as managerial ownership, board size, independence, audit, year and firm fixed effects. We also regress ORECTA on leverage and other control variables to demonstrate that leverage also effects on ORECTA. Standard errors are clustered by firm and reported in parentheses. Significant level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
(**Source:** The authors)

Table-10. Bank loan, Leverage and other receivables by FEM

FIXED EFFECTS REGRESSION (Y= ORECTA; X= Bank Loan, Leverage)		
VARIABLES	Bank Loan	Leverage
Total bank loan/total assets (%)	-0.0002**	
	[0.00008]	
(Total Liability - Bank loan)/Total assets (%)	-0.0001	0.00007
	[0.00008]	[0.00004]
Leverage		-0.02**
		[0.01]
Log (total assets)	0.002***	0.002***
	[0.0002]	[0.0002]
Book to market (%)	0.0000002	0.0000002
	[0.0000008]	[0.0000008]
Managerial Ownership (%)	(omitted)	(omitted)
Log (board size)	(omitted)	(omitted)
Independence (%)	(omitted)	(omitted)
Institution Ownership (%)	(omitted)	(omitted)
Auditing	0.01***	0.01***
	[0.004]	[0.004]
Constant	-0.01**	-0.01**
	[0.005]	[0.005]
Year fixed effect	Yes	Yes
Firm fixed effect	Yes	Yes
Observations	2,745	2,745
Adjusted R-squared	0.01	0.01
Number of firms	250	250

In this table, we regress ORECTA on the ratio of bank loan over total assets and other firm characteristics to find the impact of bank loans on other receivables by using fixed effect model. There are 2,745 observations from the period 2006-2016. The dependent variable is other receivables divided by total assets (ORECTA). The explanatory variables include bank loan scaled by total assets, firm size, book to market, and other liabilities, governance variables such as managerial ownership, board size, independence, audit, year and firm fixed effects. We also regress ORECTA on leverage and other control variables to demonstrate that leverage also effects on ORECTA. Standard errors are clustered by firm and reported in parentheses. Significant level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
(**Source:** The authors)

After test of Hausman, the authors choose the fixed-estimation-models and these models 2.1. and 2.2. are errors in heteroscedasticity, auto-correlation and endogeneity.

Table-11. The system-GMM for model 2.1.; 2.2. as Bank loan, leverage and ORECTA

SYSTEM-GMM REGRESSION (Y= ORECTA, X= Bank Loan, Leverage)		
VARIABLES	Bank Loan	Leverage
Total bank loan/total assets (%)	–0.0002***	
	[0.0006]	
(Total Liability - Bank loan)/Total assets (%)	–0.002**	
	[0.0007]	
Leverage		–0.04**
		[0.02]
Log (total assets)	0.02**	0.006
	[0.008]	[0.006]
Book to market (%)	–0.00002	–0.00004**
	[0.00003]	[0.00001]
Managerial Ownership (%)	0.01	0.26
	[0.29]	[0.17]
Log (board size)	0.08	–0.14
	[0.05]	[0.14]
Independence (%)	–0.57***	0.20
	[0.20]	[0.21]
Institution Ownership (%)	0.29**	–0.01
	[0.12]	[0.03]
Auditing	–0.03	0.03
	[0.05]	[0.03]
Constant	–0.61***	0.11
	[0.20]	[0.25]
System-GMM	Yes	Yes
Observations	2,745	2,745
p-value AR (1)	0.000	0.000
p-value AR (2)	0.559	0.166
Consistent model	Yes	Yes

In this panel, the authors use system-GMM for model 2.1. and 2.2. about the relation between bank loan, leverage and other receivables, respectively to fix the disabilities of Estimation Cross-sectional model. The total observations are 2,745 from 250 listed firms in Ho Chi Minh Stock Exchange in period 2006-2016. Standard errors are clustered by firm and reported in parentheses. Significant level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
(Source: The authors)

Table 11 above presents the outcomes for model 2.1 and 2.2. The persistence of the models' results has shown by the p-value of the first autocorrelation is significant (p-value AR (1) = 0.000 < 0.05) and of the second autocorrelation is not significant (p-value AR (2) in model 2.1 equals 0.559 and in model 2.2 equals 0.166 more than 0.05), which can affirm that the results of this model is final conclusion. It can be seen from the results that bank loan ratio and leverage all have a significant negative impact on ORECTA in each model at the level 1% and 5%. The financial leverage of other loan, firm size, book to market, institution ownership and independence also have negative effects on ORECTA at 5% for the first four factors and 1% for last one. In conclusion, there is a significant negative relation between bank loan and ORECTA as well as between leverage and ORECTA, which means firms can use bank loan as a control tool for the amount of tunneling.

7.3. The Interaction of Both ORECTA and Bank Loans on Firm Performance

The authors also perform the fixed-effects model as well as random-effects model. Afterwards, we test of Hausman to choose fixed to become the most appropriate model but this method has errors in heteroscedasticity, auto-correlation and endogeneity. Interestingly, the authors choose system-GMM to regress with instrument

variables but the auto-correlation in the second level without satisfaction. Therefore, the authors decide to choose 2SLS to perform the regression model for the interaction of both ORECTA and bank loans on firm performance.

