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Evidence on Market Microstructure in Indonesian Markets

Dr. Fitri Ismiyanti, SE., MSi

Dibiayai oleh Direktorat Jenderal Pendidikan Tinggi, Departemen Pendidikan Nasional, sesuai dengan Surat Perjanjian Pelaksanaan Hibah Kompetitif Penelitian untuk Publikasi Internasional Batch II
Nomor: 651/SP2H/PP/DP2M/VII/2009, tanggal 30 Juli 2009

Universitas Airlangga
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A. PENELITIAN PUBLIKASI INTERNASIONAL

LAPORAN EKSEKUTIF

EVIDENCE ON MARKET MICROSTRUCTURE IN INDONESIAN MARKETS

Dr. Fitri Ismiyanti, SE., MSi

I. PERMASALAHAN DAN TUJUAN PENELITIAN

Penelitian ini menguji adanya tarik menarik pendapat dalam penentuan harga saham antara penjual dan pembeli. Tarik menarik tersebut dapat diketahui dari perbedaan harga antara harga tawar (bid) dan harga minta (ask). Penelitian ini berargumen bahwa perbedaan harga mencerminkan adanya konflik keagenan didalam perusahaan.

Selanjutnya argumen tersebut dibuktikan dengan menggunakan salah satu mekanisme mengatasi konflik keagenan yaitu kepemilikan institusional asing dan domestik. Tujuan penelitian adalah mengetahui perbedaan efektifitas mekanisme kepemilikan institusional asing dan domestik dalam mengatasi konflik keagenan melalui pendekatan uji mikrostruktur pasar.

II. INOVASI IPTEKS

Inovasi yang dilakukan adalah penjabaran dan argumen baru mengenai pendekatan mikrostruktur pasar (bid dan ask) dalam menjelaskan konflik keagenan. Selain itu juga mengembangkan metode baru dalam membentuk proksi untuk konflik keagenan. Selanjutnya hasil penelitian ini dapat digunakan sebagai dasar untuk membentuk indeks tata kelola perusahaan yang tidak melulu menggunakan data primer (kuesioner) ataupun data sekunder (laporan keuangan).

III. KONTRIBUSI TERHADAP PEMBANGUNAN

Indonesia dikenal dengan tingginya kepemilikan keluarga dalam perusahaan-perusahaan terbuka di Bursa Efek Indonesia. Hal ini akan rentan terhadap konflik keagenan antara pemilik mayoritas (keluarga) dan pemilik minoritas (diluar keluarga dan kerabat, biasanya disebut kepemilikan publik). Penelitian ini menguji mengenai mekanisme kepemilikan institusional asing dan domestik dalam mengatasi konflik keagenan di Indonesia.

IV. MANFAAT BAGI INSTITUSI

Penelitian ini merupakan pengembangan dari penelitian sebelumnya yang bekerjasama dengan POSCO TJ Park, Korea Selatan. Penelitian sebelumnya sudah dipresentasikan dalam International Symposium di Seoul, Korea Selatan dan mendapatkan masukan dan saran yang berharga untuk perbaikan penelitian.

Selanjutnya masukan dan saran tersebut digunakan dalam penelitian ini untuk menyempurnakan hasil penelitian, serta mendukung pengembangan lanjutan. Selain itu penelitian ini juga menjadi dasar bagi disertasi penulis ketika menyelesaikan program Doktor di Fakultas Ekonomika dan Bisnis, Universitas Gadjah Mada.

V. PUBLIKASI ILMIAH

1. Eddy Junarsin dan Fitri Ismiyanti, Corporate Governance in Indonesian Banking Industry, *Akan Terbit di Global Journal of Business Research (GJBR)*, 2010.
2. Fitri Ismiyanti, dan P.A. Mahadwartha, Corporate Social Responsibility and Firm Specific Factors, *Jurnal Riset Ekonomi dan Manajemen, Vol. 8. No.3*, September 2008, 215-222.
3. Fitri Ismiyanti, Does Market Microstructure Matter?: Analysis of Foreign and Domestic Institutional Ownership to Agency Cost, *Jurnal Manajemen dan Bisnis Vol.7/1, 2008*, 24-35.
4. Fitri Ismiyanti, dan P.A. Mahadwartha, Does Debt Affect Firm Financial Performance? The Role of Debt on Corporate Governance in Indonesia, *Jurnal Riset Akuntansi Indonesia Vol.11 No.1, 2008*, 1-22.
5. P.A. Mahadwartha, dan Fitri Ismiyanti, Debt Policy, Free Cash Flow Hypothesis, and Balancing of Agency Theory through Ownership: Evidence from Indonesia, *Journal of Corporate Ownership & Control, Vol.5, No.1, 2008*, 256-263.

ABSTRACT

The divergence of opinion causes the forming price to be further closer to its intrinsic value. Greater divergence of opinion results in greater gap between bid/ask price, and its intrinsic value. This study utilizes Miller's theory (Miller, 1977) which stated that the differences of bid and ask price (price spread) between buyers and sellers caused by the divergence of opinion. This study tests a price spread condition that reflects the existence of agency conflict and called it the condition of stock price premium (SPP) and stock price discount (SPD). The conditions related to agency cost control mechanism through foreign and domestic institutional ownership. This research employs Structural Equation Modeling (SEM) with multi-group structural equation modeling (MSEM) because its ability to combine measurement model and structural model. The results shows SPD has lower agency conflict than SPP, and a negative effect of foreign and domestic institutional ownership to agency cost, and the magnitude is lower for SPP than SPD.

JEL: G3; G30; G32; G38

KEYWORDS: Stock price premium, stock price discount, agency cost, ownership

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EVIDENCE ON MARKET MICROSTRUCTURE IN INDONESIAN MARKETS

Fitri Ismiyanti, Airlangga University

INTRODUCTION

This study utilizes Miller's theory, which states disputes between buying, and selling investors caused by divergence of opinion, which, in this study, focused to the divergence of opinion the magnitude of agency cost. The divergence of opinion on the magnitude of agency cost in a period will certainly find a dominant party. Buying and selling investors agree with certain closing price that implicitly shows the dominant party.

How does the trade activity reflect a company's agency cost? Stockholders as owners of a company have strong interest with the price of the stocks they own. Besides stockholders, other parties also interested in the stock price are potential stockholders or potential investors. The selling and buying process of stocks becomes the process of accomplishment of the agreement point, which produces closing price. How is the process of reaching closing price? Sellers (stockholders) will sell with an as high ask or offer price as possible and the buyer (potential stockholder or potential investor) will try to buy with as low bid price as possible. In the ending session of ask-bid, closing price produces from the price bargaining process between the seller and the buyer.

The next questions are how do sellers set an offer price and how do buyers set a bid price. This study proposes an idea that the setting of the offer price and bid price reflects conflict of interest between the parties in the company (management, stockholders and creditors). The conflict of interest between the parties in a company called agency conflict. The agency conflict, according to Jensen and Meckling (1976), reflected in the agency cost that the company bears and influence the wealth of all stakeholders. If the agency conflict is low, the closing price achieved in the transaction process will be closer to offer price. On the contrary, if the agency cost is high, the closing price achieved in the transaction process will be closer to ask price.

Studies about agency theory ignore the existence of agency conflict that reflected in the process of achieving closing price through negotiations between offer price and bid price. The studies more focused on the agency conflict and its control mechanism. This study tests a new condition, which reflects the existence of agency costs, which are stock price premium and stock price discount and related to control mechanism of agency conflict through foreign institutional ownership and domestic institutional ownership. Both conditions called price spread. This study proposes that stock price premium and stock price discount are important issues in identifying the agency cost the company has to bear. Both conditions also reflect the level of agency conflict in the company. This study argues that the agency conflict is low in stock price premium while it is high in stock price discount.

Closing price of the company's stock that is close to offer price shows that sellers (stockholders) can obtain a price close to their offer price. Potential stockholders (buyers) are willing to buy with a price close to offer price is possibly, because the stock considered profitable in the future. Old stockholders tend to hold their company's value on to the offer price. If stockholders are convinced that the value of the company can increased, they will retain the stock price in high offer price. This causes closing price that agreed between the parties to be close to offer price. In this case, potential stockholders are also convinced that the value of the company can increased in the future.

This study assumes that an expectation towards high company value caused by low agency cost. If stockholders and potential stockholders percept that agency conflict is low, they value the company higher than the value of other similar companies. Closing price that is close to offer price in this study called as stock price premium.

This study conducts observations of information of daily closing price (agreed) between sellers and buyers and the difference between offer price and closing price, and between bid price and closing price. Therefore, this study employs the perspective of market microstructure to explain agency cost. Studies in the subject of microstructure give a deep understanding in examining the behavior and operation of the capital market based on intra-day movement (O'Hara, 1999). This study employs a microstructure approach combined with corporate finance research model.

So far, the studies on the agency theory do not investigate the existence of bargaining between sellers (stockholders) and potential stockholders (buyers) in achieving the closing price. Different closing prices reflect different agency conflicts among companies. The effect of the different agency conflicts among companies will cause a number of companies to be in stock price premium and others in stock price discount. The different condition of stock price premium and stock price discount causes the effect of foreign institutional ownership and domestic institutional ownership as control mechanisms of agency conflict towards agency cost to be different. Identification of stock price premium and stock price discount conditions in this study expected to give better explanation the different effects various agency cost reduction mechanism. This study focuses on foreign institutional ownership and domestic institutional ownership as reduction mechanism of agency conflict.

