

# THE IMPACT OF FINANCIAL RATIO TOWARD STOCK PRICE: EVIDENCE FROM BANKING COMPANIES

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## Abstract

*Once company stock listed in IDX it means the stocks will be control by the market. We would like to analyzed the factors that impact stock market in listed companies in ISX. The samples will be coming from Banks Companies. There are many factor that impact stock market, but the researcher only analyzed three of those. The first is dividend policy using dividend payout ratio. The second is profitability ratio using return on assets ratio and return on equity ratio. the last but not lease is solvency ratio using debt to equity ratio.*

*The researcher used multiple regression analysis to create the research equation. After that, in order to test the hypothesis the researcher using coefficient ( $R^2$ ) test and t test. Through all the test, this research present the dividend policy using dividend payout ratio and profitability ratio using return on asset ratio has significant correlation with stock price. Then, solvency ratio using debt to equity ratio and profitability using return on equity has in significant correlation with stock price.*

**Key words:** Dividend Policy, Profitability Ratio, Solvency Ratio

## Introduction

Nowadays, most of the economy activities are investing and on of the requirement to develop society is investing (Mohemi et al. 2013). To gain a lot of investors, company has perspective to be listed company. By listed on stock market it will be a solution to get more fund as additional capital expenditure, to pay off existing debt, to doing research and development, and etc. In listed and published their stocks on the market or Initial Public Offering (IPO), company may expand their business bigger and bigger without worry about interest debt.

Being a listed, the company will issue its shares. According to Brecket & Essen (2002) if there are 100,000 shares issued by the company and someone having 10,000 of them, it means she or he owns tenth of the company because Investor are not lenders; they are the owner. All of the shares from listed company will be traded in stock exchange. Stock exchanges around the world contribute in considerable manpower, technological effort, and promote market efficiency & integrity (Cumming et al. 2009).

One of the most well known sectors in stock exchange is financial sector. The financial index contains all listed companies that are engaged in Indonesia's financial sector, it consist of banking, financing institutions, securities companies, insurance, and others.

Even though there are many finance company criteria include in this sector, the majority one is banking company 39 out of 85 companies. After private company being a listed company and issuing their share in stock exchange, the shares of the company will be controlled by the market with several factors that affect the volatility of the stock price.

One of the factor that affect a company's share price on the stock exchanges is the dividend policy, especially around the announce date and the ex-dividend date (Sularso, 2013). Masum (2014) announcement dividend has significant positive effect on stock price volatility. It occurs because the investor usually look for information on a company before they decide to invest their capital in the company or not, either in the form of shares or in other forms of investment (Novianti et al. 2013). Agency cost and the free cash flow hypothesis said that empirical evidence shows the firm's stock price typically move in the same direction as that of the dividend change, according to the free cash flow model, the market reacts to the news of dividend increase or decrease because the potential for manager to misuse excess funds decreases or increases (Baker, 2009).

The other factor that affects stock price is profitability ratio. Profitability ratios can be tough of as the combination of many of the other specific to figure out the ability of a company to generate profits (Rist & Pizzica, 2015). Common profitability ratios are current yield, profit margin, return on asset (ROA), return on net asset (RONA), return on equity (ROE), and return on investment (ROI). Regarding to the Weygandt et al. (2013), profitability has classify into seven types such as profit margin, asset turnover, return on asset (ROA), return on ordinary shareholders' equity, earnings per share (EPS), price-earnings ratio, and payout ratio.

One of the criteria to evaluate management power for gaining return is rate of return on asset, if the company has a good earning for them it can bring more interest for the company, then it proved direct relationship between stock return and assets return rate or return on asset (ROA) which is one of the ratio in profitability ratio (Saeidi & Okhli, 2012). In other opinion Rist & Pizzica (2015) said that the king of all ratios is return on equity (ROE).

