Study On Relationship Between Retained Earnings And Firm Performance: Evidence From Vietnam

Le Duc Hoang*
National Economics University, Vietnam
Tran Quoc Viet, Luu Bich Ngoc
National Economics University, Vietnam
Tran Hien Anh
National Economics University, Vietnam
Pham Huy Thong*
Global Petro Commercial Joint Stock Bank, Vietnam
Winfred Scott
California State University, San Bernardino

Abstract
Retained earnings plays a critical role of supporting growth of the company. In this context, we examine the relationship between retained earnings and firm performance. The data of 37 construction- listed companies was collected from Hochiminh Stock Exchange (HOSE). In this respect, time series analysis technique is employed and Hausman test is applied to choose the random effects model (REM) and fixed effects model (FEM). The results show that retained earnings have a positive effect on firm performance.

Keywords*: retained earnings, firm performance, GDP, Hausman test.*
JEL: M41

*Corresponding author. Email: leduchoang@neu.edu.vn, ph.thong79@yahoo.com

I. Introduction

It is essential for a firm to finance its operations, using either external sources of funding or internal sources of funding, or both (Loi & Khan, 2012). Both of these sources of funding have their own benefits and advantages which influence the decisions of CEOs and of involved parties on the choices of funding sources for their businesses. For example, if a company is concerned about the cost of acquiring bank loans (external source) such as interest payments, repayments of loan sums, or redemptions of redeemable debentures, then the company would heavily rely on retained earnings (internal source). In corporate finance literature, the pecking order theory hypothesizes that the company would prioritize the use of internal sources because of its low cost of capital (Myers, 1984). It is also observed that companies in the growth phase of their life cycle pay relatively low dividends and use retained earnings for their own reinvestment and growth.

Recently retained earnings has become an important component to be considered in performance evaluation. Investors would like to know how their capital is used and whether or not an investment made by a company is effective. Before deciding to invest, investors are not only concerned about short-term profit, but are also concerned about long-term growth that may demand internal resources of retained earnings. As a result, many investors evaluate the retention level and amounts of retained earnings, and then, decide where to invest their money. Alves, Pereira, Paulo, and Morais (2018) argue that while cash holdings around the world has increased, the opposite has occurred for retained earnings. They show that cash holdings are influenced by precautionary motive and retained earnings are influenced by the firms' growth opportunities.

Many managers of listed companies in Vietnam indicate their preference of keeping cash in retained earnings. Managers would like to reduce the amounts of cash dividends paid out, if possible, generate profit, and increase retained earnings. In addition, managers can easily control retained earnings, but not external resources with legal obligations. However, that causes agency problem concerns about using retained earnings. Managers may need to publicize information about how to use internal sources, but information may not be in detail. Managers are able to use their overwhelming rights (dominant ownership) to dominant minority shareholders for investment decisions. Managers may use retained earnings to maximize personal interests or benefits. Thus, retained earnings can be a resource of growth or a source of conflicting agency problems. Retained earnings and its related issues have always been a hot topic in annual meetings of listed companies in Vietnam. In this paper, we explore the role of retained earnings and whether those retained earnings are positively associated with performance of a firm in Vietnam.

The remainder of this paper is strucutred as follows. Section 2 discusses the literature review of retained ėanings and develops the hypotheses. Section 3 presents our data and methodology. Our empirical results are provided in Section 4 and conclusion in Section 5.

1. Literature review

The literature provides various definitions of retained earnings. Upneja and Dalbor (2001) indicate that retained earnings are internally available cash flows to the firms. O'brien (2003) defines retained earnings as financial slack for a firm. Mahapatra (2004) describes retained earnings as residual of firm's profits. Retained earnings are also explained to be an internally available capital to the firm by Copeland et al. (2007). Chiu and Liaw (2009) consider retained earnings as reserves of a firm. Karadeniz et al. (2009) view retained earnings as free cash flows (FCF).

