

# STAKEHOLDERS APPROACH ON CORPORATE GOVERNANCE AND PERFORMANCE OF VIETNAMESE MANUFACTURING FIRMS

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## Abstract

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Corporate governance is one of the most vital issues in this compound environment at present, which is indicated by the fact that the success or failure of firms strongly depends on performance of the control that board of directors and executive board, take on corporations' activities. This issue has attracted a variety of researches worldwide, and become a popular buzz lately, however there is still limited researches on this topic in Vietnam. In this paper, we focus on manufacturing sector, one of the most important industries in Vietnam economy, which account for 41.2% of total GDP in 2012. By using stakeholder theory and Kitamura's paper as a corner stone, a model using OLS regression and log functional form for production function, showing the relationship between some external factors and internal factors including corporate governance is built. From the result of the research, it has been found out that internal factors (corporate governance) significantly affect the firm's performance, whereas external factors (market share) do not really show any influence. In term of production function, this manufacturing sector still benefits from an increase of capital but not that of labor.

**Keywords:** Corporate Governance, Manufacturing Sector, Stakeholder Theory, Financial Institutional Block-Holders, Incumbent Managers And Shareholders

## 1. INTRODUCTION

The importance of corporate governance is proved by the fact that the success of firms rely mostly on how the Board of Directors control corporations' strategy and how the Executive Board control the daily activities. It is prevalent topic because corporate governance is assessed as "an art" rather than the "science". Firm is doing well or not depends on how ingenious managers organize their organization. If corporate governance is crucial to the success of almost any firms in almost any countries, this subject deserves much more special attention in manufacturing sector.

Analysis about corporate governance and firms' performance are playing increasingly important parts in the development of economic growth since the result of this relationship impacts financial health of firm recently. Such information is important not only to analysts, bankers, but it also the concern of stakeholders in the economy for the purpose of improving current firms' information. In the world, there has been many papers concentrating this issue, but it is limited in Vietnam.

The aim of this research is to find some factors affecting manufacturing performance including corporate governance, and learn the lesson from corporate governance of successful firms for the others.

In Vietnam, there are several researches and papers focusing on the link between corporate governance and firms' performance, but only targeting in banking sector and using agency theory. Hence, in this paper, we develop new approach based on stakeholder theory, showing those firms' efficiency and effectiveness relying on other factors besides corporate governance. Besides, the objective for this analysis is manufacturing sector - one of the most important sectors in economic development in any country worldwide.

The paper is organized as follows: the first one is a brief introduction about the issue, following by literature review on theories in section two. The third part presents the methodology illustrating how the model is formed. In finding and discussion part, a final quantitative model is achieved with the thorough discussions compared to literature in the

past. Finally, conclusion and recommendation are drawn to complete this research.

## 2. LITERATURE REVIEW ON CORPORATE GOVERNANCE

For firm, to achieve the highest target of any business that is to maximize shareholders' wealth, the important of sound corporate governance is irrefutable, and for researchers, extensive motivation are raised to conduct massive investigation. In this section, detailed definitions, approaches and some main studies worldwide and in Vietnam are briefed, showing the relationship between corporate governance and performance of firm in the literature.

### 2.1. Definition on corporate governance

According to OECD, corporate governance is: *"Procedures and processes according to which an organization is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organization - such as the board, managers, shareholders and other stakeholders - and lays down the rules and procedures for decision-making."* (OECD, 2004).

Besides this standardized framework, Financial Times - one of the world leading business news and information organizations, also defined corporate governance as the way *"How a company is managed in terms of the institutional systems and protocols meant to ensure accountability and sound ethics. The concept encompasses a variety of issues, including the disclosure of information to shareholders and board members, the remuneration of senior executives, potential conflicts of interest among managers and directors, supervisory structures, etc"*.

In general, corporate governance is the process of controlling and supervising the work of directors to ensure the consistency between their benefits and that of shareholders. More broadly, it guarantees the advantages of all stakeholders, including suppliers, customers, employees, governments, etc. Corporate governance related directly to operating activities Board of Directors (BOD), not has straight relationship with company daily production.

### 2.2. Theoretical Approaches on Corporate Governance

There exist in the literature review of corporate governance many different approaches such as agency theory, stakeholder theory, transaction cost economics theory, behavioral agency model, stewardship theory and finance model.

#### **Agency theory**

Agency theory seems to be the most frequent used to develop the concept of corporate governance, resulting in the practice of this approach to a variety of researches. According to agency theory, shareholders (principals) would be the owners of the companies, but do not run the operating activities on day-to-day basis. Instead, they delegate decision making authority to the directors, called agents. Because of the separation of duty between control and ownership, and the difference of concern between two parties, there

remains a situation that the agents act on their own interest, which influences that of principals. This problem has been aggravated in Anglo-Saxon economies by the development of modern firms with large number of atomized shareholders whose delegation of multiple tasks as well as decision making to managers has set room for managers' engagement in moral hazard and adverse selection. As a result, the agency cost exists unavoidably.

The main task behind agency theory is to produce a method that make sure the efficient alignment of interest of principals and agents, leading to the reduction of agent cost. Indeed, in accordance with Jensen and Meckling (1976) and Fama and Jensen (1983), to solve agency problems, it is needed to establish a 'nexus' of optimal contracts (explicit as well as implicit) between the owners and management of the company. These contracts, also known as the "internal rules of the game", which identify the rights of agents in the organization, performance criteria used to evaluate them and the resulting payoff functions they will tend to face.

#### **Stakeholder theory**

Originally created by R. Edward Freeman (1984), stakeholder theory gives a broader overview about corporate governance than agency theory; hence it creates better look for company performance from corporate governance. This theory is used in extensive researches before across the world, and also discussed as the centerpiece among governance theories in this field. In practice, there is variety of stakeholders that related to the corporation beside the shareholders, including employees, customers, suppliers, banks, environmentalists, governments, etc. This concept is usually applied to large corporation, where the impact of companies on society is so persuasive that they should discharge responsibility to many more sectors of the society rather than on their shareholders only (Solomon, 2004).