The existence of different results from previous studies regarding the relationships between foreign institutional ownership and domestic institutional ownership to agency cost has urged researcher to examine the relationships between the three constructs. This study also introduces price spread condition, which expected to explain the difference among the effects of control mechanism on agency conflict through foreign institutional ownership and domestic institutional ownership better.

The remaining of this research organized as follows. After describe the background of the study, this research explains the arguments of price spread, agency conflict, and ownership structures. While the research methods explained later, and followed by result and discussion, and the conclusion section.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Agency Cost

The social and private costs of an agent's actions due to incomplete alignment of the agent and owner's interests brought to attention by the seminal contributions of Jensen and Meckling (1976) on agency costs. Agency theory has also brought the roles of managerial decision rights, various external and internal monitoring and bonding mechanisms to the forefront of theoretical discussions and empirical research. Great strides have made to demonstrate empirical role of agency costs in financial decisions such as in explaining the choices of capital structure, maturity structure, dividend policy and executive compensation. However, the actual measurement of the principal variable of interest, agency costs, in both absolute and relative terms, has lagged behind.

To measure absolute agency costs, a zero agency cost base case observed to serve as the reference point of comparison for all other cases of ownership and management structures. In the original Jensen and Meckling (1976) agency theory, the zero agency cost base case is, by definition, the firm owned solely by a single owner manager. When management owns less than 100 percent of the firm's equity,

shareholders incur agency costs resulting from management's shirking and perquisite consumption. Because of limitations imposed by personal wealth constraints, exchange regulations on the minimum numbers of shareholders, and other considerations, no publicly traded firm entirely owned by management. Thus, Jensen and Meckling's zero agency cost base case cannot found among the usual sample of publicly traded firms for which information is readily available. The absence of information about sole owner manager firms explain why agency costs often inferred but not directly measured in the empirical finance literature.

Agency costs emerge when the interests of the firm's managers are not align with those of the firm's owners, and take the form of preference for on the job perquisites, shirking and making self interested and entrenched decisions that reduce shareholder wealth. The magnitude of these costs is limited by how well the owners and delegated third parties, such as banks, monitor the actions of the outside managers.

The core of agency theory is the existence of conflict of interest between agents and principal. The agency cost, which occurs because of this conflict of interest, reduces the value of the company. Equity agency cost includes monitoring cost, bonding cost and residual loss (Jensen and Meckling, 1976). Monitoring cost include principals' expense, in the effort to control agent's behavior through budget tightening, compensation policy, and operational regulations. Bonding costs are the agent's expense to guarantee that agents will not conduct certain actions that will inflict financial loss towards principals or to guarantee that principals will give compensations if the agents conduct certain actions.

Residual loss includes the monetary value of principals' wealth reduction because of different interests between agents and principals, which stimulate agents, conduct selfish actions and inflict financial loss to principals. The action of this agent can be in the form of inefficient actions such as investing in unprofitable investments or make wasteful expenses. Moreover, there is also debt agency cost that includes paying too much dividend, monitoring cost and bonding cost. The reduction of agency cost can achieved through a number of mechanisms such as through manager stock ownership, combining financing sources from debts and equities, and dividend payout (Crutchley and Hansen, 1989).

Miller (1977) proposes a theory explaining the creation of price between selling investor and buying investor. The theory that Miller proposes loosens the assumption of homogenous expectation in balance model. Miller (1977) argues that divergence of opinion among investors causes the price difference of the price of a security. The dispute mechanism causes the forming price to be further closer to its intrinsic value. Greater divergence of opinion causes greater gap between the price and its' intrinsic value.
This study will relate agency cost and price spread condition between stock price premium and stock price discount experienced by the company. The agency conflict experienced by the company will reflect in the spread of stock price premium and stock price discount of the company. The agency conflict reflected in the stock price premium and stock price discount are an agency conflict that called perceived conflict. Therefore, this study employs perceived agency conflict (stock price premium and stock price discount) to explain actual agency conflicts.

The Price Spread

Amihud and Mendelson (1986) and Brennan and Subrahmanyam (1996) states that bid-ask spread measurement can be used to determine price of an asset (stocks, bonds, and others). Their studies in the microstructure are also useful to determine the value of an asset in corporate finance. This study relates the findings of bid-ask spread as an indicator in determining stock price with agency cost and introduce price span condition, which consists of stock price premium and stock price discount.

Baker and Wurgler (2004a, 2004b) employ the term stock price premium to explain reasons of companies that pays dividend and companies that do not pay dividend. This study adopts the term stock price

premium and stock price discount but to test the influence of ownership structure and agency cost towards company performance. Stock price premium is a condition that shows that closing price of a company tends to be closer to offer price. Meanwhile, stock price discount is a condition that shows that closing price of company's stocks tends to be closer to bid price. Stock price premium and stock price discount show expectations of stockholders for ownership structure and agency cost which affects company's performance.

Closing price that is close to bid price shows that sellers (stockholders) forced to sell their stocks with lower price than their offer. This is possibly because the offer price not responds by the market and stockholders are in the position to sell their stocks immediately. Potential stockholders (buyers), in this condition, obtain the stocks with a price close to their bid price. This, stockholders realize that agency cost of the company is high; thus, it is estimated that the future movement of stock price is unprofitable. The stockholders forced to give a discount to potential stockholders. This condition causes the tendency of company's closing price agreed by both parties to be close to the bid price. The potential stockholders (buyers) are convinced that high agency cost causes the company's value to be low, but the value of the company can increased through the mechanism of ownership structure and financial policies of other companies.

Therefore, the price spread condition of stock price premium and price spread conditions of stock price discount are implications from company's agency conflict. The closing price that is close to offer price and bid price shows that the buyers and sellers do take into account the agency cost in daily transactions. The level of agency conflict will cause difference between the closing price and the offer and bid price. The stock price premium indicates that the closing price of a company is close to offer price. The stock price premium reflects the low level of agency conflict. On the other hand, the stock price discount shows that the closing price of a company is close to bid price. The stock price discount reflects the low level of agency conflict.

Foreign and Domestic Institutional Ownership

Ownership structure becomes important in the agency theory because most of agency conflict arguments caused by ownership and control separation. The agency conflict does not occur in companies with 100% management ownership (Jensen and Meckling, 1976). The condition in which new owners buy company's stocks causes discrepancy of interest between the parties in the company. Pure conflicts occur between principals and agents as discussed in positivist agency theory and conflicts between stockholders, management, employees and other parties are within principal-agent research (Eisenhardt, 1989).

Institutional ownership used to reduce such agency conflict (Shleifer and Vishny,. 1986; Jarrel and Poulsen, 1987; Brickley et al., 1988; Graves and Waddock, 1990; Han et al., 1999; and Varma, 2001). The studies argue that institutions that invest in the company will monitor a company better. The institutions have professionals in the field of investing who understand the appraisal mechanisms of companies and conduct monitoring towards managers.

Institutional ownership sale position will drive the price of the stocks down; therefore, institutional owners avoid selling their stocks and instead conduct monitoring towards the company. Institutional ownership expected by conducting effective monitoring the value of the company would increase. Pozen (1994) stated that the most efficient method employed by institutional owners is by informal discussions with managers.

Hypotheses

The hypotheses development sub chapter in this study consists of a number of components, i.e., foreign institutional ownership, domestic institutional ownership, agency cost and company performance in stock price premium and stock price discount.

The agency theory argues that institutional ownership will reduce the agency conflict because the institution will help monitor the company, so the management will not conduct actions that will inflict financial losses towards stockholders (Crutchley et al., 1999; and Chen and Steiner, 1999). This is valid in the condition where the institutional owner partially monitors the management. However, in the condition where institutional owner is the majority owner, the monitoring focuses only for the interest of owning institution and ignores public stockholders interest.

Foreign institutional ownership utilized as control method to decrease the agency cost. The higher the foreign institutional ownership, the lower the agency cost and the lower the foreign institutional ownership, the higher the agency cost. Therefore, hypothesis H_1 is as follows:

H_1: Foreign institutional ownership has negative influence towards agency cost.

This study assumes that the agency conflict in stock price premium will lower compared to stock price discount. This assumption cause's reduction mechanism of agency conflict through foreign institutional ownership in stock price premium will have less negative influence compared to stock price discount. Companies with low agency conflict will closely observe the cost to control the agency conflict. Thus, they tend to decrease conflict reduction mechanism through ownership structure to drive cost down. Therefore, hypothesis H_2 is as follows:

H_2: Foreign institutional ownership will affect agency cost negatively; lower when firm is in stock price premium than in stock price discount.

Domestic institutional ownership also acts as a monitoring party, similar to foreign institutional ownership. Core and Larcker (2002) found a negative relationship between stock performance and domestic institutional ownership. Companies with high institutional ownership (more than 5%) indicate its ability to monitor the management. Great institutional ownership causes the utilization of company's assets to be more efficient. Therefore, the proportion of institutional ownership acts as a method to prohibit management from inefficiency.

Ismiyanti and Hanafi (2004) found that the average institutional ownership in 1997-2001 periods reaches 66% of total stocks outstanding. This result shows that 34% of stocks held by public (individual) investors, management, directors and institutional ownership. This is different in the United States, where the institutional ownership reaches 52.36% from total stocks outstanding in 1999 (Chen and Steiner, 1999). The domestic institutional ownership utilized as control method to decrease the agency cost. Therefore, hypothesis H_3 is as follows:

H_3: Domestic institutional ownership has negative influence towards agency cost.