Pecking Order Theory provides a theoretical framework suggesting an order of preference between internal and external sources of funding. According to Myers (1984), a firm would likely

use internal and personal sources of funding before using external sources of funding in order to maintain ownership of the firm as well as maintain information asymmetries (information protection). Myers and Majluf (1984) also point out that the growth firms treat retained earnings as their main resource of funding investments. Consequently, firms often reduced the issuance of common stocks and other risky securities in order to save itself from bankruptcy.

Dobrovolsky (1951) argues that dividend and retention decisions are by-products of each other when ownership and control function are separated. The retention decision has a significant impact on growth-oriented companies. Harkavy (1953) shows that if retained earnings generate a higher return than a required rate of return, then retained earnings would improve the market value of a firm. Carpenter and Peterson (2001) used a sample of 1,600 small firms in the US market to study the effect of internal financing on firm growth. They discovered that a firm usually retains all its income, instead of raising external funds. Internal funding constrains those small firms' growth. Guariglia et al. (2008) show that internal funding has a positive impact on firm growth. Bassey and Godwin (2016) argue that good performing companies are ones with large capital contribution from retained earnings. Yemi and Seriki (2018) test 75 non-finance companies listed on the Nigerian stock market during a period of 2003 to 2014. They suggest that a retention policy measured by retained earnings per share has positive effects on firm value. Loi & Khan (2017) indicate that dividend payouts, retained earnings, and net total assets per share have positive and significant impacts on stock price, whereas firm book value per share ratio has an insignificant impact on stock price.

Saeed (2009), Mallick and Yang (2011), Beisland (2014), Choi, Kim and Lee (2011), find that earnings retention has a positive influence on the financial performance of firms. Mallick and Yang (2011) conduct a study on more than 10,000 firms in 47 countries during 1997 to 2007 and show that retained earnings, along with equity financing, results in the enhancement of the firms' financial functioning. These studies suggest that retained earnings show a higher level of internal efficiency for firms.

On the other hand, some reseachers find that retained earnings is insignificant or negatively associated with firm growth or performance. Darabi, Zadeh and Abdi (2014) test 101 firms listed in Tehran Stock Exchange. Their results show an inverse and significant relationship between firm's growth opportunities and changes ratio in retained earnings of companies. Kanwal (2012) examines listed companies in the chemical industry in Pakistan and argues that retained earnings have a negative correlation with the stock prices and the returns of these companies. Tian and Zeitun (2007) and Ouma & Murekefu (2012) suggest that retained profits (earnings) have a negative impact on return on assets (ROA) ratio, return on equity (ROE) ratio and market value measures including returns on share prices. Osegbu et al., (2014) do not find a significant association between retained earnings and firm performance.

Extending these findings, we explore how retained earnings is associated with firm growth in Vietnam. We believe managers are able to control retained earnings and do not have to share with others its usage in detail. When investment opportunities occur, managers decide whether or not to use retained earnings. Retained earnings can be a good resource to finance a firm's growth and profits. On the other hand, if a firm does not have good supervision or internal auditing system, retained earnings can be easily wasted for the benefits of managers, instead of shareholders. This situation suggests an agency problem that reduces the firm's value and future performance. Based on these arguments and extant literature review, we test a null hypothesis:

H_0: Retained earnings do not affect performance of firms in Vietnam.

2. Data and methodology

2.1. Data

In this study, we collect information about 37 construction-listed companies from Hochiminh Stock Exchange (HOSE) from year 2005 through year 2016. The financial data is obtained from STOCKPLUS database. Industry Classification Benchmark (ICB) is used.

2.2. Research methodology

To study the impact of retained earnings on firm's growth, panel data analysis is employed. The following model is used:

$$FP_{it} = \beta_1 + \beta_2 RE_{it-1} + \beta_3 LIQ_{it} + \beta_4 LEVERAGE_{it} + \beta_5 lnAge_{it} + \varepsilon_{it} \quad (1)$$

Where i indexes company and t indexes year; FP_{it} is the firm's performance which measured by ROA or ROE.