Freeman (1984) indicates that corporation must simultaneously satisfy the owners, the employees, and their unions, suppliers and customers in order to be successful. Besides, managers in different functional disciplines ought to be more responsive to the external environment by carrying forward the notion of "internal stakeholders" as the conduits to external groups. In other words, the executives should act as "corporate spokesperson, political and social participant and manager of the human resources of the firm". Giving the same description like Freeman, Buchholz (1989) also showed the importance of unity in interest between parties. He brought about some new findings to solve this difficult problem such as increasing rights to shareholders to participate in important management decisions, change in the composition of boards by including more outside directors to alleviate concern boards that are too subservient to management or employee representation at some level in corporate governance.

Besides, Donaldson and Preston (1995) analyzed stakeholder theory via its descriptive accurateness, instrumental influence and normative legitimacy. Because of being a powerful tool to examine empirical claims, guesstimate appropriately stockholder concept, and to test the links between corporate management and its performance, this approach is both descriptive and instrumental. First,

this theory is used to describe, and sometimes to explain, specific corporate characteristics and behaviors. It is immoral if focus exclusively in the interest of shareholders, it should be enlarged the concern by non-shareowners community. Second, applying in instrumental way, stakeholder theory aims to recognize the bonds between management and accomplishment in corporate objectives. By using different tools to decrease information

asymmetry, and enforcement devices including law, and emphasis of fairness, stakeholder theory succeeds in suiting variety of stakeholder concentrations.

In the world, corporate governance system is mainly divided into two systems, insider type governance and open type governance. The characteristics of both types of governance are shown as the table below:

**Table 1.** Two types of corporate governance system worldwide

	Insider Type Corporate Governance System	Open Type Corporate Governance System
Characteristics	<ul style="list-style-type: none"> <li>• Based on a long-term relation and mutual reliance.</li> <li>• Not taking opportunity principle mutually.</li> <li>• The bearer of corporate governance is limited.</li> <li>• Monitoring is taken on by a main bank.</li> <li>• Insufficient disclosure.</li> </ul>	<ul style="list-style-type: none"> <li>• Based on law, contracts, and self-responsibility.</li> <li>• A lot of bearers of corporate governance.</li> <li>• Various kinds of monitors.</li> <li>• Assuming the existence of the market, with free entry and free withdrawal.</li> <li>• Sufficient disclosure.</li> <li>• Price mechanism works.</li> </ul>
Strengths	<ul style="list-style-type: none"> <li>• Stable management and stable employment.</li> <li>• Retrenchment of monitoring cost.</li> <li>• Internalize adjustment cost.</li> </ul>	<ul style="list-style-type: none"> <li>• Incentive mechanism works for managers.</li> <li>• Easy to promote business restructuring.</li> </ul>
Limitations	<ul style="list-style-type: none"> <li>• Uncertain management system.</li> <li>• The system becomes invalid when the management is unstable.</li> </ul>	<ul style="list-style-type: none"> <li>• Burgeoning monitoring cost.</li> <li>• Generate free riders of monitoring.</li> <li>• Promote rent-seeking activities.</li> </ul>

Source: EPA (1998), Mitsubishi Research Institute, Inc.

### 2.3. Empirical framework on corporate governance

There are many empirical frameworks on corporate governance worldwide including in USA and UK, Japan and Vietnam. Some prior researches should be remarked are McConnell and Servaes (1990), Nickell (1996) in the US, Kitamura (2001) in Japan, Dao Binh and Hoang Giang (2012) and Tran Tu and Pham Khanh (2012) in Vietnam. In which, Kitamura (2001) in Japan is the most relevant to our study approach of stakeholders on corporate governance.

Japan experienced the significant change in firm behavior in 1990 as the considerable shift in corporate governance. In the past, investments of Japanese firms depended mainly on external debt, especially on borrowing channel from banks. Until the mid 1980s, equity and corporate bond finance rose dramatically, while short and long term bank borrowing reduced in size. Kitamura (2001) thought that the lack of governance and leadership, together with the balance sheet problem of banking and non-banking firm contributing to long recession.

In his research, Kitamura (2001) not only focused on how corporate governance affects performance of firms, but also market competition. Using panel data from Basic Survey of Japanese Business Structure and Activities, he gathered information from 26,000 firms over 33 industrial categories from 1992 to 1995. Specifically, manufacturing industries accounted for 50%, wholesale and retail industry made up 40%, the remainder belonged to other industries. Seven types of information were pulled together including types and year of establishment, number of employees and organization, assets, liabilities, capital stock, and investment, intra-industry trade and international trade, research and development,

holding and use of patents and licenses, and parent company, subsidiaries and affiliations.

Taking reference from Nickell (1996) suggesting idea that competition improves corporate governance, Kitamura (2001) added this factor into his paper. In fact, Nickell shows facts that rivalry, as quantified by increased amount of competitors or by lower levels of rents, is coupled with a considerably higher rate of total factor productivity growth. In line with the standard economic theory, perfect competition results in proficient allocation of resource. In fact, Nickell ascertained that firms with higher market share tend to have higher productivity growth. Consequently, it is vague to conclude that market competition strengthens corporate performance on practical grounds.

However, after elaborating paper of Allen and Gale (2000), Kitamura found out the contradicting phenomenon as they ended up with the conclusion that although there is a lack of outside discipline and monitoring, most firms seen to operate fairly efficiently. Thus, they argue that a wider viewpoint than the standard agency view of governance is essential. Particularly, firms must have entrepreneurial management teams that have ability to make good decisions about prospect directions rather than only cost minimize. It means that managers have more work to do to specify direction that firms should move in, more willingly than being standing-ins. To test the accuracy of effect that corporate governance associated with competition takes on firms' performance, the process that used to conduct the investigation is describe more detailed as below.