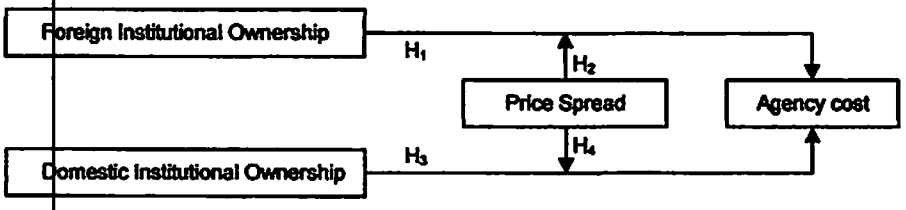
This study assumes that the agency conflict in stock price premium lower compared to stock price discount. This assumption cause's reduction mechanism of agency conflict through foreign institutional ownership in stock price premium will have less negative influence compared to stock price discount. Companies with low agency conflict will closely observe the cost to control agency conflict. Thus, they tend to decrease conflict reduction mechanism through ownership structure to drive cost down. Therefore, hypothesis H_4 is as follows:

H_4: Domestic institutional ownership will affect agency cost negatively; lower when firm is in stock price premium than in stock price discount.

Research Framework

The relationship between foreign institutional ownership, domestic institutional ownership and agency cost described in research framework below:

Figure 1: Research Framework



Note: Price spread consists of stock price premium and stock price discount. H1 and H3 test the institutional ownership structure (domestic and foreign)to agency cost. Meanwhile H2 and H4 test the effect of price spread to the relationship between institutional ownership (domestic and foreign) and agency cost.

RESEARCH METHOD

Sampling and Data Collection

Samples employed in this study are non-financial companies listed in Jakarta Stock Exchange from 1995 to 2004. Financial data obtained from annual financial report, which consists of balance sheet, income (profit and loss) statement, cash flow report and financial report notes. The data source for the study is Jakarta Stock Exchange Library, Indonesian Capital Market Directory (ICMD) and Indonesian Securities Market Database (ISMD) published by Faculty of Economics and Business, Gadjah Mada University.

Operational Definition

Operational definition describe the equation of each main variables and supporting variables such as asset turnover and operational cost, selling and general administrative (SGA), free cash flow, stock price premium and discount, and ownership structures.
Agency cost proxy by asset utilization and operational cost (Ang et al., 2000); and free cash flow (Hackel et al., 1996). The asset utilization measure agency cost based on asset turnover. The asset turnover is a ratio of total sales to total assets. Selling and General Administrative (SGA) is included in operational expense proxy. Operational expense measures the agency expenses based on SGA, which is ratio of operational expense to total sales.

Free cash flow (FCF) used in this study employs free cash flow developed by Hackel et al. (1996) which modifies the traditional free cash flow. This method will avoid sample elimination while still maintaining the appropriateness of free cash flow proxy.

$$FCF = TFCF + DOCO + DCEX \quad (1)$$
$$TFCF = (OCR - OCO) - CEX \quad (2)$$

where TFCF is traditional free cash flow; OCR is operating cash inflow; OCO is operating cash outflow; while CEX is capital expenditure.

$$DOCO = (OCO\,growth - sales\,growth) * (0.2 * OCO) \quad (3)$$

where DOCO is discretionary operating cash outlay; Hackel et al. (1996) assumes 20% of OCO is discretionary of OCO and sales growth.

$$DCEX = (CEX\,growth - Cost\,of\,Good\,Sold\,Growth) * CEX \quad (4)$$

$$OCO\ growth = (OCO_t - OCO_{t-1})/OCO_{t-1} \quad (5)$$

$$sales\ growth = (sales_t - sales_{t-1})/sales_{t-1} \quad (6)$$

$$CEX\ growth = (CEX_t - CEX_{t-1})/CEX_{t-1} \quad (7)$$

$$Cost\ of\ Goods\ Sold\ (COGS)\ Growth = (COGS_t - COGS_{t-1})/COGS_{t-1} \quad (8)$$

where DCEX is discretionary capital expenditure; and COGS is cost of goods sold.

Stock price premium shows that closing price tends close to offer price. Stock price discount shows that closing price tends close to bid price.

$$Stock\ Price\ Premium = |\,Closing\ Price - Offer\ Price| \quad (9)$$

$$Stock\ Price\ Discount = |\,Closing\ Price - Bid\ Price| \quad (10)$$

Foreign institutional ownership is the sum and percentage of stocks owned by foreign institution. Domestic institutional ownership is percentage ownership by a legal entity registered as non-public stockholder.

Method of Analysis

This research employs Structural Equation Modeling (SEM) in hypotheses testing because SEM has the ability to combine measurement model and structural model. This research applied two stage approaches for multi-group structural equation modeling (MSEM). MSEM does not require nested model to estimate different hypotheses groups in path-analytic model coefficient or model fit coefficient. A series of statistical goodness-of-fit indicators employed to test a complex model for every group.

SEM conducted in two structural models, i.e., constrained parameters model and unconstrained parameters model. In models with constrained parameters, regression estimate weight controlled for both sample groups thus having similar estimated relationship. Moderating variable is significant if models with unconstrained parameters are better than models with constrained parameters.

RESULTS AND DISCUSSION

This research uses full structural equation model to analyze research hypotheses that do not contain stock price premium and stock price discount moderating variables, which are H_1 and H_3. Hypotheses, which used stock price premium and stock price discount moderating variables (H_2 and H_4), are tested by employing multi-group structural equation model by using constrained parameters and unconstrained parameters models. Table 1 shows the full model of structural equation model without stock price premium and stock price discount as moderating variables.

Table 1: Result of Full Structural Equation Model

Structural Relationship	Unstandardized Regression Weight	Standard Error	Critical Ratio
Agency Cost ← Foreign Inst. Ownr.	-0.243	0.086	-3.481*
Agency Cost ← Domestic Inst. Ownr.	-0.378	0.092	-0.643
Asset Utilization ← Agency Cost	1.000		
Operating Expense ← Agency Cost	0.863	0.078	5.429*
Free Cash Flow ← Agency Cost	0.068	0.089	0.983

**) significant 10%*

Table shows the structural relationship of institutional ownership structure (domestic and foreign) to agency cost. The full model also shows the regression weight of asset utilization, operating expense and free cash flow as proxy of agency cost.

Table 2 shows the test result by multi-group structural equation model with constrained parameters. Regression coefficient value of ownership structure influence (foreign institutional ownership and domestic institutional ownership) towards agency costs is not different when compared between firms sample with stock price premium and firms sample with stock price discount. The numbers of data used for the study are 1,559 samples comprising of 713 samples with stock price premium and 846 samples in stock price discount.

Table 2: Result of Price Spread Multi-Group SEM with Constrained Parameters

Structural Relationship	Stock Price Premium Sample		Stock Price Discount Sample	
	Unstandardized Regression Weight	Critical Ratio	Unstandardized Regression Weight	Critical Ratio
AC ← PFIOWN	-0.483	-7.195*	-0.483	-7.195*
AC ← PDIOWN	-0.036	-0.457	-0.036	-0.457
AU ← AC	1.000		1.000	
OE ← AC	0.079	3.159*	0.079	3.159*
FCF ← AC	0.275	2.064	0.275	2.064
Goodness of Fit				
Chi Square	259.652			
Degree of Freedom	57			
Probability	0.000			
Chi Square/DF	4.555			
GFI	0.942			
AGFI	0.931			
RMR	0.006			
RMSEA	0.062			

**) significant 10%*

AC: agency cost; PFIOWN: foreign institutional ownership; PDIOWN: domestic institutional ownership; AU: assets utilization; OE: operating expense and FCF: free cash flow. The coefficient of institutional ownership structure is the same between firms with stock price premium and stock price discount.

Table 3 shows the test results by multi-group structural equation model with unconstrained parameters. Regression coefficient value of ownership structure influence (foreign institutional ownership and domestic institutional ownership) towards agency cost is not different when compared between firms sample with stock price premium and firms sample with stock price discount. The numbers of data used for the study are 1,559 samples comprising of 713 samples with stock price premium and 846 samples in stock price discount.

Table 3: Result of Price Spread Multi-Group Structural Equation Model with Unconstrained Parameters

Structural Relationship	Stock Price Premium Sample		Stock Price Discount Sample	
	Unstandardized Regression Weight	Critical Ratio	Unstandardized Regression Weight	Critical Ratio
AC← PFIOWN	-0.542	-3.267*	-0.946	-6.465*
AC← PDIOWN	-0.087	-0.785	-0.236	-1.463
AU ← AC	1.000		1.000	
OE ← AC	0.085	5.078*	0.098	4.842*
FCF ← AC	0.497	3.287*	0.096	0.823
Goodness of Fit				
Chi Square	203.067			
Degree of Freedom	53			
Probability	0.000			
Chi Square/DF	3.831			
GFI	0.976			
AGFI	0.943			
RMR	0.028			
RMSEA	0.067			

**) significant 10%*

AC: agency cost; PFIOWN: foreign institutional ownership; PDIOWN: domestic institutional ownership; AU: assets utilization; OE: operating expense; and FCF: free cash flow. The coefficient of institutional ownership structure is the same between firms with stock price premium and stock price discount.

Goodness of fit of model with unconstrained parameters (GFI= 0.976) is found to be better than model goodness of fit of model with constrained parameters (GFI= 0.942). In addition, the difference at chi square value is 56,585 with four degrees of freedom show a significant result ($\rho<0.10$). Therefore, base model and alternative model based on the difference of stock price premium and stock price discount are significantly different.