Retained earnings (RE) are determined as retention of profits after dividends are paid out. It is necsessary to start with the retained earnings amount from the previous period as beginning retained earnings. The data is collected annually. Our research uses the change in retained earningd to show the clear increasingly impact of company's retained earnings on its firm performance in the next period. We also include a set of control variables in our model based on the extant literature on the determinants of firm growth in emerging countries (e.g., Chen, 2015; Liu et al., 2015; and Arora and Sharma, 2016). Specifically, we control for liquidity (LIQ), leverage (LEVERAGE), firm age (lnAGE). The definitions of these control variables are presented in Table 1.

Liquidity is defined as a current ratio which is calculated by dividing current assets by current liabilities. An increase in the current ratio will increase the company's liquidity. However, a decrease in the company's liquidity may suggest financial difficulties, such as severe cash constraints that will make it difficult to pay suppliers on a timely basis. This could negatively affect the company's reputation and limit the company's ability to purchase goods from suppliers in the future. A good cash cycle begins with healthy working capitals and good relationships with suppliers (Beekman & Robinson, 2004).

According to Loi and Khan (2012), cash is a crucial part of current assets and illustrates the level of short-term liquidity. If a firm can maintain a sustainable level of cash, it will have benefits such as trading the surplus cash and making capital gains on it. Furthermore, the firm which maintains a high level of liquidity may be able to elude potential financial distress caused by recession.

The second control variable, leverage is a liability to equity ratio. As the name suggests, leverage is calculated by dividing total liabilities by shareholders' equities.

Donaldson (1961) and Myers & Majluf (1984) indicate that companies prioritize their internal sources at startup. First, when internal sources are depleted, the companies prefer to use debt financing. Next, if the companies cannot obtain capital through debt financing, then they will seek to raise capital through external equities. The explanation for this phenomena relates to costs of raising capital. Internal financing is the cheapest resource to raise capital, compared to debt financing and external equities. Furthermore, raising capital through debt financing is difficult for a new company because the lender does not have much information about the company. As a result, the company will be charged at a higher interest rate. In addition, young entrepreneurs are

likely to control the company by themselves, so they do not want to raise capitals through equity financing.

Age of the company is measured by taking the average natural logarithm (ln) of number of years of operation.

Table 1: Definition of variables

This table presents the definition of variables employed in our paper.

Variable	Description of calculation
Dependent variable	
FP (Firm Performace)	ROA (Return on Assets)= Net income/total asset ROE (Return on Equities) = Net income/ total equity
Independent variables	
$RE_{i,t-1}$	Proportion of earnings kept back in the business as retained earning = previous retained earnings/ earnings
Control variables	
LIQ_{it}	Liquidity = Current assets/ current liabilities
$LEVERAGE_{it}$	Total debts / Total equity
$lnAge_{it}$	Natural logarithm of the number of years since the firm's establishment

With panel data, we test our hypothesis by using a pooled Ordinary Least Squares (OLS) model, a random effect model (REM), and a fixed effect model (FEM). To choose an appropriate REM or FEM among the pooled OLS model, we follow Wooldridge (2010) proposal - the Breusch and Pagan Lagrangian multiplier test and Hausman test. In this paper, Hauman test is used to choose the REM or FEM.

3. Empirical result

3.1. Descriptive statistics

Descriptive statistics show a general overview of the characteristics of the data. Summary descriptive statistics of the variables modeled after screening using software Stata are represented as below.

Table 2: Descriptive statistics

Variables	observations	Mean	Standard deviation	Min	Max
ROE	352	0.12114	0.13250	-0.38772	0.78158
ROA	352	0.07020	0.09190	-0.16264	0.66242
RE	352	0.28213	8.32000	0.05000	100.00000
LIQUIDITY	352	5.65923	41.01087	0.00000	829.96210
LEVERAGE	352	2.07110	2.25825	0.00000	13.36851
LnAGE	352	18.25169	0.06008	0.00000	54.00000

Based on Table 2, the retained earnings reveal an average of 0.28. This retention rate is less attractive in term of reinvestment, because firms seem to pay out more dividends. Besides, the wide range between minimum and maximum values for retained earnings signals that there exist the large differences among construction-listed companies with respect to retention. The results of ROA and ROE show good performance because they are greater than 7% in comparison with an average mobilized interest rate from the banks in Vietnam. The mean liquidity value of

5.66 indicates that these companies can meet their current obligations. Liabilities are used more than equities (over 2 times). It shows that those listed - construction companies in HOSE are highly leveraged.

