

# Determinants of Dividend Payout Policy A Case of Nonfinancial Listed Companies in Vietnam

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Received 02 August 2016

Revised 26 September 2016; Accepted 22 December 2016

**Abstract:** This research examines the determinants that affect the dividend payout ratio of 156 listed companies in the Vietnamese security market during 2009 and 2014. This study considered the influences of ten independent variables including free cash flow, sales growth, company size, financial leverage, profitability and liquidity. The empirical results show that there are three factors having a significant relationship with the dividend payout ratio. Both the return on equity and the financial leverage variables are statistically and negatively significant with the dividend payout ratio; earnings per share are not clearly significant with the dividend payout ratio. Moreover, in the effect on the dividend payout ratio of the different industry sectors, the storage and food industry has a significant relationship with dividend payout ratio and three industries including the agricultural-forestry-fishery industry; mining industry; manufacturing industry statistically have dividend payout ratios higher than other industries.

*Keywords:* Payout policy, dividend payout ratio, fixed effect model, random effect model.

## 1. Introduction

Vietnam's security market was launched 15 years ago but has only been officially operated for the past 10 years (2005-2015). It can be claimed that the Vietnamese stock market has grown energetically with 660 listed enterprises, including 301 companies listed in the Ho Chi Minh stock exchange (HOSE) and 359 listed in the Hanoi stock exchange (HNX)<sup>1</sup>. After the global economic crisis in 2008, the list of joint stock companies has gradually been adapted to global integration by applying effective policies. Dividend policy is one of the effective

ways to create attractiveness for both domestic and international investors.

Dividend policy decides to distribute the enterprise's profit in which a business makes the choice whether to use earnings after tax to reinvest or to pay out dividends to shareholders. In terms of corporations, profit after tax is considered as the lowest cost funding source. It is kept to support capital for the company in reinvesting, expanding scale, and approaching a larger project for the development of business networks. However, maintaining a major proportion of retained earnings also makes a company's shares become less attractive. In contrast, shareholders are always desirous of a significant dividend payout ratio, because it is their income from capital that gains from the investment. Generally, company shares having

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<sup>1</sup><http://bizlive.vn/chung-khoan/loi-nhuan-tren-moi-co-phan-cong-ty-niem-yet-giam-gan-5-361315.html>.

a high dividend payment rate will attract more investors. Consequently, a dividend payment policy still is an issue that is paid much attention by financial managers.

The Vietnam stock market taking its place in a group of young countries, is rather volatile, and consists mainly of small-scale businesses. Investors therefore, have difficulty in easily accessing transparent information. Currently, the financial market is imbalanced with a very high proportion (about 80%) of the banking market, while the stock and insurance markets account for only about 20%<sup>2</sup>. The imbalance of the capital market making the financial market distorted as banking credit has been financed short, medium and long term. Hence, the costs of capital from the banks for an enterprise for manufacturing and trading become higher. Dividend policy plays an important role as a signal to attract investors and helps businesses to access medium and long-term capital with lower costs.

There are a lot of study results about dividend policy in developing or emerging markets. Al-Malkawi (2008) researching on the dividend payment policy of Jordanian companies pointed out four factors affecting this policy, including: the profitability of the business, the financial leverage, the number of operating years, and the internal holding rate of managers [1]. Al-Twajiry (2007) studied Malaysian emerging markets and indicated that dividend policy business was affected by the dividend policy in the past and the future [2]. Dividends were also influenced by profit in which the greater the company size, the higher the dividend payment. However, the operating time and activities sector did not impact on the dividend payout ratio. Ahmed and Javid (2009) learned about the dividend payment policy of non-financial companies on the Karachi stock market in the period from 2001 to 2006 [3]. They supported Linter's theory that dividend policy goals of an enterprise are based on

earnings per share (EPS) in the current and previous year. The profitability, the market liquidity, and the percentage of internal ownership had a positive impact on the incidence of dividend payments as long as the market capitalization and the business scale had a negative impact on the dividend payout rate. Similar to research about the listed companies on the Karachi stock market in the 2005-2010 period, it was demonstrated that only corporate income tax and business scale, among six factors, which were put into the regression model, influenced the direction of the dividend payment policy of the enterprise [4].