Table 4: Comparison of Goodness of Fit from Base Model and Alternative Model of Price Spread

Indicator	Goodness of Fit: Base Model (constrained parameter)	Alternative Model (unconstrained parameter)	Criteria
Chi Square	259.642	203.067	Low
Degree of Freedom	57	53	
Probability	0.000	0.000	>0.05
Chi Square/DF	4.555	3.831	<5
GFI	0.942	0.976	>0.90
AGFI	0.931	0.943	>0.90
RMR	0.006	0.028	<0.03
RMSEA	0.062	0.067	<0.08
Goodness of Fit Increase from Base Model to Alternative			
Chi Square	259.652 −203.067 = 56.585		High
Degree of Freedom	57 – 53 = 4		
Probability	Less than 0.005		<0.05
Conclusion	Alternative model (unconstrained model) is significantly different from base model (constrained model) Thus, price spread (stock price premium and stock price discount) significantly moderates direct and indirect relationship between ownership structure (foreign institutional ownership, and domestic institutional ownership) and agency cost.		

Table 4 shows comparison of test result between base model (constrained model) and alternative model (unconstrained model). The values compared are goodness of fit value, chi square value and degree of freedom of both test models to determine whether stock price premium and stock price discount have significantly moderate relationships in this model. Table 4 shows the result of the test comparison using constrained parameters and unconstrained parameters. The table shows increase of goodness of fit values, from base model to alternative model. The goodness of fit value analyzed is chi square value, which changed 56,585 points, and degree of freedom, which changed 4 points. Based on the goodness of fit of base model and alternative model, it conclude that the relationships between variable of agency cost and performance moderated by stock price premium and stock price discount.

This indicates that different price spread condition is significantly influential as moderating variables. Variable moderation of price spread condition mainly seen on the difference between foreign institutional ownership, domestic institutional ownership and agency cost on stock price premium and stock price discount. Comparison between base model and alternative model showed in Table 4.

Table 5: Comparison of Test Result Prediction

Panel 1: Unmoderated Full Structural Equation Model		
Relationship	**Result Prediction**	**Full SEM Result**
Agency Cost ← Foreign Institutional Ownership	Negative	-0.243*
Agency Cost ← Domestic Institutional Ownership	Negative	-0.378

Panel 2: Multi-group Structural Equation Model Moderated by Price Spread			
Relationship	**Result Prediction**	**Multi-group Result**	
		Stock Price Premium	**Stock Price Discount**
Agency Cost ← Foreign Institutional Ownership	SPD<SPP<0	-0.542*	-0.946*
Agency Cost ← Domestic Institutional Ownership	SPD<SPP<0	-0.087	-0.236

*) *significant 10%*

Table 5 Panel 1 is a summary table between result predictions with results that utilizes full structural equation model with constrained parameters, and unconstrained parameters model in stock price premium and stock price discount as moderating variable. The research found a consistent result with the result predictions, which are negative. Nevertheless, there is one insignificant relationship, that is, the domestic institutional ownership towards agency cost. This indicates that the relationship practically proven but remains statistically unproven. Table 5 Panel 2 is a summary table between the result predictions with research results, which utilizes multi-group structural equation model in the stock price premium and stock price discount as a moderating variable. The results of the study show that the coefficient value of stock price discount should be lower than the coefficient value of stock price premium. Ownership structure has negative effect on agency cost however, the effect less negative for firms with low agency conflict.

Table 5 shows full model of SEM (Panel 1) and Multi-groups SEM (Panel 2). The result of full model SEM shows consistent result with negative coefficient however, the effect of domestic institutional ownership to agency cost is insignificant. The result of Multi-groups SEM shows consistent coefficient with the hypotheses and the SPP have lower negative magnitude than SPD.

Table 6 shows a summary of hypotheses of the test results of the study. The higher foreign institutional ownership the lower agency cost of the firm. Foreign institutional ownership will have lower negative effect on agency cost when firm in stock price premium rather than in stock price discount. However, the domestic institutional ownership has insignificant effect on agency cost and the negative effect statistically the same for stock price premium and stock price discount. The result suggests that domestic institutional has less influence towards the reduction of agency cost because they usually have majority ownership and they have superior control on managers and its policies. Therefore, the conflict shifted from principal agent conflict to majority versus minority conflict.

Meanwhile, foreign institutional ownership usually has superior internal control from their clients and shareholders than domestic shareholders. Their investment in Indonesia usually followed with sophisticated governance mechanism and risk management practices because they bear more risk such as foreign exchange risk, country risk, etc.

Table 6. Summary of Statistics and Hypotheses

Hypotheses	SPP		SPD	Result*)
Structural equation model on all study samples				
H_1: Foreign institutional ownership have negative influence towards agency cost	-0.542		-0.946	♣♣
H_3: Domestic institutional ownership have negative influence towards agency cost	-0.087		-0.236	♣
Structural equation model on stock price premium and stock price discount samples				
H_2: Foreign institutional ownership will affect agency cost negatively; lower when firm is in stock price premium than stock price discount.	-0.542	<	-0.946	♣♣
H_4: Domestic institutional ownership will affect agency cost negatively; lower when firm is in stock price premium than stock price discount.	-0.087	<	-0.236	♣

*) ♣♣ : *Empirical result consistent to theoretical prediction and significant*
♣ : *Empirical result consistent to theoretical prediction and not significant*
In general, Table 7 shows a consistent result with the research hypotheses however, two hypotheses not significant in explaining the price spread phenomena to institutional ownership structure. Lower effect in SPP means the negative magnitude closest to zero than SPD.

Further studies expected to reexamine the proxy for agency conflict magnitude through the stock price premium and stock price discount. This is to support the findings of this study and that the proxy can used as measurement method of the agency conflict in Indonesia. Further studies can also develop other mechanisms in the agency conflict control, such as debt policy and dividend policy. This will enrich findings that support measurements of the stock price premium and stock price discount as a divergence of opinion between buyer and seller of securities.

For the investors, this study suggests them to select companies, which have low agency conflicts. This will then influence the company's stock prices. The companies will then be encouraged to reduce the conflict and increase their financial performance. If this situation can achieve, Indonesia will be a profitable investment area.

CONCLUSION

The research analyses the price spread of bid and ask as the divergence of opinion between buyer and seller of securities. This research argues that the issue related to the agency problems and the effect types of institutional ownership (foreign and domestic). This research uses Indonesian listed firm financial data (balance sheet, income statement and cash flow statement). This research utilizes Structural Equation Modeling (SEM) with full model and multi-group model to test four hypotheses.

Research findings shows foreign and domestic institutional ownership have negative effect to agency cost. The result also confirms that the effect of types of institutional ownership to agency cost lower for stock price premium than stock price discount. The findings consistent with research hypotheses however, only two hypotheses statistically significant.

This research uses asset utilization and operational cost as proxy for agency cost. Meanwhile, there is other proxy that also suitable for agency cost, such as residual loss. Future research should use other relevant issue for Indonesian listed firms such as state-owned firms, and managerial ownership.

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B. DAFTAR ARTIKEL ILMIAH

CORPORATE GOVERNANCE IN INDONESIAN BANKING INDUSTRY*)

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Abstract

Indonesian banking sector has recently been suffering from bad debt and liquidity problems. Crisis since 1997 has impoverished bank's performance and reduced shareholder wealth. The deterioration of bank's performance with respect to bank's purpose to be an intermediation agent also affects the wealth of stakeholders, especially depositors. Agency problem has severe effects on bank's performance. This research examines agency theory arguments in banking industry by analyzing the effect on firm specific variables, which are managerial stock ownership, leverage, and dividend yield. Agency costs are proxied by earnings volatility, manager's portfolio diversification losses, bank size, and standard deviation of bank equity returns. It is one of the first research that examines the determination of financial policy variables based on agency theory perspective in banking industry. This research examines the largest 133 Indonesian banks during the period of 2000-2004. This study suggests that bank size and a measure of manager's portfolio diversification opportunity set affect the bank's level of managerial stock ownership, leverage, and dividends.

Keywords: bank, agency, ownership, leverage, dividend

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Introduction

Several studies have examined corporate leverage and dividend policy to analyze the effect of agency costs on managerial decisions. Agency costs arise from the conflict of interests among corporate managers, stockholders, and bondholders. To control the agency costs, corporate managers make decisions on the appropriate mixture of outside debt and equity financing, dividend policy, and their own common stock holdings. For instance, as debt-to-equity ratio increases, so will their own common stock holdings since the likelihood of need for additional equity falls. In general, it has been argued that leverage reduces agency costs associated with outside equity (Jensen and Meckling 1976). Managerial stock ownership and dividends also reduce equity agency costs by lowering the boundary between owners and managers (Jensen and Meckling 1976; Rozeff 1982; Easterbrook 1984).

Other agency studies in banking have focused on the expense-preference behavior of banks. For instance, Hannan (1979) and Hannan and Mavinga (1980)

regress bank expenses on a set of factors which are proxies for agency effects. Their studies examine agency issues in the banking industry by analyzing the leverage and dividend policy of those firms. The technique follows Crutchley and Hansen (1989) who develops this methodology using manufacturing companies.