Kitamura (2001) developed the model based on eight variables. In which, from the view point of corporate governance, own capital ratio and return on equity (ROE) are *classified* as governance variables

from shareholders, while liquidity ratio, debt/equity ratio, and debt/asset ratio are those from debt-holders. In his model, there were five control variables symbolizing for corporate governance including Own capital, Debt-Equity ratio, Liquidity ratio, Leverage ratio, and Square of leverage ratio. Besides, Labor and Capital stand for stakeholder factors, whereas sales share represented for market competition. Especially, he chose ROA to be a symbol of firm performance.

The result in the model of Kitamura (2001) is summarized as follows:

$$ROA_t = 0.043 + 0.261 * S_t + 0.003 * \ln L_t - 0.004 * \ln K_t - 0.03 * (D/A)_t - 0.02 * (D/A)_t^2 + 0.051 * OwnCapRatio_t - 0.03 * LiquidityRatio_t - stat (resp) (13.03), (5.47), (13.68), (-25.1), (-7.55), (-11.7), (19.18), (-17.52)$$

In which: ROA: Return on Total Assets,  $S_t$ : (Sales share) Share of firm's output in total output,  $L_t$ : (Labor) numbers of full-time employees,  $K_t$ : (Capital) Real Capital stock,  $(D/A)_t$ : Debt to Assets ratio,  $OwnCapRatio_t$ : (Owned Capital Ratio) Shareholder equity to Assets ratio,  $LiquidityRatio_t$ : Liquid Assets to Liquid Debt ratio.

It is obvious to see that sales share, labor, own capital ratio positively relate to ROA, meanwhile, capital factor, leverage ratio, square of leverage ratio and liquidity ratio have inverse relationship with dependent variable.

### 3. METHODOLOGY AND MODEL DESCRIPTION

#### 3.1. Research methodology

Based on prior research of Kitamura (2001) in Japan, some basic ideas to develop the study according to stakeholder approach are drawn and some main variables being considered suitable for Vietnam are selected in or econometric model. Among others, these include ROA as dependent variable, along with capital, labor, leverage ratio, market shares, and liquidity ratio as independent variables. Besides, some new control variables are developed which are board size (BOD), and executive board (EB), number of coincident people between BOD and EB, percentage of foreign ownership, percentage of individual block-holders and percentage of financial institution block-holders that also are appropriate for Vietnamese ownership structures. The explanation for these variables is clarified as follows:

##### 3.1.1 Dependent Variable

The measures for firm performance are mostly ROA or ROE, so we take both as dependent variable in our model. The last choice will depend on the variable that can create with the most relevant model.

**Return on Assets (ROA):** ROA gives investors information about the profits generated from the invested amount (or the amount of assets). Assets of a company are derived from loans and equities. Both of these funds are used to finance the company's operations. The effect of the ability to transfer from capital to profit is described via ROA. Because the company has the capability to earn more money on less investment amount, so the higher the ROA, the better. That is the reason why ROA is the best

indicator for firms' performance. ROA is calculated as follows:

$ROA = \text{Net income available to common shareholders} / \text{Total Assets}$

**Return on Equity (ROE):** ROE is the most important ratio with shareholders, measuring the profitability per dollar of shareholder equity. This index is an accurate measure to assess how much the accumulation of capital spending could generate. High ROE means that the company could demonstrate the effective use of shareholder capital, proving the harmonious balance between equities and debts to exploit its competitive advantage in the process of raising capital, and expanding scale. Therefore, the higher the ROE is, the more attractive the stocks to investors are. ROE is calculated as this equation:

$ROE = \text{Net income available to common shareholders} / \text{Total Equities}$

#### 3.1.2 Independent Variables

For the independent variables, we distinguish four kinds of variables related to production factors, risk factors, market factors and corporate governance variables.

##### 3.1.2.1 Production factors:

**Capital (LogK) and Labor (LogL):** Based on Cobb-Douglas production function:

$$Y_t = A_t K_t^{\beta_1} L_t^{\beta_2}$$

Where Y is value added, A is total factor productivity (TFP), K is capital stock, L is labor input. By taking logarithms the equation (1) we obtain the following:

$$\log Y = \log A_t + \beta_1 * \log K + \beta_2 * \log L$$

Basing on this formulation, firms' performance depends on labor and capital factors. In this paper, Capital is represented by total assets of firms, while Labor is indicated by number of full-time employees. Usually, funding size includes long term debts and owner equities. Short-term debts consist of account payables, advances from customers, payable to employees, etc, which is not accounted as firms' capital. Manufacturing firms often acquire little short-term liabilities, leading to the acceptance to be involved in firms' capital. The larger the size of the firm, the better its management, hence, we expect the positive relationship between these two factors and firms' performance.

##### 3.1.2.2 Risk factors: Financial risk and Liquidity risk

**Leverage ratio (DA) - Financial Risk:** Financial leverage is employed based on research of Kitamura (2001). It shows how efficient firms employ its debts to finance for its activities. It is calculated as Total debts to Total Assets. Using debt is beneficial to accessible owners due to the result of financial leverage. When companies utilize debt to supply addition resources for their operations, shareholders experience extra profits resulted from the debt capital. With the same amount of equity

investments, equity investors receive higher return on equity because of the additional profits provided by the debt capital. As long as using debt does not intimidate the financial soundness of a company in times of difficulties, equity owners accept certain debt uses to help improve their investment returns. Financial leverage indicates whether the firm can absorb losses at the present and still fulfill its future debt obligations. The ratio helps the firm determine whether it can afford to take on more debts and risky projects, so the excessive high amount in leverage ratio implies the careless corporate governance, leading to bad firms' performance.