This study contributes to the process of finding what drives corporate dividends policy in Vietnam, especially focusing on the manufacturing, business and trading services enterprises on the Vietnam security market after the economic crisis in 2008. The paper therefore uses econometric models to test the factors that affect the payout ratio of businesses in the period 2008-2014. In addition, this research also provides information about the theory of dividend payments in the second section, the dividend policy of the listed companies on the HOSE in the third part, and the research results are evaluated in the fourth part. The research focuses on studying the impact of factors on the dividend payout ratio of enterprises, including: free cash flow, company size, sales growth, profitability, financial leverage, return on equity (ROE), earnings per share (EPS), cash dividends on EPS, current ratio and collateral. Due to limitations of data collection, the model has been tested on 156 companies on the HOSE from 2008 to 2014.

## 2. Literature review

### 2.1. Lintner's theory dividend payout policy

John Lintner (1956), making the foundation for the study of dividend policy, published his research in 1956 [5]. It was based on a survey of 600 US listed companies. According to the

<sup>2</sup><http://vneconomy.vn/tai-chinh/thong-doc-phai-nan-chinh-lai-thi-truong-tai-chinh-20150224105247280.htm>

author's view, a stable dividend policy would be a good signal for the market about business activities as well as about stable future cash flows. The US company managers believed that reducing dividends would create negative and undesirable influences on the company's shares; therefore, enterprises would carefully consider increasing or decreasing dividends during a long term period of unsustainable growth (decline) to avoid unexpected fluctuations in dividends, thereby maintaining and achieving a rate dividend payout target. Based on this study, Lintner built function setting the dividend payout ratio target as follows:

$$D^* = r_i P_{it} \quad (1)$$

$$\Delta D_{it} = a_i + c_i (D^*_{it} - D_{i(t-1)}) + u_{it} \quad (2)$$

where  $r$  is the target pay-out ratio,  $P_t$  is the current year's profits after taxes,  $\Delta D_{it}$  is the change in dividend payments, and  $D_t$  and  $D_{t-1}$  are the amounts of dividends paid in the years identified by the dating subscripts  $t$ , and  $i$  identifies the individual company.

According to Lintner's theory given above, the target payout ratio of a company would be affected by the last dividend payout ratio and the profit after tax of the company during the studied period.

### 2.2. Gordon's theory of "The bird in hand"

In 1963, Gordon claimed a theory that dividends reduced risks for investors, and was named as "The bird-in-the-hand" theory by Miller and Modiglian's in 1961 [6]. According to Gordon's study, investors were concerned with risk and the preferred dividends that they received at present rather than to a company's promising of prospect for high capital gain in the future. Gordon later indicated that a change in a company's dividend payout ratio would change an investors' risk level of investing in stocks of company. A high dividend payment would reduce the risk or limit uncertainty about future income flows for shareholders, thus attracting more investors, and vice versa. Overall, the psychological behavior of the shareholders would affect the dividend policy of the enterprise.

### 2.3. Transaction costs theory

Beside psychological risk aversion, transaction cost is known as a factor leading investors to consider whether to sell stocks for capital gain or to hold them for periodic dividend payment. When companies pay low dividends or do not pay any dividends, investors tend to sell their shares to get the profit that arises from the transaction costs and brokerage. These costs become expensive with individual stocks and small volumes, hence the income from capital gains cannot completely replace the dividends income as proposed in the theory of Miller and Modiglian (1961) [6]. Obviously, investors would expect to earn a higher dividend payout ratio to reduce costs.

### 2.4. Agency costs theory

Agency cost is one of the factors affecting the dividend payments rate. Jensen and Meckling developed this theory in 1976 through the conflict of interests between managers and shareholders [7]. When a company pays a high dividend payout ratio, cash flow in business administration will be limited. The company must issue additional shares on the market to raise capital to expand the business. Thus, the number of shareholders increases and the company's capital from outside management is used more efficiently, and the interests of shareholders are enhanced. Investors will react positively with information about the high rate of payment dividends.

### 2.5. Signal theory

Based on the role of the corporate management aspect, signal theory stands on a different perspective to explain the dividend policy of the enterprise. According to this theory, Bhattacharya (1980) and John and Williams (1985) indicated that dividend policy was supposed to be a signal to market managers and investors [8, 9]. When the signal of high dividend ratio that contains much positive information about the operations, earnings, and future cash flow of the business is spread,

investors will respond respectively upon receiving this signal. A positive signal can make investor desire a company's stocks.