The banking industry provides a unique setting to examine the presence of agency costs due to the existence of public regulation. As regulation increases, less than perfectly competitive market exists and nonprofit-maximizing behavior will be expected. Agency problem in banking industry is indeed more complicated, and it becomes more apparent in the case of state-owned banks. Ownership is the first determinant of agency problem in the banking industry in which principal and agent cannot be clearly defined. Theoretically, state-owned banks are owned by Indonesian people. The society as a whole (principal) cannot manage the country themselves, but they entrust and authorize a ruling government (agent) to manage the country, including the banks, on their behalf. The government then appoints professionals (agents) to preside over the banks. Hence, the principal-agent relationship is so lukewarm that moral hazard may be committed by the agents. Furthermore, the diffusion of ownership within large commercial banks makes the banking industry an ideal setting for agency theory testing. Indeed, the diffusion of ownership increases the cost of monitoring managerial activities and might lead to higher agency costs. Besides the ownership problem, the banks find another agency problem. They raise money from society (creditors) in the form of deposits. The creditors in this case are indeed lacking in monitoring the owners (principals) and bankers (agents), thereby increasing the possibility of moral hazard.

Another factor that distinguishes the banking industry from the others is the existence of deposit insurance. With this safety net in place, bankers may increase their risk exposure and vary the capital structure mix accordingly. Prior deposit insurance systems created a moral hazard problem since all banks used to pay the same and flat insurance premium, regardless of the riskiness of their operations. Current risk-based premium form of deposit insurance has decreased, but yet to eliminate, this dilemma. Risky banks may use insured deposits to make higher risk investments than they otherwise may have made. Banks have an incentive to increase financial risk by issuing insured deposits to achieve higher-yield investments. Albeit its significant impact, the deposit insurance system is unfortunately not our focus in this research such that only a few explanations will be further discussed. We suggest that this particular issue is of importance to subsequent researchers on this realm to be taken into account.

This research examines the effects of four variables: (1) volatility of earnings, (2) bank size, (3) standard deviation of returns, and (4) a measure of manager's portfolio diversification, which are proxies for agency costs, on leverage, dividends, and managerial stock ownership.

Agency Theory

Agency costs arise from the fact that corporate decisions are delegated to agents (managers) who perform on behalf of principals (stockholders/bondholders). As outlined by Barnea, Haugen, and Senbet (1985),

some decisions made by agents trying to maximize their own personal welfare may not be in the best interest of principals. For instance, managers may consume excessive amount of perquisites, or managers may sell securities to outsiders at undervalued prices.

According to Crutchley and Hansen (1989), agency theory suggests at least three specific ways to reduce agency costs associated with equity: (1) increasing managerial stock ownership, (2) increasing dividends, and (3) increasing leverage. Ismiyanti and Hanafi (2004) test the interdependence of leverage, dividend, and managerial ownership. They show that bonding and monitoring mechanisms through debt, dividend, and managerial ownership effectively control the agency problem. Their sample is manufacturing companies listed on the Jakarta Stock Exchange.

Managerial Stock Ownership

When managers increase their common stock ownership in the firm, their interests are more closely in accord with the interests of the owners. As managers increase their holdings of common stock of the firm, the probability that managerial decisions are in the best interest of stockholders increases and thus, equity agency costs decline. However, managers may demand higher compensation as their personal wealth becomes less diversified.

Leverage

The use of increased level of debt in the capital structure of firm reduces the need for equity and accordingly reduces the agency costs associated with equity. Again, the increased use of leverage has its costs, in this case in the form of increased agency costs associated with debt (potential conflict between stockholders and bondholders). For instance, stockholders may be encouraged to engage in high risk activities that transfer wealth form bondholders to stockholders.

Dividends

When a firm increases dividend payment, it increases the probability that it will need to raise external equity to finance such increased payment (Easterbrook 1984; Rozeff 1982). If external capital is raised, managerial actions will be closely monitored by outsiders (for instance, the SEC, or providers of capital), and managers might perform in the best interest of the stockholders. As in the case of increased managerial stock ownership, the use of this option is not costless since transaction costs are incurred when raising external capital.

In essence, managers choose the most appropriate financial policy mix by evaluating the benefits and costs of common stock ownership, dividend policy, and leverage. The purpose of this research is to examine the financial decisions made by the largest commercial banks, taking into account these agency concerns. The contribution of this research is that it is one of the first studies that examines the determination of financial policy variables, in light of agency concerns, in the banking industry.

Predicated upon the aforementioned discussion, twelve hypotheses are developed:

H_1 : The relationship between earnings volatility and managerial common stock ownership is positive.

H_2 : The relationship between the size of bank and managerial common stock ownership is negative.

H_3 : The relationship between diversification opportunity set and managerial common stock ownership is positive.

H_4 : The relationship between earnings volatility and leverage can be positive and negative.

H_5 : The relationship between the size of bank and leverage is positive.

H_6 : The relationship between diversification opportunity set and leverage is negative.

H_7 : The relationship between earnings volatility and dividends is positive.

H_8 : The relationship between the size of bank and dividends is positive.

H_9 : The relationship between diversification opportunity set and dividends is negative.

Research Method

Sample used is 134 banks in Indonesia, listed and non-listed banks, whereas period to be observed is from 1999 to 2004, quarterly. In this research, the effect of various proxies for agency costs on the three mentioned bank policies: leverage, dividends, and ownership, will be examined. The equations below try to regress each of those policies on specific bank characteristics:

$$Ownership_j = \alpha_o + \alpha_1 Earnvol_j + \alpha_2 Banksize_j + \alpha_3 Diverse_j + e_{jo}$$

$$Leverage_j = \beta_o + \beta_1 Earnvol_j + \beta_2 Banksize_j + \beta_3 Diverse_j + e_{jl}$$

$$Dividend_j = c_o + c_1 Earnvol_j + c_2 Banksize_j + c_3 Diverse_j + e_{jd}$$

Ownership Equation

Ownership is one of the bank policies analyzed in this study. In the context of banking industry, ownership is such a complicated issue that it potentially creates agency problem. This problem is more apparent for state-owned banks. Theoretically, the owners of state-owned banks are Indonesian citizens. However, it is impossible for the people to manage the banks themselves, hence they hand over the right to manage the banks to Indonesian government. The government subsequently appoints bankers or professionals to operationally run the banks. Accordingly, Indonesian people as the owners obviously do not have a sufficient chance to monitor and control their agents.

Other agency studies suggest that increased earnings volatility (*Earnvol*) raises bankruptcy costs and increases the agency costs associated with debt. Consequently, a positive relationship between earnings volatility and managerial common stock ownership (*Ownership*) is expected as banks rely more on managerial equity ownership to help reduce those debt-related agency costs. In the case of banks, other factors can affect this expected relationship. For instance,

even though higher earnings volatility raises bankruptcy and debt agency costs, bank's managers may not change their stock ownership on account of the fact that deposit insurance might offset the effect of potential bankruptcy. As a result, the existence of deposit insurance can inhibit the possible effect of agency costs on some of the financial policy variables of commercial banks. A negative association between *Banksize* and *Ownership* is expected. As the size of the bank increases, the ability of its managers to control a significant proportion of the outstanding shares declines, the liquidity costs (of holding common stock of the bank) increase, and the ability of managerial ownership to reduce agency costs for a large number of shareholders declines.

Previous agency arguments suggest a positive relationship between the managerial common stock ownership (*Ownership*) and the proxy for manager's portfolio diversification opportunity set (*Diverse*). As the losses resulting from holding a less diversified portfolio increase, and the *Diverse* proxy decreases, managers then decrease their holdings of common stock of their own bank.

Leverage Equation

Leverage is another factor creating agency problem in the banking industry. Banks highly count on leverage, such as third-party deposits, to make money, such as lending the funds as loans. In this case, the creditors are the depositors, and they are less likely to be able to control the bankers (agents) with respect to the risk level to which the bankers create profits and values.

Earnings volatility and leverage ratio are expected to be inversely related. As the volatility of earnings increases (*Earnvol*), the bankruptcy costs of the firm increase and less debt (*Leverage*) will be used to reduce the agency costs associated with debt (Friend and Lang 1988). However, with the existence of deposit insurance, banks may be motivated to go for broke and reserve the expected relationship (Herring and Vankudre 1987).

According to Ang, Chua, and McConnell (1982), as the size of the firm increases, the marginal administrative costs of bankruptcy decline, and the agency costs associated with debt decline. Hence, a positive relationship between *Banksize* and *Leverage* is expected.

Crutchley and Hansen (1989) argue that the *Diverse* variable should have a negative effect on *Leverage*. As the managerial losses from holding a less diversified portfolio increase, and the Diverse measure decreases, the use of leverage will be increased so as to try to reduce the higher agency costs associated with equity.

Dividend Equation

Some of the previous agency studies do not report a significant relationship between volatility of earnings and common stock dividends. However, Crutchley and Hansen (1989) argue that in order to reduce agency costs caused by an increase in earnings volatility (*Earnvol*), firms could rely on the use of dividends (*Dividend*) since this would trigger an increased monitoring activity by outsiders.

As Hansen (1986, 1989) points out, as the size of the firm increases, flotation costs decline and firms accordingly may utilize dividends more to control the agency costs. Hence, a positive relationship is expected between *Banksize* and *Dividend.*

Crutchley and Hansen (1989) argue that the *Diverse* variable should have a negative effect on *Dividend.* As the managerial losses from holding a less diversified portfolio increase, and the *Diverse* measure decreases, the use of dividends will increase so as to try to reduce the higher agency costs associated with equity.

Table 1 depicts the expected impact of the four proxies for agency costs on each of the three bank policies. The table basically summarizes the explanation for the hypothesized influence of proxies for agency costs on bank policies.

Table 1 Expected Impact of Proxies for Agency Costs on Bank Policies

POLICIES	AGENCY COST PROXIES		
	Earning Volatility	**Bank Size**	**Diverse**
Ownership	H_1: Positive	H_2: Negative	H_3: Positive
Leverage	H_4: Negative or Positive	H_5: Positive	H_6: Negative
Dividends	H_7: Positive	H_8: Positive	H_9: Negative

Proxies for Agency Costs

To test the existence of agency costs, agency theory suggests that the following four variables should be used: (1) earnings volatility, (2) bank size, (3) manager's diversification losses, and (4) flotation costs. However, since the true measures are unobservable, proxies for the four variables are used.