3.2. Correlation variables

To study relationship between retained earning and firm performance, ROA and ROE are used as proxies for firm performance. There are two results as referred to Table 3.

Table 3: Correlation matrix

Part A.

	ROE	RE	Liquidity	Leverage	Age
ROE	1.0000				
RE	0.1190	1.0000			
Liquidity	0.0745	-0.0463	1.0000		
Leverage	0.0204	0.0315	-0.3309	1.0000	
Age	0.1661	-01177	0.0296	-0.0117	1.0000

Part B.

	ROA	RE	Liquidity	Leverage	Age
ROA	1.0000				
RE	0.0467	1.0000			
Liquidity	0.2848	-0.0463	1.0000		
Leverage	-0.3379	0.0315	-0.3309	1.0000	
Age	0.1837	-01177	0.0296	-0.0117	1.0000

Table 3 shows that all the correlation coefficients among the independent and control variables in the model are less than 0.7, suggesting that our regression models do not have severe multicollinearity problems.

From Table 3, Part A show a positive correlation between ROE and retained earnings. The higher the retained earnings are, the higher the return on equity of the firms. This correlation supports a positive relationship between ROE and retained earnings. In addition, leverage, liquidity, and age show positive correlations with ROE.

From Table 3, Part B analysis of correlation coefficients, the study has identified that the relationship between retained earnings and ROA is positive. The theoretical proposition on the relationship between liquidity and age is upheld as these variables also show positive relationships with ROA (0.2848 and 0.1837, respectively). The analysis further shows that there is a negative relationship between ROA and leverage (-0.3379).

4.3. Research findings

First we perform the Hausman tests that detects whether endogenous regressors in a regression model will cause OLS estimator fail due to misspecification error. One of the assumptions of OLS is that there is no correlation between a predictor variable and the error term. The null hypothesis is that the preferred model is random effects. The Hausman test rejects the null if the p-value is o.05 or less. Rejecting the null indicates that the preferred model is fixed effects.

$$ROE_{it} = \beta_1 + \beta_2 RE_{it-1} + \beta_3 LIR_{it} + \beta_4 LEVERAGE_{it} + \beta_5 lnAge_{it} \quad (2)$$

$$ROA_{it} = \beta_1 + \beta_2 RE_{it-1} + \beta_3 LIR_{it} + \beta_4 LEVERAGE_{it} + \beta_5 lnAge_{it} \quad (3)$$

Results of the Hausman tests for models (2) and (3) indicate that p values equal 0; so we reject the null hypothesis, thus the fixed effect model (FEM) is the more suitable model.

Table 4: ROE

	Coef.	Std. Err.	t test	P > | t |	[95% Conf. Interval]	
Re(t-1)	2.16e-14	6.08e-15	3.55	0.000	9.64e-15	3.36e-14
Liquidity	0.000647	0.0034328	0.19	0.851	-0.0061075	0.0074015
Leverage	0.0078026	0.0037454	2.08	0.038	0.000433	0.0151722
Age	-0.0101744	0.0016657	-6.11	0.000	-0.0134519	-0.0068969
Intercept	0.3238641	0.0376169	8.61	0.000	0.2498482	0.39788

According to the results presented in Tables 4 and 5, retained earnings of the previous year have a significant impact on firm performance (coef = 2.16e-14; p-value = 0) and (coef = 1.02e-14; p-value = 0), respectively. Thus, we reject the null hypothesis that retained earnings do not affect performance of firms in Vietnam. Results indicate that retained earnings and firm performance have a positive and significant relationship. As a result, the more a company retains profits/earnings, the better opportunities to improve its performance. It shows that if companies hold onto earnings for investment next year, they will have additional capitals to operate and maintain old projects and even new projects.