### 2.6. Catering theory

Baker and Wurgler (2004) mentioned the theory that concerned meeting the investors' needs of dividends (catering theory) [10]. The research indicated that investors would be willing to invest in shares of companies if the corporate governance met their requirements. According to this theory, the company's stock price would increase by satisfying any reasonable or unreasonable dividend requirements of investors. In other words, a no dividend payment company will launch a dividend payout when they notice that the company-paying dividend would have a higher price in the market. This theory was based on the theory of psychological behavior of investors and tested by Baker and Wurgler [10].

### 2.7. Tax preference theory

Miller and Scholes (1978) showed that the dividend policy in the tax environment differs from that in a perfect market [11]. According to this theory, an enterprise should not pay high dividends because they reduce the investors' income and the company value. In particular, the difference between tax on dividend's income and capital gains in the US would affect the behavior of the shareholders. Tax on dividend income is higher than capital gains as usual. For instance, in the United States from 1961 to 2003, in order to save tax for shareholders, companies paid a low dividend payout ratio and repurchased their stocks.

### 2.8. Dividend payout theory in terms of issuing costs

A high dividend policy will reduce the amount of retained earnings to reinvest in the next business cycle; this makes a company find additional funding sources from outside when it has larger capital requirements. However, raising capital by issuing new shares leads to increasing

the cost of capital and issuing costs. Therefore, the corporate governance tends to keep retained earnings to reduce the cost of capital.

### 2.9. Life cycle theory

Fama and French (2001) studied life cycle theory and indicated that companies have a rational dividend policy for the operating situations in each stage of the business life cycle [12]. In the first part of the business cycle, companies must use a lot of outside capital; therefore, be under stringently external control. Moreover, managers hold a high ownership proportion in this period; hence, interests of both managers and investors are similar respectively. Therefore, along with the increases in the production scale, the dividend payout ratio grows step by step. These factors will reduce agency costs. In the next stage when the business is stable, managers will be more cautious before adventuring projects. Besides, the ability of accessing information about the entire company will become slower due to the larger scale. In this phase, the company will maximize shareholders' value by distributing its profits through dividend payments. In the final stage of the cycle-low profitability, companies need to maximize the value of the company through liquidation to pay out all the shareholders. However, if managers continue to expand their scale in this period, the target dividend payout policy will differ to the dividend policy that managers make.

Based on various theories, a number of empirical studies have been conducted to research the determinants of dividend policy. This study has addressed which factors can affect the dividend policy of listed companies in the HOSE and whether differences exist in the dividend policy among industries.

## 3. Methodology

Many previous articles have studied the determinants that influence corporate dividend

decisions. This research focused on ten factors that affect the dividend payment policy of the listed companies on the Ho Chi Minh Stock Exchange in Vietnam.

*Free cash flow:* The liquidity or cash flow position plays an important factor of role in the dividend policy. The agency cost theory found that firms should pay higher dividends to prevent managers from investing capital in inefficient projects and wasteful activities having more free cash flow. Amidu and Abor (2006) indicated that there was a significantly positive relationship between cash flow and dividend payout ratios in the case of Ghana [13]. Mehta (2012) has shown the affect of profitability, liquidity and leverage on dividend decisions, thus the more stable cash flows are, the easier it is to pay dividends [14].

*Collateralized assets:* When firms use loans, their financial indicators should meet the financial requirements of creditors. According to Chen and Dhiensiri (2009), if firms owned collateralized assets, credit restrictions would be fewer, thus the risk of loans with more collateralized assets is lower than the ones with no collateralized assets [15]. This will lead to fewer agency problems between shareholders and bondholders when firms pay high dividend payments.

*Size:* According to Chay and Suh (2009) [16] and Mehta (2012) [14], bigger size firms conduct higher dividend policies and vice versa. Since big companies can access easily many sources from capital markets, this will lead to raised funds with lower issuing costs and higher agency costs. Companies of a larger scale tend to pay higher dividends than the smaller ones, *ceteris paribus*. The scale of a company might be measured by sales, total assets, the capitalized market value, the equity value and so on. However, this research has used total assets to reflect the size of a firm and assumed that dividend payout is positively associated with the firm's size.