The standard deviation of return on assets from 1999 to 2004 is used to measure earnings volatility, and is indicated by *Earnvol.*

$$Earnvol_j = Std\left[\frac{Ibda_j}{Assets_j}\right] \qquad (1)$$

where: Ibda equals income before depreciation and amortization and $Assets_j$ equals total assets. As the volatility of earnings increases, the chance of bankruptcy increases, and firms will use less debt in the capital structure mix. As the costs of using debt increase (decrease), the benefits of using equity as a source of financing would increase (decrease) the proportion of equity. As a result of this shift to equity, banks would be expected to pay more dividends and managers would increase their holdings of common stock in the bank.

The size of bank (*Banksize*) is indicated by ratio of fixed asset to bank's total assets.

$$Banksize_j = \frac{Fixed\ assets_j}{Total\ assets_j} \qquad (2)$$

As the size of the bank increases, managers would be expected to hold a smaller percentage of common stock due to a substantial increase in the dollar amount of the required investment. Being faced with such a dramatic increase in the amount of initial purchase, managers would hold a smaller proportion of the common stock outstanding, as the size of the firm increases. In addition, for a given debt level, as the size of the bank's assets grows, the potential for bankruptcy declines, allowing an increase in the mix of debt to equity. Finally, larger banks have greater access to financial markets to raise additional equity funds, leading to lower expected flotation costs for new common stock and being a justification for an increased dividend payout ratio.

The bank's equity risk premium, as defined below, divided by total equity risk, is used as a proxy measure for diversification benefits surrendered by managers investing in a given bank's equity. This variable, *Diverse*, is shown by:

$$Diverse_j = \frac{Equity\,\mathrm{Re}turn_j - R_f}{Equitypershare_j} \qquad (3)$$

where: EquityReturn$_j$ equals to equity return per share (quarterly data) from 1999 to 2004 data, R_f equals risk-free return, Equitypershare$_j$ equals the equity value per share (quarterly data) over the same six-year period.

The underlying basis for this variable is the portfolio theory, which postulates that as managers increase (decrease) their holdings of a particular firm's equity, certain costs (benefits) should occur. Another variable that relates to agency costs is the flotation costs of issuing common stock. The larger the equity return of the stock, the higher the flotation costs of issuing additional common stock will be, and managers would be expected to pay out less dividend to avoid this outcome. The financial market's overall perception of high volatility as a signal of high risk is the justification for retaining more funds and paying out less of the earnings stream as dividends. Historical flotation costs, if observable, are the preferred measure. However, this variable is not readily available, and is instead proxied by equity return of quarterly data, as defined in Equation (3) and the size of bank (*Banksize$_j$*), defined in Equation (2).

Financial Policy Variables

The three financial policy variables are: (1) common stock ownership by management (*Ownership*), (2) the outside leverage ratio (*Leverage*), and (3) the dividends-to-common equity ratio (*Dividend*). Firm's common stock held by officers and directors is obtained using the following values:

$$Ownership_j = \frac{managerial\ ownership}{Total\ stockouts\,\mathrm{tan}\,ding} \qquad (4)$$

where: $O\&DShares_{jn}$ equals the total number of shares held by officers and directors (*Disclosure*); Totsharesjn equals the total number of shares of common stock outstanding (*Disclosure*).

The degree of outside leverage, ratio of outside debt to total outside financing (Jensen and Meckling 1976) is:

$$Leverage = \frac{L_t debt_{jn}}{L_t debt_{jn} + M_{VCSjn}^{o}} \quad (5)$$

where: $L_t debt_{jn}$ equals total long-term debt, M_{VCSjn}^{o} equals market value of common stock held by non-managers. Total dividends to the total market value of common stock is found by:

$$Dividend_j = \frac{Comdiv_{jn}}{Tot.shares_{jn} + Mprices_{jn}} \quad (6)$$

where: $Comdiv_{jn}$ equals total common stock cash dividends, and $Mprices_{jn}$ equals year-end closing price of common stock.

Results

This research employs the multiple linear regression to examine nine hypotheses. Each variable was preliminarily tested to find out whether any violations against classical assumptions prevail. The following table describes the research variables.

Table 2 Descriptive Results

Year	MOWN	Leverage	Dividend	Bank Size	Earnvol	Diverse
Min	0	0	0.0306	0.9569	0.7268	0
Max	0.245	0.9101	0.3769	1.9338	0.856	0.8589
Mean	0.0032	0.7534	0.2183	0.6941	0.618	0.4853
Std	0.0278	0.1768	0.19	0.3073	0.0611	0.2926

MOWN variable (managerial ownership) has a maximum value of 24.5% with an average of 0.32%. Bank size variable reaches the lowest minimum score of 95.69% compared to that of Earnings Volatility variable of 72.68% and that of Dividend variable of 3.06%. Bank size has a relatively high standard deviation of 30.73%, followed by the standard deviation of Diverse (29.26%), that of Dividend variable of 19%, that of Leverage variable of 17.68%, that of Earnings Volatility of 6.11%, and that of Managerial Ownership variable of 2.78%.

Table 3 below shows the results of linear regression with three equations in order to examine the nine research hypotheses. The three linear regression equations are tested to find F-statistics. The findings show that R^2 of Managerial Ownership equation is 11.6% while that of Leverage equation is 19.6%, and that of Dividend equation is 13%.

The table indicates that the influence of earnings volatility on managerial ownership (H_1) is negative, and has a value of -3.735 which is insignificant. It means that the finding does not fulfill the prediction although the result per se is not significant. Meanwhile, bank size negatively and significantly influences managerial ownership (H_2) with a value of -0.377, thereby corresponding with the prediction. Subsequently, the effect of diversification on managerial ownership (H_3) is negative with a value of -0.121, meaning that the finding does not fit with the prediction although the finding itself is not significant.

The influence of earnings volatility on managerial ownership (H_4) with a value of 0.010 is significant and in line with the prediction. Meanwhile, the effect of bank size on managerial ownership (H_5) has a value of 0.011 and is significant, which corresponds with the predicted direction. Furthermore, diversification positively influences managerial ownership (H_6) with a value of 0.006. This finding does not fulfill the prediction; nevertheless, the result is not significant.

The influence of earnings volatility on dividend (H7) with a value of 8.652 is significant and in line with the prediction. However, the effect of bank size on dividend (H8) with a value of -0,132 does not correspond with the prediction although the result per se is not significant. Eventually, diversification positively influences dividend (H9) with a value of 0.322. It indicates that the result does not meet the prediction although the result is not significant.

Table 3 Regression Results

	Variable	Predicted	Coefficient	
Managerial Ownership				
	Constant		-4.083	*
H_1	Earning Volatility	+	-3.735	
H_2	Bank Size	–	-0.377	**
H_3	Diverse	+	-0.121	
	F		10.648	***
	R^2		11.6%	
Leverage				
	Constant		0.927	***
H_4	Earning Volatility	+	0.010	**
H_5	Bank Size	+	0.011	**
H_6	Diverse	–	0.006	
	F		7.621	***
	R^2		19.6%	
Dividend				
	Constant		-2.184	***
H_7	Earning Volatility	+	8.652	***
H_8	Bank Size	+	-0.132	
H_9	Diverse	–	0.322	
	F		27.425	***
	R^2		13%	

Discussion

This study documents that most of the hypotheses examined yield findings which are significant and in line with the predicted directions, whereas hypotheses that result in findings which do not meet the prediction are statistically insignificant. Hypothesis 1 proves that earnings volatility does not influence managerial ownership. Practically, in a bank with high earnings volatility, managers will reduce their managerial ownership. It indicates that executives also pay attention to the risk of bank should they invest in the company they are helming.

The examination result of Hypothesis 2 shows that bank size negatively influences managerial ownership, and this finding is evidenced to be statistically significant. The higher the bank size, the higher the incentives for management to decrease their managerial ownership. This evidence shows that the gains from ownership are lower than the managerial compensation earned on account of increased company size.

The test of Hypothesis 3 indicates that the effect of diversification on managerial ownership is negative and not significant. This practically proves that banks with high risk premium level will render management less willing to hold managerial ownership. The management has a high tendency to avoid banks having high risk premium since engaging in and owning such banks will directly lead to higher risk assumed. The management's low capability of diversification is the main rationale behind the managerial reluctance to own banks faced with high risk premium.

The examination of Hypothesis 4 shows that banks with high earnings volatility are inclined to have a high leverage level. This finding substantiates the argument that highly risky banks also employ huge leverage. Hence, banking industry, which is specifically renowned as a high leverage industry, will assume a higher level of risk than will other industries.

Subsequently, the examination finding of Hypothesis 5 describes that the effect of bank size on leverage is positive and significant. This result also enhances the argument that banking industry which typically has big-size companies will be supported by a high leverage level. Accordingly, this finding is also in line with the argument from Hypothesis 4 that the banking industry is basically an industry anchored by a high debt ratio in common practice.

The result of Hypothesis 6 testing shows that the influence of diversification opportunity set (Diverse) on leverage is practically positive; however, this result is statistically insignificant. This finding may be caused by high risk premium of banks as the banking industry is a high-leverage industry.

The examination of Hypothesis 7 shows that earnings volatility has a positive influence on dividend. This causal relationship fits with the prediction, meaning that stockholders will expect high dividends as the compensation for the high risk of banks.