Table-12. Hausman test for choosing the most appropriate model

	Model 3.1	Model 3.2	Model 3.3
chi2(4)	298.40	327.87	591.81
p-value	0.0000	0.0000	0.0000
Chosen model	FEM	FEM	FEM
Research variable at significance at	No	No	No

(**Source:** The authors)

Table-13. Heteroskedasticity, Autocorrelation, Endogeneity Test

	Model 3.1	Model 3.2	Model 3.3
Heteroskedasticity	Yes	Yes	Yes
Auto-correlation	Yes	Yes	Yes
Endogeneity	Yes	Yes	Yes
Chosen model to fix	System-GMM	System-GMM	System-GMM

(**Source:** The authors)

Table-14. System-GMM test for Model 3.1., 3.2. and 3.3. for both ORECTA and bank loans on firm performance

	Y = ROA (%)	Y = ROE (%)	Y = EBITTA (%)
ORECTA	-20.06	178.44	0.39
	[39.60]	[258.02]	[0.52]
Bank loan/ Total assets (ratio)	0.001	0.03	0.01
	[0.13]	[0.61]	[0.20]
R_ORECTA*Bank loan/total assets	-0.03	-0.18	-0.03
	[0.03]	[0.17]	[0.05]
Lagged ROA (%)	0.11		
	[0.25]		
Lagged ROE (%)		-0.03	
		[0.61]	
Lagged EBITTA (%)			0.04
			[0.52]
Log(total assets)	-1.59	-11.44	-3.62
	[1.20]	[9.52]	[2.54]
Institution Ownership (%)	0.08	-0.36	0.05
	[0.21]	[1.29]	[0.42]
(Total Liability - Bank loan)/Total assets	-0.004	-0.09	-0.01
	[0.13]	[0.62]	[0.21]
Managerial Ownership (%)	0.004	-0.62	-0.06
	[0.25]	[1.48]	[0.49]
Constant	46.73	329.58	102.69
	[1.27]	[227.48]	[65.41]
System GMM	Yes	Yes	Yes
Observations	2,500	2,500	2,500
p-value AR (1)	0.167	0.654	0.742
p-value AR (1)	0.001	0.904	0.758
Persistent, Consistent model	No	No	No

This panel indicates the use system-GMM for model 3.1., 3.2. and 3.3. about the effect of interaction between ORECTA and bank loans on firm performance to remove the factors which violate the assumption of Estimation Cross-sectional models. The dependent variables are ROA, ROE and EBITTA in year (t+1) for each model. The independent variables are ROA, ROE and EBITTA in year t and R_ORECTA, respectively and other control variables. The independent variables are ROA, ROE, EBITTA and R_ORECTA in year t, respectively. The authors uses the rank of ORECTA (R_ORECTA) for the interaction of ORECTA and bank loans. This rank has ten deciles and taken number between zero and one (R_ORECTA equals one for firms in the highest ORECTA decile and equals zero for firms in the lowest decile and the gap between each decile is allocated evenly). The total observations are 2,500 from 250 listed firms in Ho Chi Minh Stock Exchange in 10 years, period 2007-2016. Standard errors are clustered by firm and reported in parentheses. Significant level at the 10%, 5% and 1% are denoted *, ** and *** respectively.

(**Source:** The authors)

Surprisingly, no variables in the system-GMM are significance at any level though 1%, 5% or 10%. Therefore, the authors choose 2SLS with instrument variables to regress and fix the errors arising from these methods.

Table-15. The 2SLS regression test for Model 3.1., 3.2. and 3.3. for both ORECTA and bank loans on firm performance

	ROA (%)	ROE (%)	EBITTA (%)
R_ORECTA*Bank loan/total assets	–0.12***	–0.15***	–0.07***
	[0.03]	[0.05]	[0.02]
Lagged ROA (%)	0.46***		
	[0.02]		
Lagged ROE (%)		0.16***	
		[0.02]	
Lagged EBITTA (%)			0.56***
			[0.02]
Log (total assets)	0.03	–0.10	–0.05
	[0.05]	[0.10]	[0.03]
Institution Ownership (%)	0.03***	0.05**	0.02***
	[0.01]	[0.02]	[0.006]
(Total Liability - Bank loan)/Total assets	–0.04***	–0.04*	–0.03***
	[0.01]	[0.02]	[0.01]
Managerial Ownership (%)	–0.01	0.01	–0.01
	[0.03]	[0.06]	[0.02]
Constant	3.95***	13.54***	6.28***
	[1.27]	[2.57]	[0.77]
2 SLS regression	Yes	Yes	Yes
Observations	2,500	2,500	2,500
Adjusted R-squared	0.2210	0.0356	0.3547
Number of firms	250	250	250