Table 5: ROA

	Coef.	Std. Err.	t test	P > | t |	[95% Conf. Interval]	
Re(t-1)	1.02e-14	2.80e-15	3.65	0.000	4.71e-15	1.57e-14
Liquidity	0.0017379	0.0015821	1.10	0.273	-0.0013752	0.004851
Leverage	-0.0065983	0.0017262	-3.82	0.000	-0.0099948	-0.0032017
Age	-0.0037058	0.0007677	-4.83	0.000	-0.0052164	-0.0021953
Intercept	0.1485051	0.0173372	8.57	0.000	0.114392	0.1826182

Liquidity is not significant, indicating that it has a negligible positive impact on company's performance. The coefficient for Leverage is significant and positively associated with ROE (p-value = 0.038) in Table 4, but significantly negative with ROA (p-value = 0.000) in Table 5. This listed-construction companies use leverage and retained earnings efficiently to increase firm performance in term of ROE, but leverage may lead to reduction of firm performance in term of ROA, possibly because of high leverage.

The age of a company has a significant and negative effect on the company's performance (p-values = 0.000). It illustrates that the longer the company operates, the more likely its performance will decrease. It also suggests that younger companies are more likely to take advantage of investment opportunities than older companies.

4. Conclusion and further research

The result of this research shows that it is consistent with Pecking oder theory. The listed-construction companies should retain more earnings in order to fund their invesment and increase their firm performance. This means that younger companies should reduce dividend payments. For investors, retained earnings of a company is an important factor to consider. If investors would like to have more capital gains by buying low and selling high in secondary securities market, they should choose companies with large amounts of retained earnings. In contrast, the influence of liquidity ratios is insignificant.

Last but not least, the age of company also does affect negatively firm performance. The longer time in the market does not guarntee the company have a good potential to grow.

Overall, our test result illustrates the positively significant influence of retained earnings on firm growth. The more retained earnings, the more probability the company will grow. Besides that, the leverage ratios also have inconsistent impact on growth.

It is noted that this study focuses on listed-construction companies on Hochiminh stock exchange in Vietnam. It may have a limited scope because of just total 37 construction-listed companies in Vietnam. Future research should consider additional companies in Vietnam and explore other industries. It will help us to find a general impact of retained earnings on performance in Vietnam.

Moreover, further research can change the dependent variables which use to illustrate the growth of the company. The change in total assets can be replaced by many other factors such as annual change in sales, average turnover ratio, market value devided by book value (Cheng et al, 2009).

References

Alves, Pereira, Paulo. F., & Morais, F. (2018). Cash Holdings Are Increasing and Financial Crisis Strengths It. *Available at* SSRN: https://ssrn.com/abstract=3096566 or http://dx.doi.org/10.2139/ssrn.3096566

Arora, A., & Sharma, C. (2016). Corporate governance and firm performance in developing countries: evidence from India. *Corporate governance*. Bassey, E. B., & Godwin, O. E. A. A. (2016). Assessing the Impact of Retained Profit on Corporate Performance: Empirical Evidence from Niger Mills Company, Calabar-Nigeria. *European Journal of Business and Innovation Research*, *4*(1), 36-47.

Beekman, A. V., & Robinson, R. B. (2004). Supplier partnerships and the small, high-growth firm: selecting for success. *Journal of Small Business Management*, *42*(1), 59-77.

Beisland, L. A. (2014, June). Equity valuation in practice: The influence of net financial expenses. In *Accounting forum* (Vol. 38, No. 2, pp. 122-131). Taylor & Francis.Carpenter, R. E., & Petersen, B. C. (2002). Is the growth of small firms constrained by internal finance?. *Review of Economics and statistics*, *84*(2), 298-309.

Chiu YC & Liaw. Y. (2009). Organizational Slack: Is More or Less or Better? *Change Manag. 22(3),* 321-342. Chiu, Y. C., & Liaw, Y. C. (2009). Organizational slack: is more or less better?. *Journal of Organizational Change Management*.