Subsequently, the test of Hypothesis 8 finds that bank size has a significantly negative influence on dividend. It indicates that bank size is only supported by the level of leverage (in line with H_5) such that dividend payment

will be low. The majority of cash is utilized for fulfilling the liabilities to pay back leverage such that it does not suffice to pay dividends.

Eventually, the finding of Hypothesis 9 testing shows that the level of diversification opportunity set (Diverse) positively and significantly influences dividend. This indicates that a bank having a high risk premium will distribute high dividends. Stockholders expect a compensation for the high level of risk through high dividend payment. This finding is consistent with the result of Hypothesis 7 testing.

Conclusions

This research finds that banks' high level of risk is mostly contributed by the high level of leverage. The high risk premium has to be compensated by high dividend payment. Several hypotheses are indeed insignificant; nevertheless, the evidence from hypotheses testing substantiate each other.

Bank size is also influenced by the level of leverage, which then has a positive comparison and direction with banking risk. Banking industry that typically has a characteristic of high leverage virtually influences the size and risk of banks. The three variables are influencing each other, and have positive relationships. Subsequent research should examine the simultaneous relationships among leverage, earnings volatility, and dividend.

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CORPORATE SOCIAL RESPONSIBILITY AND FIRM SPECIFIC FACTORS

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ABSTRACT

The research examines the relationship of corporate social responsibility to several firm specific factors such as profitability (ROA and ROE), firm risk (standard deviation of return), and market value (PE ratio and Q). This research tests three hypotheses which are the positive relationship of CSR to profitability, the negative relationship of CSR to firm risk, and the positive relationship of CSR to market value. The research uses data from PROPER (environmental ministry) and 1994 to 2004 period of analysis with cross-sectional data analysis. The result showed mix result. CSR have statistically insignificant positive relationship between CSR and profitability. CSR have statistically significant negative relationship between CSR and firm risk (support the hypothesis). The result partially support for hypothesis of CSR to market value. CSR have statistically significant positive relationship with PE ratio (support the hypothesis) and statistically insignificant relationship with Q.

Keywords: corporate social responsibility, profitability, risk, market value

1. INTRODUCTION

In recent years, academics in fields of business administrations have studied the economic and managerial implications of Corporate Social Responsibility (CSR). CSR may be defined, consistent with McWilliams and Siegel (2001), as actions on the part of a firm that appear to advance the promotion of some social good beyond the immediate interests of the firm or shareholders and beyond legal requirements. That is, CSR activities of companies are those that exceed compliance with respect to, e.g., environmental or social regulations, in order to create the perception or reality that these firms are advancing a social goal.

CSR is concerned with treating the stakeholders of the firm ethically or in a responsible manner. Ethical or responsible means treating stakeholders in a manner deemed acceptable in civilized societies. Meanwhile, social goal includes economic responsibility. Stakeholders exist both within a firm and outside environment. The natural environment is also a stakeholder. The wider aim of social responsibility is to create higher and higher standards of living, while preserving the profitability of the corporation, for peoples both within and outside the corporation.

Companies that are socially responsible in making profits also contribute to some, although obviously not all, aspects of social development. Every company should not be expected to be involved in every aspect of social development. That would be ludicrous and unnecessarily restrictive. But for a firm to be involved in some aspects, both within the firm and on the outside will make its products and services (for example financial services) more attractive to consumers as a whole, therefore making the company more profitable. There will be increased costs to implement CSR, but the benefits are likely far outweigh the costs.

It is not surprising that some firms choose to be socially responsible in this sense. Most large multi-national companies encounter extensive pressure from consumers, employees, suppliers, community groups, government, non-governmental organizations (NGOs), and institutional shareholders to engage in CSR. Such CSR activities might include incorporating social characteristics or features into products and manufacturing processes (e.g., producing aerosol products with no fluorocarbons or making greater use of environmentally-friendly technologies), striving to reach higher levels of environmental performance via recycling or pollution abatement (e.g., adopting an aggressive stance towards reducing emissions), or promoting the goals of community organizations or NGOs (e.g., United Way or Greenpeace). From an economics perspective, companies would be expected to engage in such activities if the perceived (measured or unmeasured) benefits exceeded the associated costs in the view of the decision-making entity.

Recent theories of CSR (Baron, 2001; McWilliams and Siegel, 2001; and Bagnoli and Watts, 2003) thus conjecture that companies engage in profit-maximizing CSR, based on anticipated benefits from these actions. Examples of such benefits might include reputation enhancement, the potential to charge a premium price for its product(s), or the enhanced ability to recruit and retain high quality workers. For a CSR action to be undertaken by a company, the benefits of engaging in this activity must offset the higher costs associated with the additional resources that must presumably be allocated for the firm to achieve CSR status. Due to rising pressures for and visibility of CSR activities in the increasingly socially aware climate of developed countries, the end result has been a substantial increase in investment in such activities in all OECD nations.

Based on the profit-maximization CSR hypothesis, most academic studies of CSR have focused on a narrowly-defined business-oriented research question: do socially responsible firms achieve higher, lower, or similar levels of financial performance than comparable firms that do not meet the same CSR criteria (Griffin and Mahon, 1997; Dowell, Hart, and Yeung, 2000; McWilliams and Siegel, 2000; and Orlitzky, Schmidt, and Rynes; 2003). Financial performance is typically defined in such studies in terms of either (short-run or long-run) stock prices or accounting profitability (e.g., return on equity, return on asset, return on investment, or operating profit). Such studies also tend to use the firm rather than the establishment or sector as the unit of observation for empirical analysis, both because they are advancing a "business case" for CSR and due to the ready availability of company-level financial data.

Although the business administration perspective of this body of research justifies an exclusive focus on financial measures of performance, from an economic perspective this is unfortunate. A more salient issue in this context is the relationship between economic performance and CSR activities, where economic performance involves technological and economic relationships between output production and input demand, recognizing opportunity costs of inputs and capital accumulation. For example, economic performance may be defined as the amount of (good or marketable) output producible from a given amount of inputs (productivity), the deviation of output produced from that implied by "best practice" production (technical efficiency), or the input/resource use required to produce a given amount of output (cost effectiveness). Because such measures are based on evaluating marketed outputs and inputs, this raises questions about whether conventional productivity/performance estimates are biased from not recognizing environmental or other social externalities, and how economic performance might be affected by reducing such externalities.

For public policy makers, clarifying such relationships helps to identify the resource costs of CSR, or "market failures" with respect to CSR (Siegel, 2001). Such information in turn provides guidance on optimal levels of "social responsibility" regulation. For managers, information on such relationships is useful because it helps to inform resource allocation decisions regarding CSR activities. That is, empirical evidence on the magnitude of the tradeoff between cost or productivity and CSR facilitates determining the amount of CSR expenditure that is economically justifiable.

Corporate social responsibility in Indonesia under surveillance of Ministry of Environmental Issue called as Program Penilaian Peringkat Kinerja Perusahaan (PROPER). PROPER program planned to increase environmental performance through CSR in Indonesia. Company with bad rating of CSR will obtain sanction as mulct or punishment. Otherwise, for company with good rating will obtain benefit to increase company reputation and pretension investor to invest in that company.

CSR and financial performance become a central debate since Markowitz (1972) used reputation to assess firm social responsibility. Many studies find a different result, some of them find positive influence between CSR and financial performance but the other study finds negative influence. This research tries to test the relationship between level of corporate social responsibility that proxies by level of environmental performance from Ministry of Environment (PROPER) with profitability (return on asset and return on equity), firm risk (standard deviation of return), and firm value (PE ratio and Q).

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Corporate Social Responsibility and Profitability

Griffin and Mahon (1997) reject the idea that pollution control contrary with purposes of firm to obtain earnings. Spicer (1978) found that there is a positive correlation between pollution control and financial performance in paper and pulp industry. Financial performance in Spicer (1978) study used earning per share (EPS), return on equity (ROE) and return on asset (ROA).

Herremas et al (1993) found, firm always monitored their social responsibility issues. If firm infringe or ignore their corporate social responsibility, they will spend higher cost which jeopardize their wealth. Firm always invest their portions of cash to corporate social responsibility policy because many of company's management is risk averse. Siegel (2001) declare that participation of society and stakeholder is needed to support corporate social responsibility of the firm. Firms with high CSR rating will have higher profitability than lower CSR rating. Therefore, hypothesis H_1 is as follows:

H_1: Rating of corporate social responsibility has positive relationship on profitability

2.2. Corporate Social Responsibility and Firm Risk

Investment and portfolio theory assumed that investor will react according to their economic interest to choose investment alternatives. Investor also tends to maximize their returns which are capital gain and dividend according to their preference to risk.

According to Spicer (1978) there are two essential factors to introduce in making such investment decision. First, to increase public attention toward side effect problem from firm activity to the environmental. Sanction should be imply to firm activity through regulation, act, and law decision. This sanction expected to motivate the direct relation between corporate social responsibilities with value of their stock price.