*Growth:* When firms have many opportunities to invest and expand the

company's size, managers will tend to retain more profit to reinvest as this capital has lower costs than the others, such as borrowing from outsiders or issuing new stocks. That means firms must reduce or not pay the dividend and vice versa. In contrast, the agency theory showed that when a firm has a strong cash flow but has inefficient investments, the firm would pay a high dividend ratio in order to avoid the wasting of money by the managers [7, 13, 17]. Growth has been measured by the sales growth ratio.

*Financial leverage:* Rezzeff (1982) [17], Myers and Majluf (1984) [18], Jensen (1986) [19] and Mehta (2012) [14] have stated that financial leverage shows the total debts to the total liabilities and owners' equity. The higher the debts the firms use, the more control by creditors and the more financial risk they may face. Therefore, if firms have higher financial leverage, the dividend ratio may be lower. The firms must make payment for creditors before paying dividends to shareholders. Moreover, firms with a high debt ratio may reduce the dividend ratio since they do not want to face the high capital costs of outsiders' funding. Financial leverage has been measured by total liabilities to the owners' equity.

*Profitability:* The pecking order theory showed that the capital in firms must be firstly financed internally [18]. If external funding is required, firms prefer to borrow money from creditors than to issue shares in order to reduce costs and save tax. Thus, taking into account that more profitable firms like to maintain a low dividend policy to avoid the high costs of issuing debt and equity financing, *ceteris paribus*. On the other hand, some scholars suggest that profitability has a positive relationship with the dividend payment. High and stable profitable firms may have strong cash flows and that is the reason why their managers pay more dividends for shareholders [20]. Profitability has been measured by return on assets, return on equity and earnings per share.

*Liquidity:* The liquidity or cash flows position is an important determinant of dividend payouts. According to Amidu and Abor (2006) and Mehta (2012), liquid firms are likely to pay higher dividends to shareholders than firms with a liquidity crunch [13, 24]. Companies have to maintain liquidity at a stable level in order to keep the flexibility in their operation. The higher the liquidity of firms, the stronger the cash flow. Liquidity has been measured by the current ratio.

*Dividend payout ratio on the earning per share:* Chay and Sub (2009) suggest that this factor has a positive relationship with the dividend payment ratio as firms with a strong cash flow are capable of paying higher dividends as compared to firms with weaker cash flows [16].

#### 4. Data

This research focuses on analyzing the cash dividend payout ratios of 156 listed companies on the Ho Chi Minh stock market from 2008 to 2014. Since the HOSE is in the process of improvement and development of both the operation and legal framework, the estimate of converting the value of stock dividends into

cash is inaccurate and complex. Therefore, in this section, cash dividend payout is considered as which factors have a relationship with the HOSE's dividend payout ratio from 2009 to 2014. The banking and finance sector have their own characteristics compared to other sectors. Thus, this sector will not be included in this research. Moreover, the priority in this sector and the information asymmetry in the developing Vietnam stock market and the cut or reduction in its dividend payment may cause significant fluctuations in the market. Therefore, this research concentrates on non-financial listed companies. Up to 2009, the Ho Chi Minh stock market had 184 listed companies and 172 listed companies in the non-financial sector. However, 16 companies were delisted on the HOSE after the world economic crisis from 2009 to 2014. Finally, this study has obtained 156 non-financial listed companies.

The model in this research can be written as:

$$DPR_{it} = \beta_0 + \beta_1FCF_{it} + \beta_2ASSET_{it} + \beta_3SIZE_{it} + \beta_4GROWTH_{it} + \beta_5LEV_{it} + \beta_6ROA_{it} + \beta_7CAWTH$$

The definitions of the variables are summarized in Table 1.

Table 1. Variable definitions

Variable	Abbreviation	Definition
<i>Dependent variable</i>		
Dividend payout ratio	DPR	Cash dividends / Par value
<i>Independent variables</i>		
Free cash flow	FCF	FCF / Total assets
Collateralisable assets	ASSET	Fixed assets / Total assets
Firm size	SIZE	Log of total assets
Firm growth	GROWTH	Current sales / last year sales
Financial leverage	LEV	Liabilities / Equity
Profitability	ROA	Profit before tax / Total assets
	ROE	Profit after tax / Equity
	EPS	Profit after tax / Total outstanding shares
Liquidity	CR	Current assets / Current liabilities
DPR on EPS	DIVIDEND	Cash dividends / EPS

Source: Authors' summary.