**Liquidity ratio (LiquidRatio) - Liquidity Risk:** Liquidity ratio describes firms' ability to meet short-term obligation. In this paper, the most frequent liquidity ratio - current ratio is employed, computed as Current Assets to Current Liabilities. This ratio is also taken based on Kitamura's research. If this ratio ranges from 1 to 2, it means that company is capable enough to finance for its short-term debt under urgent case. However, when it is higher than the benchmark, the problem exists, indicating that firm confronted with obsolete inventories, extreme high amount of account receivables, or unnecessary store of cash. As a result, it inversely affects firm's efficiency and effectiveness.

### 3.1.2.3 Market condition

**Market shares (Mktshare):** In ideal world, competition makes perfect market. When firm accounts for larger proportion of market share, showing that it is huge and creditworthy. Because of the fact that it is too difficult to collect data about market shares in Vietnam, another proxy is considered in this paper. All revenues of chosen firms in sub-sector are summed up, and then divide each firm's revenue by that total amount. It is obvious that firm with higher revenue resulting from a higher market shares would have better management, resulting in better performance.

### 3.1.2.4 Six independent variables that represents for firms' corporate governance:

**Board size (BS):** Board size is the number of people elected by the annual shareholder meetings to be in the Board of Directors. A larger board would have enlarged provision of valuable advices and networks. A larger board could also favor better decisions since based on diversified competencies and experiences. The larger the board size, the better the firms' performance at a certain level. This variable is used according to research of Dao Binh and Hoang Giang (2012).

**Executive Board (EB):** Executive Board is the number of people that are elected or appointed to be in charge with the activities of organization. It is reasonable when company is managed by bigger size of executive board would perform better than small size. We expect that EB and dependent variable are positively related. This variable is utilized based on the prior research of Dao Binh and Hoang Giang (2012).

**Number of coincident persons between BOD and Executive Board (Coinci):** These figures imply how good in separation of duty in corporate governance of firm. Some international researches

conducting based on different business constructions. Based on researches of Eckbo (1994), he examined 308 Canadian companies that have the participation of managers. When large number of persons in EB overlaps with that in BOD, meaning one person would be in charge of various functions, resulting in the reduction in efficiency and effectiveness of management team. Because of this reason, it is anticipated that the coefficient of this variable would have negative sign, which reflect the inverse relationship between number of coincident persons and dependent variable. In case it acquires positive signal, the following interpretation can be considered. Main shareholders usually contribute a significant proportion of equity function, so they can be selected to be in EB. When taking part in the executive board, meaning that they work for their own company, which is to directly run and operate the business, then, would have more responsibility for the success of company, and without agency cost.

**Percentage of foreign ownership (Foreign):** Foreign ownership levels such as composition and part of contribution also have an effect as well. Only when foreign shareholders contribute capital into firms would they have their own know-how, technology, experience and expertise (human resource) management to support for their invested firms, firm performance could increase accordingly. This variable is taken after considering research of Dao Binh and Hoang Giang (2012).

**Percentage of individual block-holders (BlockPI):** Individual block-holders are the people that own at least 3% of total organization's stocks. When company is controlled by many individual block-holders, they would take care much more about their company because of their responsibility with their own capital. It is likely that BlockPI and firm performance have positive relationship with each other.

**Percentage of financial institution block-holders (BlockPF):** Financial institution block-holders are the organizations that acquire a minimum of 5% of total firms' stocks. Based on research of Pound (1988), he proposed efficient-monitoring hypotheses of the relation between institutional ownership and corporate value. He explained that institutional investor have greater expertise and can monitor management at lower cost than can small atomistic shareholders. Han (1999) examined 5500 USA companies that have the participation of financial institutional block-holders. Thus, this hypothesis predicts a positive relation between institutional ownership and corporate value.

## 3.3. Population and Sample

In this section, we will explain the sampling method used to conduct the model. The population of interest is manufacturing firms in Vietnam, which accounts for 41.6% of total GDP in 2012 (38.8% in 2015), comparing to Agriculture of only 15.5% in 2012 (up to 17.4% in 2015) and Services contributes the rest.

In 2012, the population of manufacturing listed firms is 328, out of 716 listed firms in total, both in HOSE and HNX, of which a sample of 32 firms is selected to be represented in 2012. Given the

volatility and expected accuracy of variables, 32 observations are taken randomly on the five main industries that affect Vietnam economy including Sugar, Mining and Oil & Gas, Confectionery, Natural Rubber, Fisheries, Industrials, and Production of construction materials, which accounts for 78% of all the manufacturing firms in term of total assets. Specifically, four to five firms are chosen in each industry, with all needed data are collected in their 2012 annual reports. 32 companies chosen are the largest ones with strong financial health (no negative value of ROA and ROE in 2012). As the objective of this paper is to study the lessons about corporate governance from successful firms, it is reasonable to take randomly 32 observations with the condition of positive ROA and ROE values.

All variables including ROA, ROE, Capital, Labor, Leverage ratio, Liquidity ratio, Market share, Board size, Executive Board, Number of coincident persons between BOM and EB, Percentage of foreign ownership, Percentage of individual block-holders, Percentage of financial institution block-holders were collected from firms' annual financial reports of chosen firms.

### 3.4. Regression Results

As we have created large range of variables, it is predictable that these variables may have correlation with each other. Therefore, in order to obtain higher accuracy and reduce workload, we conduct the model with 11 variables using Eviews software.