Copeland, Thomas E, F. Weston.& K. Shastri. (2007). Capital Structure and the Cost of Capital: Theory and Evidence, India: Pearson Education Inc and Dorling Kindersley Publishing Inc. . *Financial Theory and Corporate Policy (4th ed.)*, 625.

Darabi, R., Zadeh, R. A., & Abdi, H. (2014). The Investigation Relationship Between Various Measures Of Firm Growth And Sustainability Of The Capital Structure In Listed Companies In Tehran Stock Exchange.ns D., F. M. (1998). Entrepreneurial Learning and the Growth process in SME's. *The Theory Organisation. 5 (3)*, 144-155.

Darabi, R., Ataei, Z., & Abdi, H. (2014). The relationship between firms growth opportunities and changes ratio in retained earnings in listed companies in Tehran Stock Exchange. *Indian Journal of Fundamental and Applied Life Sciences 4 (1), 1536, 1544*.

Dobrovolsky, S. P. (1951). Appendices to" Corporate Income Retention, 1915-43". In *Corporate Income Retention, 1915-43* (pp. 101-118). NBER.Teng Hou LOI, A. A. (2012). Determinants of firm growth: evidence from Belgian companies. 1-88.

Donaldson, G. (1961). Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity. Boston: Division of Research, Harvard School of Business Administration. Deakins D., F. M. (1998). Entrepreneurial Learning and the Growth process in SME's. *The Theory Organisation. 5 (3)*, 144-155.Guariglia, A., X Liu and L. Song (2015, May 30). Internal financeand growth: microeconometric evidence on Chinese firms. Retrieved from https://www.econstor.eu/bitstream/10419/35627/1/584698879.pdf

Harkavy, O. (1953). The relation between retained earnings and common stock prices for large, listed corporations. *The Journal of Finance*, *8*(3), 283-297.

Karadeniz, E., Kandir, S. Y., Balcilar, M., & Onal, Y. B. (2009). Determinants of capital structure: evidence from Turkish lodging companies. *International Journal of Contemporary Hospitality Management*. *21(5)*, 594-609.

Kim, S. Y. (2015). The Dynamic Relationship between Growth and. *Sustainability 2015, 7*, 15996.

Loi, T. H., & Khan, A. A. (2012). Determinants of firm growth: evidence from Belgian companies. *Faculteit economie en bedrijfskunde. Dostupno na: http://www. ethesis. net/Determinants/Determinants% 20of% 20firm% 20growth% 20Evi dence% 20from% 20Belgian% 20companies. pdf*. 28-29.

Mahapatra RP, M. K. (2004). In Theory of Dividend Policy, New Delhi (India): Sonali Publications. 1. *Corporate Dividend Policy (1st ed.)*, 1-11.

Mallick, S., & Yang, Y. (2011). Sources of financing, profitability and productivity: First evidence from matched firms. *Financial Markets, Institutions & Instruments*, *20*(5), 221-252.Myers, S. C. (1984). The capital structure puzzle. *The journal of finance*, *39*(3), 574-592.Myers, S. C., & Majluf, N. S. (1984). *Corporate financing and investment decisions when firms have information that investors do not have* (No. w1396). National Bureau of Economic Research. 13(2) 187-221.

O'brien, J. P. (2003). The capital structure implications of pursuing a strategy of innovation. *Strategic Management Journal*, *24*(5), 415-431.

Osegbu, I.F, Ifurueze, M & Ifurueze, P (2014). An analysis of the relationship between dividend payment and corporate performance of Nigerian banks. Global Business and Economic Research Journal, 3(2), 75-99

Ouma, O. P., & Murekefu, T. M. (2012). The Relationship Between Dividend Payout and Firm Performance: A Study Of Listed Companies In Kenya. European Scientific Journal, 8 (9).Upneja, A., & Dalbor, M. C. (2000). An Examination of Capital Structure in the Restaurant Industry. *The Journal of Hospitality Financial Management*, *8*(1), 70-70.

Yemi, A. E., & Seriki, A. I. (2018). Retained Earnings and Firms' Market Value: Nigeria Experience. *The Business & Management Review*, *9*(3), 482-496.