## 5. Empirical results

Table 2 shows the descriptive statistics for listed firms in the HOSE; the average dividend payout ratio of the 156 listed companies during 2008 and 2014 is 11.978% with a standard deviation of 11.814%. This means, on average, the listed companies on the Ho Chi Minh stock market spent 11.978% of their profit after tax to pay dividends. This table illustrates that a fluctuation gap of the dividend payout ratio of listed companies in the HOSE is quite large with a maximum value of 70% and a minimum value of 0%. In addition, this table describes the average value, standard deviation and fluctuation gap of 10 independent variables.

Table 3 describes the correlation coefficients among the variables of listed companies in the HOSE. Most of the independent variables have a low correlation with the others, but represent quite high correlations between FCF and ASSET, ASSET and ROA, ROE and EPS (0.8708; 0.7401; 0.9098 respectively) that may cause the multicollinearity in the model. However, this sign has an insignificant effect on the regression model in general. Therefore, most of the independent variables have no strong correlation and show a good sign to test the model in the next section.

The first econometric model that has been used to deal with the panel data is Pooled

Ordinary Least Square (Pooled OLS). This model tests how the independent variables affect the dependent variable with assumptions. In order to estimate the appreciation of independent variables, this article regresses models and calculates the BIC (Bayesian information criterion) value after excluding the independent variable. BIC is a criterion for model selection among a finite set of models and the model with the lowest BIC is the best one. Finally, this study chooses the Pooled OLS with the smallest BIC value. The Pooled OLS with 10 variables is the chosen model to study (Table 4).

The regression with the Pooled OLS model is illustrated in Table 5. According to the Fisher test about the appropriateness of the model, the P-value is approximately 0% smaller than 5%, so the null hypothesis: "The Pooled OLS model is not appropriate" is rejected. This means the Pooled OLS can be chosen as the independent variables and may explain the change of the dependent variable (DPR).

To estimate the appropriation of beta coefficients individually, this study continues to compare each P-value with 5%. The null hypothesis is " $\beta_i = 0$ " (with  $i = [1; 10]$ ). If the P-value is greater than 5%, the null hypothesis cannot be rejected. This means that the variables including FCF, ASSET, GROWTH and DIVIDEND seem not to explain the fluctuation of DPR.

Table 2. Descriptive statistics for listed firms in HOSE

Variable	Mean	Std.Dev	Min	Max
FCF	0.3399	3.8477	-0.1338	97.7676
Asset	1.5226	16.5764	0.0003	294.977
Size	11.9423	0.6020	8.7861	13.8795
Growth	5.8395	91.0928	0.0165	2089.18
Lev	1.6739	2.9197	-26.4775	35.4523
ROA	0.4253	4.1368	-0.5101	86.6580
ROE	0.1408	0.4857	-1.8669	11.8686
EPS	3016.9	8179.7	-10332.3	204979
Cr	2.0945	2.3906	0.0121	40.4371
Dividend	4.8063	90.687	-256.85	2399.0
DPR	0.1197	0.1181	0	0.7

Source: Authors' summary.

Table 3. The correlation coefficients among variables of listed companies in HOSE

	DPR	FCF	Asset	Size	Growth	LEV	ROA	ROE	EPS	CR	Dividend
<b>DPR</b>	1										
<b>FCF</b>	-0.0105	1									
<b>Asset</b>	-0.0022	0.8708	1								
<b>Size</b>	0.0297	-0.2862	-0.3334	1							
<b>Growth</b>	-0.0501	-0.0032	-0.0044	0.0466	1						
<b>LEV</b>	-0.1346	0.0758	0.0563	0.1689	-0.004	1					
<b>ROA</b>	0.0409	0.4844	0.7401	-0.3403	-0.0044	0.0066	1				
<b>ROE</b>	0.1553	-0.0086	-0.0085	0.0313	-0.0025	-0.112	0.0029	1			
<b>EPS</b>	0.2441	-0.0097	-0.0086	0.0582	-0.0089	-0.0399	0.0066	0.9098	1		
<b>CR</b>	0.1263	-0.0209	-0.0291	-0.1752	-0.0038	-0.162	-0.0202	0.0134	0.0295	1	
<b>Dividend</b>	-0.0451	-0.0036	-0.0038	-0.1575	-0.0017	-0.0113	-0.0037	-0.005	-0.0179	0.0184	1

Source: Authors' summary.