#### 3.4.1 General Model

$$\begin{aligned} \widehat{ROA} = & -0.051 + 0.125\log K - 0.184\log L \\ & - 0.376DA - 0.143Mktshare \\ & - 0.003LiquidRatio + 0.004BS \\ & + 0.003EB + 0.032Coinci \\ & - 0.17Foreign + 0.046BlockPI \\ & + 0.197BlockPF \end{aligned} \quad (1)$$

*t-stat (resp):* -0.25, 2.15, -3.377, -3.284, -1.082, -0.341, 0.268, 0.223, 2.405, 2.405, 0.507, 2.428

Where: the name of variables are presented in Sample selection Part.

From this model, it can be seen from Equation 1, some variables that are not statistically significant, based on the critical value  $t^*$  equals 2.056. They include Liquidity ratio (LiquidRatio), Market share (Mktshare), Board size (BS), Executive Board (EB), Percentage of foreign ownership (Foreign), and Percentage of individual block-holders (BlockPI). Their p-values are extremely higher than 5%, even if the significant level is 10%, these variables are still statistically insignificant, leading to testing of adding or removing some insignificant variables from the model. That is why in the next part, we do several tests of alternative models.

#### 3.4.2 Testing of dropping variables

In order to obtain more significant model, we run again with the remaining seven predictand variables. We do the test of dropping variables to hold some significant variables. The removal variables test shows p-value of F-statistic equals 81.82%, which is higher than 5%, so it is relevant to drop five

variables: Liquidity ratio, Board size, Executive Board, Market share, Percentage of individual block-holders and the constant term. Details of Walt test for dropping variables is shown in Appendix 2.

#### Testing functional form

To check whether regression model has suitable functional form and no misspecification, we conduct the Ramsey reset test. After examining, the result is not good with p-value of F-statistic equals 4.59% (smaller than 5%). It is showing that this is not yet the final model which indicates perfectly the relationship between firm performance and other significant independent variables, leading to create another thorough model. So we conduct for the change of the functional form with the final model as follows:

$$\begin{aligned} \widehat{ROA} = & 0.079\log K - 0.094\log L - 0.504DA \\ & + 0.081\log Coinci \\ & - 0.315Foreign \\ & + 0.0196\log BlockPF \\ & + 0.07(\log BlockPF)^2 \end{aligned} \quad (2)$$

*t-stat (resp):* 8.529, -5.776, -6.968, 3.417, -4.002, 2.506, 2.411

R-squared: 81.83%, Adjusted R-squared: 75.78%  
Using Ramsey Reset test, p-value of F-statistic equals 48.65% > 5%, indicating the suitable of this functional form. As can be seen from this result, 81.83% of ROA is explained by capital, labor, leverage ratio, number of coincident persons between BOM and EB, foreign ownership and percentage of financial institutional block-holders.

F-statistic of final model also indicates that it is overall significant (F-statistic equals 23.419). There is evidence at level of significant of 5% to conclude that at least one independent variable has effect on respond variable.

#### Checking errors

In order to check whether multicollinearity exists, intercorrelation between each variable is inevitable to be examined. It is necessary to mention that "if the pair-wise or zero-order correlation coefficient between two regressors is high, say, in excess of 0.8, then multicollinearity is a potential serious problem." (Damordar 2009, p.359). After checking intercorrelation, labor and capital are highly correlated, leading to test these two variables against other variables. The results show that there is no multicollinearity existing in the model.

There is no heteroskedasticity as well as autocorrelation presented in the model. In specific, p-value of F-statistic in White heteroskedasticity test and Breusch-Godfrey Serial correlation LM test are 79.64% and 90.67%, respectively, much higher than the 5% of critical value.

#### Replace dependent variable

As specified in the previous part, we would use either ROA or ROE as dependent variable represented for firms' performance, as long as which one provides better model. Based on model above for ROA as dependent variable, we replace ROA by

ROE (Appendix 9) and conduct the same procedure. However, value of R-squared and Adjusted R-squared in ROE model is not as high as in the ROA model. It is obvious to see that model reaches highest value of adjusted R-squared, and lowest Schwarz Crition and Akaike Information Crition when dependent variable is ROA. That is the reason why Equation (2) would be selected to be the final model throughout this paper.

### 3.5. Explaining the results

As the above model shows, there is no intercept term as its t-statistic is too small, suggesting the insignificance exists. It has no economical meaning, so it is reasonable to remove constant term from the final model.

This is the model with the functional form of linearity in ROA and log of independent variables, so the interpretation for the  $\beta_i$  is as follows: if the dependent variable  $X_i$  increases by 1% then the ROA would change by  $(\beta_i/100)$  %, holding others variables constant. The change of ROA will be positive or negative if  $\beta_i$  is positive or negative. In this model, the variable K, Coinci and BlockPF have positive influence on ROA. In contrast, the variable L, DA and Foreign negatively impact ROA, the firm's performance.

R-squared value of 81.83% means approximately 82% of the variation in ROA can be explained by variation in Capital, Labor, Leverage ratio, Number of coincident persons between Executive Board and Board of Director, Percentage of foreign ownership and Percentage of financial institutional block-holders. As the data in this research is classified as cross-sectional data, R-squared value of 82% can be considered high. This  $R^2$  is that high given our cross sectional data adjusted  $R^2$  equals (75.78%) can also be considered as high and close to  $R^2$ .

Each relationship between each control variable and ROA is explained in detail in Finding and Discussion part.

## 4. FINDINGS AND DISCUSSION

After conducting various tests in previous sections, along with no error in multicollinearity, heteroskedasticity and autocorrelation that could make the result violate assumptions made before testing, thus, in this section, we focus on the contribution that each independent variable supports to the significance of entire equation.