Second, to increase the number of investor that has moral basic or ethics. They will avoid investing in firm that causes environmental damage. Aware investor will consider the corporate social responsibility performance in their investment decision. Many researches prove that there higher corporate social responsibility will affect lower risk (Alexander and Buchholz, 1978; Spicer, 1978; Herremans et al 1993). Firms with good rating of CSR will have lower risk that also includes perceived risk of investors. Therefore, hypotheses H_2 is as follows:

H_2: Rating of corporate social responsibility has negative relationship on firm risk

2.3. Corporate Social Responsibility and Market Value

Dowell, Hart, and Yeung (2000) test the relationship between firm disclosures with corporate social responsibility using index from Council on Economic Priorities as a corporate social responsibility proxies. Level of disclosure enactive by Association for Investment Management and Research Corporate Information Committee Report (AIMR Report) that proxies by total market capitalization, annual adjusted stock return, standard deviation from market adjusted annual return, profitability and Q. Firm with higher corporate social responsibility has bigger market capitalization, market return, and Q compare with firm that have lower corporate social responsibility. Therefore, hypothesis H_3 is as follow:

H_3: Rating of corporate social responsibility has positive relationship on market value

Figure 1 showed the research framework which contained rating of CSR and the influenced of CSR rating to firm profitability, risk, and market value. This research has three hypotheses that will tests using Kendal's tau-b and Spearman non-parametric correlation test.

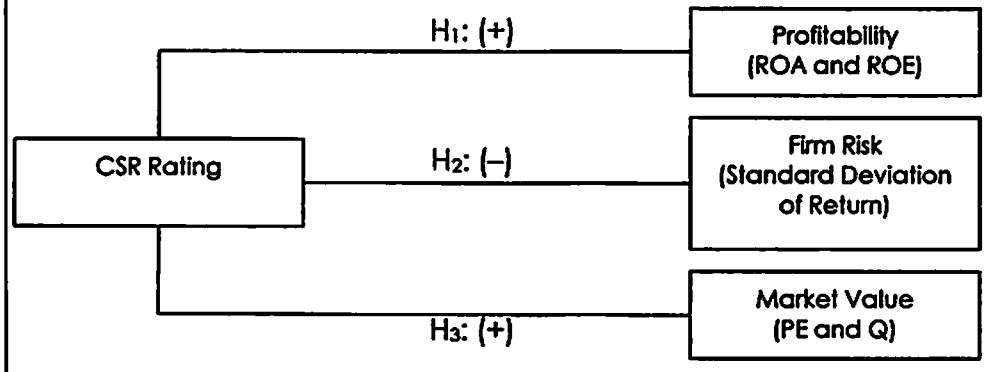

Figure 1. Research Framework

3. RESEARCH METHOD

3.1. Data and Sample

Samples employed in this study are firm with PROPER rating from environmental ministry and non-financial companies listed in Indonesia Stock Exchange from 1995 to 2004. Financial data is obtained from annual financial report which consists of balance sheet, income (profit and loss) statement, cash flow report, and financial report notes. The data source for the study is Indonesia Stock Exchange Library, Indonesian Capital Market Directory (ICMD), and Indonesian Securities Market Database (ISMD) published by Faculty

of Economics and Business Universitas Gadjah Mada. According to PROPER announcement 1994-2004 there are 341 firm that include into rating category with 3 kind of industry/sector i.e. manufacture, mining industry, agriculture and forestry. Nevertheless only 33 firms listed in Indonesia Stock Exchange and include in PROPER which are obey and disobey to corporate social responsibility. This research uses cross-sectional analysis, and compute average value each variables.

3.2. Operational Definition

According to the research problem and hypothesis, this research using many variables:

1. **Corporate Social Responsibility (CSR).** Corporate social responsibility measured using environmental performance rating from PROPER KLH announcement. CSR variable uses dummy which is D_{CRS}=1 for firms that rate as good and D_{CRS}=0 for firms that rate bad. This research classifies very good and good in one category (D_{CRS}=1). The data select firms that announce their CSR and have the CSR rating for 10 period of analysis.
2. **Profitability (ROA and ROE).** Profitability reflects by ability firm to generate earning. The research uses average value of ROA and ROE, with 10 years period of analysis. Profitability in this research measured with 2 measurements:

a. Return on asset (ROA) is obtained from comparing between earning after tax divide with asset total.

$$ROA = \frac{Earnings}{Total\ Asset}$$

b. Return on equity (ROE) is obtained from comparing between earning after tax divide with capital.

$$ROE = \frac{Earnings}{Total\ Equity}$$

3. **Firm Risk (SdRet).** Firm risk is measured by standard deviation from stock return in sample period. Total risk as addition from diversified risk (firm risk) and undiversified risk (market risk). The research uses average value of firm risk, with 10 years period of analysis. Risk is measured by:

$$Return = x_t = \frac{P_t - P_{t-1}}{P_{t-1}}$$

$$Sd\,Ret = \frac{\sum_{t=1}^{n}(x_t - \bar{x})^2}{n-1}$$

4. **Market Value (PE and Q):**

a. Market value reflects by price per earning ratio that is measured from price/earning ratio. The research uses average value of price to earning, with 10 years period of analysis.

b. Modified Q from Chung and Pruitt (1984). Mahadwartha (2004) and Ismiyanti (2007) used modified Q as proxy for market value and showed robust result as financial performance indicator. The research uses average value of Q with 10 years period of analysis.

$$Q = \frac{Market\ Equity\ Value + Preferred\ Stocks + UT}{Total\ Asset}$$

$$UT = Interest\ Bearing\ Debts - Current\ Asset$$

3.3. Method of Analysis

This research uses non-parametric correlation model such as Kendal tau_b and Spearman to test the hypothesis. This research also supported by Rank test Mann-Whitney U and Wilcoxon W test to test the differences between good and bad CSR. Table 1 showed hypotheses testing for Kendal tau-b and Spearman correlation.

Table 1. Hypotheses Testing

H_1:	Rating of corporate social responsibility has positive relationship with profitability	$0 < \rho_1$
H_2:	Rating of corporate social responsibility has negative relationship with firm risk	$\rho_2 < 0$
H_3:	Rating of corporate social responsibility has positive relationship with market value	$0 < \rho_3$

4. RESULT AND DISCUSSION

This research uses 33 sample (firms) contained of 3 rating, i.e. 4 firms in category very good rating, 16 firms in category good rating, and 13 firms in category bad rating. However, due to lack of sample, this research combined the "very good" rating and "good" rating into one category. Table 2 showed descriptive statistics of the variables.

Table 2. Descriptive Statistics

There are three constructs that divide into five independent variable and CSR as dependent variable. This research uses 33 sample firms that listed in Indonesia Stock exchange.

Construct	Variable	CSR	N	Mean	Std. Deviation
Profitability	ROA	Good; D_{CSR}=1	20	0.093	0.114
		Bad; D_{CSR}=0	13	0.075	0.070
	ROE	Good; D_{CSR}=1	20	0.447	0.598
		Bad; D_{CSR}=0	13	0.444	0.599
Firm Risk	SdRet	Good; D_{CSR}=1	20	0.041	0.037
		Bad; D_{CSR}=0	13	0.065	0.051
Market Value	PE	Good; D_{CSR}=1	20	1.396	2.346
		Bad; D_{CSR}=0	13	0.550	0.432
	Q	Good; D_{CSR}=1	20	0.419	0.638
		Bad; D_{CSR}=0	13	0.397	0.295

Preliminary result from descriptive statistics showed that good rating firms have higher profitability and market value than bad rating firms. Good rating firms also have lower risk than bad rating firms. This preliminary result indicates that firms with good rating on CSR will have higher financial performance and lower firm risk. This research suggests that CSR affect firm financial performance and reduce firm risk. CSR will support community

based development, environmental program, etc; and simultaneously enhance firm performance.

Table 3. Correlation Result

Correlation result uses Kendall's tau-b and Spearman's rho non-parametric test. This research uses 33 firms with CSR rating from PROPER.

Correlation Non-Parametric		ROE	ROA	SdRet	PE	Q
Kendall's tau-b	CSR	-0.070	-0.011	-0.193 *	0.221 *	-0.081
Spearman's rho	CSR	-0.085	-0.013	-0.231 *	0.267 *	-0.098

*) 0.1 significance; **) 0.05 significance; and ***) 0.1 significance

Table 3 showed correlation result of Kendal's tau-b and Spearman rho that correlate between CSR rating and profitability, firm risk, and market value. Kendal's tau-b and Spearman rho showed consistent result. The result showed that correlation between profitability construct (ROA and ROE) and CSR rating statistically insignificant with negative sign. The result yield contradictory argument to hypotheses. CSR rating has negative relationship with firm's profitability. The result indicates that CSR program has long term goals and less related to short term performance indicators such as ROA and ROE.

Correlation between CSR and firm risk (SdRet) showed negative sign. The result is consistent with hypothesis H_2. Firms with good CSR rating have less firm risk than firm with bad CSR rating. The measurement of firm risk uses yearly data and averaging for 10 year period, which incorporate the movement of return on period of analysis. Therefore, the result showed statistically significant relationship and supports the hypothesis.

Correlation between CSR and market value showed partial support for hypothesis. CSR correlates to PE ratio with positive sign, and statistically significant. However, CSR correlates to Q with negative sign, and statistically insignificant. PE ratio uses widely among security analyst and capital market analyst. Security analyst uses PE to predict future stock price movement or price expectation. Their analysis will forward to investors to support their investment decisions. This argument supports the positive relationship of CSR to PE.

The correlation of CSR to Q showed negative sign and statistically insignificant result. The result indicates that Q as long term measurement of market value incompatible with CSR, and therefore this research suggests that future research uses autoregressive model to regress between lag data (CSR rating) and current data such as profitability, and market value.

The research has several contributions. The research contributes to manager's decision in conducting CSR and their effect to value of the firms. If managers want to increase the market expectation on firm value, they will more reliance to support their CSR program. If investors decide to select firms with CSR program, then they will choose firm with CSR that have short term effect rather than long term effect.

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