Table 4. The BIC value of each Pooled OLS model

The regression model	AIC value	BIC value	The variable with the smallest T-statistic value
10 original variables	-1204.46	-1153.207	FCF
9 variables (excluding FCF)	-1206.01	-1159.418	ASSET
8 variables (excluding ASSET)	-1207.632	-1165.698	DIVIDEND
7 variables (excluding DIVIDEND)	-1208.934	-1171.659	GROWTH
6 variables (excluding GROWTH)	-1208.79	-1176.175	ROA
5 variables (excluding ROA)	-1207.399	-1179.443	SIZE
4 variables (excluding SIZE)	-1207.374	-1184.077	CR
3 variables (excluding CR)	-1202.464	-1183.826	3 remaining variables have the approximate T-statistic value.

Source: Authors' summary.

In the Pooled OLS model, this article examines some assumptions of OLS and concludes that this model does not satisfy the homoscedasticity assumption. Thus, the Robust model in STATA software is conducted to repair this error. However, when testing for homoscedasticity, the Robust model still does not satisfy this assumption, but it is the best Pooled OLS model.

The Pooled OLS has lots of strict assumptions and it is difficult to satisfy all of them. Therefore, this article applied the fixed

effect model (FEM) and the random effect model (REM) to replace the Pooled OLS. The Hausman test, which was developed by Hausman in 1978, is conducted in order to choose the most suitable model [21]. Based on this theory, the null hypothesis is: "There is no difference between the two models". If this hypothesis is rejected, the FEM is chosen instead of REM. Furthermore, this article examines the individual effect of each sector on the dividend payout ratio by adding dummy variables into the regression model.

Based on the results of FEM on STATA software, the P-value in this model of 7.9% is greater than 5%, therefore, the null hypothesis is rejected: “The FEM is not appropriate”. That means the independent variables cannot explain the fluctuation of the dependent variable.

The model’s P-value (0.01%) is approximately 0%. The result is quite smaller than 5%, so the null hypothesis is rejected: “The REM is not appropriate”. This means the independent variables including FCF, ASSET,

SIZE, GROWTH, LEV, ROA, ROE, EPS, CR, and DIVIDEND seem to explain the fluctuation of the dependent variable (DPR). Comparing the P-value of each independent variable at 5%, the result has indicated that 3 variables, including LEV, ROE and EPS, are statistically significant with DPR (0.6%; 0.5%; and 0%, respectively). In summary, the fluctuation of DPR can be explained by the change of 3 factors: the financial leverage, the return on equity and the earning per share.

Table 5. Results based on OLS, FEM and REM

	OLS	FEM	REM	With dummy variables
FCF	0.0016 (0.506)	0.0061 (0.282)	-0.0019 (0.251)	0.0011 (0.619)
Asset	-0.0006 (0.378)	-0.00064 (0.205)	0.0005 (0.394)	-0.0005 (0.460)
Size	0.0136 (0.07)*	0.0136 (0.094)*	0.0007 (0.496)	0.0196 (0.006)***
Growth	-0.00006 (0.147)	-0.00006 (0.000)***	-0.00001 (0.702)	-0.00005 (0.184)
LEV	-0.0062 (0.000)***	-0.0062 (0.040)**	-0.0039 (0.006)***	-0.00507 (0.000)***
ROA	0.0030 (0.070)*	0.0030 (0.017)**	0.0005 (0.683)	0.0029 (0.060)*
ROE	-0.1055 (0.000)***	-0.1055 (0.010)***	-0.0448 (0.005)***	-0.0848 (0.000)***
EPS	0.00001 (0.000)***	0.00001 (0.001)***	0.00001 (0.000)***	7.44e-06 (0.000)***
CR	0.005 (0.003)***	0.0050 (0.089)*	0.0018 (0.219)	0.0055 (0.001)***
Dividend	-0.0004 (0.403)	-0.00003 (0.001)***	-0.00012 (0.970)	-0.00001 (0.802)
DNLN				0.1908 (0.000)***
DDIEN				0.0524 (0.296)
DXD				0.0581 (0.296)
DVTAI				0.0702 (0.147)
DBDS				0.0459 (0.337)
DKHCN				0.6302 (0.268)
DCBCT				0.09523 (0.043)**
DKK				0.2527 (0.000)***
DBB				0.0864 (0.069)*
CONS	-0.0557 (0.536)	-0.0558 (0.559)	0.0358 (0.764)	-0.2149 (0.021)**