The equation is recalled for evaluation as follows:

$$\begin{aligned} \overline{ROA} = & 0.079\log K - 0.094\log L - 0.504DA \\ & + 0.081\log Coinci \\ & - 0.315\text{Foreign} \\ & + 0.0196\log BlockPF \\ & + 0.07(\log BlockPF)^2 \end{aligned} \quad (3)$$

t-stat (resp): 8.529, -5.776, -6.968, 3.417, -4.002, 2.506, 2.411

R-squared: 81.83%, Adjusted R-squared: 75.78%

To summarize, the test points out these most important ideas:

- Firm's performance is affected by corporate governance variables, measured by Number of coincident persons between BOD and EB, Percentage of financial institutional block-holders, and Percentage of foreign ownership.
- Capital, Number of coincident persons between BOD and EB, and Percentage of financial institutional block-holders have positive relationship with firms' performance.
- Labor, Leverage ratio, and Percentage of foreign ownership negatively influence firms' performance.
- Market competition has no direct bond with firms' performance.

Firstly, both input variables of production function (Labor and Capital) have significant impact on firms' performance. It is completely suitable with the discoveries in Kitamura research (2001). However, one interesting point here is these two factors demonstrate contradictory influence on firms' performance in Vietnam and Japan. Specifically, capital factor has negative relationship with firms' performance in Japan, but showing positive impact in Vietnam. Labor factor contributes to the development of Japanese firms' efficiency, nevertheless, worse off that of Vietnamese firms. This could be explained by the difference in feature of each country. In Japan, it is leading of high-class information technology country in the world. So, Japanese firms would base on capital to compete against other and dominate the market. In the opposite way, in Vietnam, the surplus in labor source usually exists, especially manual workers account for large amount. Besides, Vietnam is a developing country, in which the technology and modern equipments are in shortage. It is reasonable for Vietnamese firms use labor as a tool to develop. Apparently, a Vietnamese firm with modern technological devices that is capable to produce higher yields could help that firm be better than others. Firms using more labor bear huge labor costs, which reduce firms' net income, as well as their return on assets.

The other similarity between this research and prior one from Kitamura (2001) is that leverage ratio negatively influences firms' performance. Using debts to finance is a wise way to operate as owners could receive more money although they contribute less. According to Brigham (2004), typically, financing with debt increases the expected rate of return for an investment, but debt also increases the riskiness of the investment to the owners of the firm, its common stockholders. That is the reason why firms should wisely use debts by calculating optimal capital structure, since the excessive debts employment leads to serve financial risks born by shareholders. This kind of risk badly affects firms' performance and may result in bankruptcy as having a lack of solvency. The inverse relationship between these two is understandable.

In this research, we develop some new variables that are symbolic for corporate governance being suitable with Vietnamese context. That is the reason why some results are different from our based research of Kitamura (2001). In which, number of coincident persons between BOD and EB unexpectedly take positive advantage to firms'

performance. We often anticipate that when separation of duty exists, firm would operate effectively and efficiently in an objective way. However, the situation seems to be contradicting in Vietnam. Only when people invest their money into company, and run their firms at the same time could they be responsible for their investment. Especially, the more coincidence happens, the less agency problem occurs. There is no need for fear of interest difference between two parties - board of directors and executive board.

Foreigner ownership has inverse link to firms' performance, resulting from negative link between two variables - Percentage of foreign ownership and ROA. Foreigners often bring about their know-how into their owned companies, and only invest into Vietnam when they ensure about the returns. Nevertheless, when investing in Vietnam, foreigners often use large amount of funds on acquiring equipments, which may create negative profits at the first stage. The contribution from foreigners might distort the performance of their firms.

It is aligned with the expectation above that percentage of financial institutional block-holders has positive relationship with firms' performance. Financial institutions often have greater expertise and can monitor management at lower cost than can small atomistic shareholders. When controlling the companies, there is likely that they would bring their own knowledge, expertise and experience in management as well as financing and operating to handle the work well.

Last but not least, to some extent, this research has one resemble result with Kitamura research (2001), in which market competition proves no direct impact on firms' performance. In ideal case, competition will create perfect environment in which all firms rival to achieve the first position. The beneficial parties belong to customers as they have chance to enjoy best quality products. Though, in developing country like Vietnam, this ideal situation has not occurred yet. However, the fact that market share figures are difficult to access leading to using another proxy by a percentage of revenue over total in the chosen group of companies, may also be one of the causes that market share has no impact on performance business. In practice, there remains a variety of small companies that operate better than bigger ones. Their corporate governance might superior than others due to managers' special ways of controlling companies. Market share data is not the realistic evidence to support for firms' performance in Vietnam.

## 5. CONCLUSION

In this complex environment with fluctuated condition in both local and foreign financial market, the most important factor making firms successful is strong mechanism in corporate governance. How to have a strong and effective corporate governance system is very essential for any company to overcome both internal and external obstacles. This paper aims to identify the significance of corporate governance clearly via a meaningful model that is created to be suitable for Vietnamese situation.

This paper also provides two important theories of corporate governance which are agency theory and stakeholders theory. Model based on

stakeholder theory has been developed in this study with input data including dependent variable ROA and ROE, and 11 independent variables, two variable factors of production, one variable conditions market, two risk variables and six variables belonged to corporate governance. The last model was launched, in manufacturing sector, there are six variables that impact on firms' performance. Factors of production variable such as capital has a positive impact on business performance, by contrast, number of employees has negative impact. The corporate governance variables such as the number of members of the coincident members between BOM and EB and percentage of financial institution block-holders have positive impact on performance, however, foreign ownership have shown the adverse effects, indicating that foreign shareholders do not promote any potential for manufacturing enterprises in Vietnam. The manufacturing company need to pay special attention to financial risk, represented by the ratio Liabilities/Total assets, because if this ratio increases by 10%, ROA can reduce by about 5%.