This panel indicates the use 2SLS regression for model 3.1., 3.2. and 3.3. about the effect of interaction between ORECTA and bank loans on firm performance to remove the factors which violate the assumption of Estimation Cross-sectional models. The dependent variables are ROA, ROE and EBITTA in year (t+1) for each model. The independent variables are ROA, ROE and EBITTA in year t, R_ORECTA, respectively, and other control variables. The independent variables are ROA, ROE, EBITTA and R_ORECTA in year t, respectively. The authors uses the rank of ORECTA (R_ORECTA) for the interaction of ORECTA and bank loans. This rank has ten deciles and taken number between zero and one (R_ORECTA equals one for firms in the highest ORECTA decile and equals zero for firms in the lowest decile and the gap between each decile is allocated evenly). The total observations are 2,500 from 250 listed firms in Ho Chi Minh Stock Exchange in 10 years, period 2007-2016. Standard errors are clustered by firm and reported in parentheses. Significant level at the 10%, 5% and 1% are denoted *, ** and *** respectively.
(**Source:** The authors)

By using the 2SLS regression for three last models, the table has shown the final findings that the interaction of R_ORECTA and bank loan has significance negative effects on all ROA, ROE and EBITTA in the next year at the highest level 1%. The ratio of other loan over total assets affects in negative sign on response variables in three models at level 10% in model 3.2 and at level 1% in the other two models. In contrast, ROA, ROE and EBITTA in year t influence positively on their values in the following year at a significant level 1%. Institution ownership also has positive impact on the dependent variables in all models at level 1% in the model 3.1 and 3.3 and level 5% in model 3.2. Overall, the relationship of other receivables and bank loan has a negative correlation on future firm performance. ROA, ROE, EBITTA in year t affect the same direction to their values in the next year.

8. CONCLUSION AND IMPLICATIONS

The empirical results provide evidences that tunneling is destroying value to firm future performance. The amount of tunneling, which is presented by other receivables, has a negative sign to the value of return on assets, return on equity and earnings before interest and taxes in the future. This means that if the amount of other receivables represents the expropriation of the controlling shareholders in the present year increases because of their desires, the value of return on assets, return on equity and earnings before interest and taxes in the following year will drop significantly, which leads to the decrease of firm performance. Through this research, the authors has interestingly found that the ratio of existing bank loan over total assets impact through a negative sign on

other receivables. This means that if the amount of bank loans grows moderately, the value of tunneling will decrease gradually. It can be explained that when firm has accessed to bank financing which signals the obligation between firm and the bank must be performed in the future, controlling shareholders will become more concerned about the reputation loss and maybe higher capital cost in the future if they need an external financing. Therefore, the amount of expropriation form firm drops. From this evidence, firms could use bank financing as a discipline tool for tunneling. This finding has important implications for developing corporate governance through the usage of bank financing as the amount of bank financing increases, the amount of other receivables decreases, so the benefits of minority shareholders are not stolen and conflict between the controlling shareholders and minority shareholders will be eased. In the results of the last three models, the impact between the interaction of other receivables and bank loan ratio on the value of firm future performance is following a positive correlation. This means that if a firm has a huge amount of other receivables represents tunneling at the same time with a large amount of bank loan in the present year, the firm future performance will go down significantly. As a firm with over extended bank loan amount, high financial leverage could easily get in an insolvency period or maybe bankruptcy and the corporate governance of this company is weak which the controlling shareholders do not care about the reputation, value or present performance of the firm so the firm future will fall down in many aspects.

As regards managers and investors, the finding has important implications for them. For managers, they should consider to use bank financing as a control tool for governance as bank loan is plentiful financing as it easy to access, reliable and a fast provider for the lack of capital in firm operations with a reasonable and economic. Also, the usage of bank financing controls the amount of tunneling and ease the interest conflict between controlling shareholders and minority shareholders, which makes the governance of firm more stable and stronger. However, if the managers overuses the amount of bank loan that extents the ability to pay bank of the company, the firm will easily get in the insolvency or bankruptcy situation which could destroy it reputation and increase the cost of capital in the future. For the investors, they should really be careful when they are selecting a company to invest in. They should concern, evaluate the firm performance and finding the information about the firm transactions, activities as some might represent tunneling which could affect in a negative sign to the benefits of their investment. They also need to aware of the amount of bank financing which the company is used as not any firms with huge amount of bank loan signal a good and strong corporate governance as always. Most importantly, they should know and learn their rights of minority or controlling shareholders depends on their status to prevent the loss of their own benefits.

When it comes to policy-maker, evidence in the research suggest that the efficiency in the usage of bank financing is important for corporate governance. However, if firms can easily access to bank loans even with a weak and unreliable financial statement, the controlling shareholders will not concerned for anything like reputation loss or obligation to pay back. This will also dilute the discipline power of the capital market. Therefore, policy makers should be aware and make a strict policy and regulation about the bank loan term and conditions that the amount of bank loan. Furthermore, the possibility to lend should not only be based on the number in financial statements but also rely on the plans, strategy and cash flow of business project as well as the governance situation of firm and the ability to pay back to the bank.

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