Note: \*, \*\* and \*\*\* are significance at 10, 5 and 1% levels, respectively; p-values are in parentheses.

This research shows 3 models: Pooled OLS, FEM and REM, in which the FEM is not appropriate to explain the changes of DPR. Therefore, the Breusch-Pagan Lagrange multiplier test is conducted to choose between Pooled OLS and REM. The null hypothesis is “the Pooled OLS is appropriate”. The P-value, which is approximately 0%, proves that the null hypothesis is rejected and the Random Effect Model is chosen.

The result of REM points out that there are 3 factors including the financial leverage, return on equity and earnings per share among 10 factors having a significant relationship with the dividend payout ratio of listed companies in the HOSE.

Specifically, as can be seen from the result that the coefficient of the EPS variable is approximately 0, this factor is not statistically significant with the DPR. From Table 5, the REM indicates that ROE is significant and negatively related to DPR. This is explained in that when ROE increases by 1%, DPR decreases by 0.045%. So the result from REM is contrary to the theoretical prediction. According to the research assumption, firms with high and stable profitability may have a strong cash flow to pay dividends. Therefore, this result is explained by the pecking order theory that firms want to retain more earnings to avoid high costs, and explains the higher the profit of firms, the lower the dividends.

The model indicates that LEV has a positive and statistically significant relationship with DPR. When financial leverage increases by 1%, DPR decreases by 0.004%. This result is expected with the research prediction from transaction cost theory. According to this theory, firms with high financial leverage tend to reduce the dividend payments to avoid high transaction costs and the other costs. However, the value of the LEV's beta is quite small, means that the effect on the dividend payout ratio of leverage is not significant as previously expected.

Furthermore, in order to test if different industries will have an influence on the DPR,

this article tried to apply the Pooled OLS regression model for 10 independent variables and the dummy variables. In Table 5, Dln, Ddien, Dxd, Dvtai, Dbds, Dkhcn, Dcbct, Dkk, Dbb are dummy variables for the agricultural-forestry-fishery industry, the manufacturing and distribution of electricity and gas, the construction industry, the transportation and storage industry, the real estate industry, the scientific and technical services industry, the manufacturing industry, the mining industry and other services industries, respectively. The base industry not included in the model is the storage and food industry. (These different industries are distinguished by the state securities commission of Vietnam in 2009).

According to the result of regressing the model with 9 dummy variables, it can be seen that three industries, including the agricultural-forestry-fishery industry, the mining industry and manufacturing industry, have statistically significant differences in the DPR from the storage and food industry. Specifically, three industries are statistically higher in DPR than the storage and food industry (the beta coefficient value of Dln, Dcbct and Dkk is greater than 0). In addition, the P-value of  $\beta_0$  which is lower than 5% shows that the storage and food industry has a significant relationship with the dividend payout ratio, *ceteris paribus*.

## 6. Conclusion

This research examines the determinants that affect the dividend payout ratio of 156 listed companies in the Ho Chi Minh stock market during 2009 and 2014. This study has already considered the influences of ten independent variables including: free cash flow, growth, size, financial leverage, profitability and liquidity. The empirical results have shown that there are 3 factors having a significant relationship with the dividend payout ratio in which, both the return on equity and the financial leverage variables are statistically and negatively significant with the dividend payout

ratio; the earning per share is not clearly significant with dividend payout ratio. Moreover, after testing the effect on dividend payout ratios of the industries, the storage and food industry has a significant relationship with the dividend payout ratio and three industries, including the agricultural-forestry-fishery industry, the mining industry and manufacturing industry, are statistically in dividend payout ratio higher than the storage and food industry. Therefore, both the listed companies and investors can have more information to make their decisions on the HOSE in particular and the Vietnam stock market in general.

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