From final quantitative models, some recommendations are given for the purpose of improving efficiency of manufacturing enterprises in Vietnam. Companies need to pay special attention to three factors: labor, financial leverage and financial institution block-holders. Firstly, due to the characteristic of Vietnamese labor market, with the majority of unskilled workers, the use of labor in production leads to low efficiency. Instead, firms need to invest in the development of modern technology to improve its performance. Secondly, as the direct impact of financial risk on firms, the use of the loans should be carefully calculated. Enterprises need to find out the optimal capital structure, because the use of debts is not only harmful to current business performance, but in the future, it could lead to the bankruptcy due to inability to pay debts, especially when bad debts increases dramatically recently. Finally, financial institutions are often highly specialized, and capable to manage at lower costs, leading to the increase in efficiency, which will help the company when they became the block-holders. Businesses in the manufacturing sector, therefore, should have right strategies to attract investments from financial institutions, to improve their competitiveness among others.

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## APPENDIX

## General Model

Table A 1. Testing result of 11 independent variables with dependent variable - ROA

Dependent Variable: ROA				
Method: Least Squares				
Sample: 1 32				
Included observations: 32				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.050748	0.202792	-0.250246	0.8049
LOGK	0.124931	0.058028	2.152919	0.0437
LOGL	-0.184047	0.054492	-3.377471	0.0030
DA	-0.375640	0.114373	-3.284357	0.0037
MKTSHARE	-0.143372	0.132474	-1.082264	0.2920
LIQUIDRATIO	-0.003488	0.010222	-0.341264	0.7365
BS	0.004318	0.016118	0.267919	0.7915
EB	0.002724	0.012191	0.223412	0.8255
COINCI	0.031562	0.013126	2.404556	0.0260
FOREIGN	-0.169976	0.111265	2.404556	0.1423
BLOCKPI	0.046460	0.091723	0.506525	0.6180
BLOCKPF	0.196995	0.081139	2.427880	0.0247
R-squared	0.693273	Mean dependent var		0.142700
Adjusted R-squared	0.524573	S.D. dependent var		0.103512
S.E. of regression	0.071373	Akaike info criterion		-2.161799
Sum squared resid	0.101882	Schwarz criterion		-1.612148
Log likelihood	46.58878	F-statistic		4.109500
Durbin-Watson stat	1.780066	Prob(F-statistic)		0.003015

Table A2. Wald Test (Removal test)

Wald Test:			
Equation: EQ02			
Null Hypothesis:	C(1)=0		
	C(5)=0		
	C(6)=0		
	C(7)=0		
	C(8)=0		
	C(11)=0		
F-statistic	0.475940	Probability	0.818179
Chi-square	2.855637	Probability	0.826736

Table A3. Testing functional form

Ramsey RESET Test:			
F-statistic	4.410437	Probability	0.045974
Log likelihood ratio	5.199161	Probability	0.022598
Test Equation:			
Dependent Variable: ROA			
Method: Least Squares			
Sample: 1 32			
Included observations: 32			
Variable	Coefficient	Std. Error	Prob.
LOGK	0.008583	0.019043	0.450694
LOGL	-0.005717	0.033227	-0.172067
DA	-0.090581	0.141342	-0.640863
COINCI	0.002895	0.015406	0.187925
FOREIGN	-0.062028	0.096989	-0.639541
BLOCKPF	0.063602	0.077370	0.822061
FITTED^2	2.689658	1.280726	2.100104
R-squared	0.702097	Mean dependent var	0.142700
Adjusted R-squared	0.630600	S.D. dependent var	0.103512
S.E. of regression	0.062913	Akaike info criterion	-2.503489
Sum squared resid	0.098951	Schwarz criterion	-2.182859
Log likelihood	47.05582	Durbin-Watson stat	1.947866

**Table A4.** Final model

Dependent Variable: ROA				
Method: Least Squares				
Sample(adjusted): 2 31				
Included observations: 25				
Excluded observations: 5 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGK	0.079232	0.009289	8.529755	0.0000
LOGL	-0.094970	0.016442	-5.775873	0.0000
DA	-0.504306	0.072377	-6.967750	0.0000
LOG(COINCI)	0.081206	0.023768	3.416554	0.0031
FOREIGN	-0.315655	0.078880	-4.001736	0.0008
LOG(BLOCKPF)	0.195740	0.078109	2.505973	0.0220
LOG(BLOCKPF)^2	0.069960	0.029011	2.411480	0.0268
R-squared	0.818320	Mean dependent var		0.154280
Adjusted R-squared	0.757761	S.D. dependent var		0.111240
S.E. of regression	0.054750	Akaike info criterion		-2.740585
Sum squared resid	0.053956	Schwarz criterion		-2.399300
Log likelihood	41.25731	Durbin-Watson stat		1.658912

**Table A5.** Intercorrelation table

	LogK	LogL	DA	Log(Coinci)	Foreign	Log(BlockPF)	Log(BlockPF) <sup>2</sup>
LogK	1.000000	0.822753	0.017867	0.305899	0.575851	0.094696	-0.077089
LogL	0.822753	1.000000	-0.005414	0.366503	0.465937	-0.022636	0.058698
DA	0.017867	-0.005414	1.000000	0.002050	-0.444027	-0.250099	0.242106
Log(Coinci)	0.305899	0.366503	0.002050	1.000000	0.297945	-0.107500	0.116689
Foreign	0.575851	0.465937	-0.444027	0.297945	1.000000	0.159065	-0.131331
Log(BlockPF)	0.094696	-0.022636	-0.250099	-0.107500	0.159065	1.000000	-0.961894
Log(BlockPF) <sup>2</sup>	-0.077089	0.058698	0.242106	0.116689	-0.131331	-0.961894	1.000000

**Checking multicollinearity****Table A6.** LogK is run over other variables

Dependent Variable: LOGK				
Method: Least Squares				
Sample(adjusted): 2 31				
Included observations: 25				
Excluded observations: 5 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGL	1.593114	0.177008	9.000212	0.0000
DA	2.113204	1.720558	1.228208	0.2344
LOG(COINCI)	-0.309172	0.582723	-0.530565	0.6019
FOREIGN	1.071443	1.932582	0.554410	0.5858
LOG(BLOCKPF)	-4.193618	1.672100	-2.507995	0.0214
LOG(BLOCKPF)^2	-1.589333	0.616802	-2.576733	0.0185
R-squared	-0.187947	Mean dependent var		13.22948
Adjusted R-squared	-0.500564	S.D. dependent var		1.103861
S.E. of regression	1.352202	Akaike info criterion		3.646909
Sum squared resid	34.74056	Schwarz criterion		3.939439
Log likelihood	-39.58636	Durbin-Watson stat		0.490169

**Table A7.** LnL is run over other variables

Dependent Variable: LOGL				
Method: Least Squares				
Sample(adjusted): 2 31				
Included observations: 25				
Excluded observations: 5 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGK	0.508443	0.056492	9.000212	0.0000
DA	-0.075668	1.009701	-0.074941	0.9410
LOG(COINCI)	0.316099	0.323604	0.976808	0.3409
FOREIGN	0.666240	1.089912	0.611279	0.5483
LOG(BLOCKPF)	1.007718	1.065025	0.946192	0.3559
LOG(BLOCKPF)^2	0.424525	0.392891	1.080515	0.2934
R-squared	0.639173	Mean dependent var		6.609779
Adjusted R-squared	0.544219	S.D. dependent var		1.131517
S.E. of regression	0.763905	Akaike info criterion		2.504816
Sum squared resid	11.08746	Schwarz criterion		2.797346
Log likelihood	-25.31020	Durbin-Watson stat		0.918180

Table A8. Checking heteroscedasticity

White Heteroskedasticity Test:				
F-statistic	0.618829	Probability	0.796474	
Obs*R-squared	10.56035	Probability	0.647596	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Sample: 2 31				
Included observations: 25				
Excluded observations: 5				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.138848	0.166710	-0.832872	0.4226
LOGK	0.021417	0.029152	0.734678	0.4779
(LOGK)^2	-0.000706	0.001079	-0.654512	0.5262
LOGL	-0.004696	0.011704	-0.401176	0.6960
(LOGL)^2	0.000175	0.000869	0.201099	0.8443
DA	0.016716	0.028898	0.578440	0.5746
DA^2	-0.022953	0.039353	-0.583248	0.5715
LOG(COINCI)	-0.002465	0.004371	-0.563817	0.5842
(LOG(COINCI))^2	0.001504	0.003255	0.462039	0.6531
FOREIGN	-0.031150	0.021247	-1.466082	0.1706
FOREIGN^2	0.061026	0.037781	1.615263	0.1345
LOG(BLOCKPF)	-0.013979	0.016588	-0.842678	0.4174
(LOG(BLOCKPF))^2	-0.008605	0.012805	-0.672015	0.5154
(LOG(BLOCKPF)^2)^2	0.000628	0.001140	0.551252	0.5925
R-squared	0.422414	Mean dependent var		0.002158
Adjusted R-squared	-0.260188	S.D. dependent var		0.002678
S.E. of regression	0.003006	Akaike info criterion		-8.477442
Sum squared resid	9.94E-05	Schwarz criterion		-7.794871
Log likelihood	119.9680	F-statistic		0.618829
Durbin-Watson stat	2.328597	Prob(F-statistic)		0.796474

**Table A9.** Checking autocorrelation

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.098535		Probability	0.906709
Obs*R-squared	0.301917		Probability	0.859883
Test Equation:				
Dependent Variable: RESID				
Method: Least Squares				
Presample and interior missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGK	0.000352	0.009880	0.035622	0.9720
LOGL	-4.34E-05	0.017363	-0.002502	0.9980
DA	0.006649	0.079031	0.084127	0.9340
LOG(COINCI)	-0.002089	0.026430	-0.079041	0.9380
FOREIGN	-0.004847	0.085152	-0.056920	0.9553
LOG(BLOCKPF)	0.004280	0.083961	0.050977	0.9600
LOG(BLOCKPF)^2	-0.000382	0.031375	-0.012165	0.9904
RESID(-1)	0.093852	0.350942	0.267429	0.7926
RESID(-2)	-0.104080	0.449282	-0.231658	0.8197
R-squared	0.012077	Mean dependent var		0.000444
Adjusted R-squared	-0.481885	S.D. dependent var		0.047413
S.E. of regression	0.057717	Akaike info criterion		-2.592827
Sum squared resid	0.053300	Schwarz criterion		-2.154031
Log likelihood	41.41033	Durbin-Watson stat		1.779283

**Table A10.** Testing significant variables with ROE

Dependent Variable: ROE				
Method: Least Squares				
Sample(adjusted): 2 31				
Included observations: 25				
Excluded observations: 5 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGK	0.108123	0.014072	7.683315	0.0000
LOGL	-0.129312	0.024910	-5.191184	0.0001
DA	-0.473452	0.109650	-4.317863	0.0004
LOG(COINCI)	0.103319	0.036008	2.869294	0.0102
FOREIGN	-0.456094	0.119501	-3.816664	0.0013
LOG(BLOCKPF)	0.369642	0.118334	3.123729	0.0059
LOG(BLOCKPF)^2	0.126362	0.043951	2.875049	0.0101
R-squared	0.737019	Mean dependent var		0.227732
Adjusted R-squared	0.649358	S.D. dependent var		0.140074
S.E. of regression	0.082945	Akaike info criterion		-1.909786
Sum squared resid	0.123837	Schwarz criterion		-1.568501
Log likelihood	30.87232	Durbin-Watson stat		2.185918