Furthermore, the factor that affects stock price volatility is solvency ratio. These ratios indicate the extent to which the business is able to meet all its debt obligations from sources other than cash flow. In essence, it answers the question: if the business suffers from reduced cash flow, will it be able to continue to meet the debt and interest expense obligations from other sources. One of the solvency ratios is debt to shareholders' equity (Lee, 2012).

In line with the statement above, Australia Shareholders' Association (2010) said that contrary to what many believes, debt is not necessarily a bad thing. Debt can be positive. If it is use for productive purposes such as purchasing assets and improving processes to increase net profits. Acceptable debt to equity ratios may also vary across industries. Generally, companies that are capital intensive tend to have higher ratios because of the requirement to invest more heavily in fixed assets. In contrary, the other financial statements state that debt to equity ratio give users a general idea of the company's overall debt load as well as its mix of equity and debt, it can be used to determine the overall level of financial risks a company and its shareholders face, because the greater amount of debt held by a company the greater the financial risk of bankruptcy.

## **Literature Review and Hypothesis Development**

### **Dividend Policy**

Baker (2009) states that evolution of dividend policy was growing up until now. The first corporations were short-term ventures that ended in full liquidation. As corporations became longer lived, managers faced the issue of how to make distributions to shareholders, and numerous firm-specific policies as well as laws developed to address how much corporations could pay shareholders. From the seventeenth to the nineteenth century, managers used dividends to influence share prices and to attract new capital. In the twentieth century, researchers developed various hypotheses to explain dividend policies. An overview of recent surveys and observed firm reactions to changes in tax laws provide additional insights in to current dividend policies.

Dividend decision are a type of financing decision that affects the amount of earnings that a firm distributes to shareholders versus the amount it retains and reinvests these activities refers to the payout policy that a firm follows in determining the size and pattern of cash distribution to shareholders over time (Baker, 2009). Dividend policy has long been a subject of interest to financial researcher because corporate dividend policy is still a complex topic for financial researcher. The controversial of dividend policy are divided into two controversial aspects. The first is dividend policy affecting the investment decision of company because the distribution of profits reduces internal sources and increase the need for external resources. Unfortunately, on the other side, many shareholders demanding cash dividend, hence a managers must always achieve a balance between their holders interests and the opportunities for profitable investment with the aim maximizing shareholder wealth, that's why the dividend decision which are taken by the corporate executives are very sensitive and important (Mohemi, Lari, Jafari, & Hosseini, 2013).

One type of dividends is a cash dividend which is calculated with dividend payout ratio. Weygandt et al. (2013) state the payout ratio is one of the ratios that attracts the investor. Payout ratio is the ratio of cash dividend to net income. Masum (2014) add some point with state that dividend policy is important for investor, managers, lenders, and for other stakeholder, it is important for investors because investor consider dividends not only the source of income but also a way to assess the firms from investment point of view, because every firm operating in a given industry follows some sort dividend pattern or dividend policy and obviously it is a financial indicator of the firm.

### **Profitability Ratio**

The key elements of economic decision is the prediction because the investor, creditors, managers, and other users rely on the prediction and expectation in their economic decision, this prediction depends on the combination of the stable and unstable characteristics of the earnings, the firm with higher stable items in the financial statements have more earning persistence, therefore the investors are interested in predicting the perspective of the future profitability (Heirany et al. 2014). The profitability can be measured by profitability ratio. Because of the Profitability ratios measure a company ability to generate earnings contra with expenses.

Commonly the profitability is divided into two ratios, which is return on asset (ROA) and return on equity (ROE). Rist & Pizzica (2015) said that the return on assets shows how

profitable asset are in generating revenue a ratio of 25% means that for every \$100 of investment in assets, net income of \$25 is generated. On the other article state that, return on asset (ROA) measure how efficiently a company use the firm assets to generate operating profits, in general return-on assets ratio means that a company's assets are productive and well managed, likewise some company may have assets level that are, "under-stated". But it's doesn't mean the company is bad, instead it happen because the company have high levels of intangible assets then intangible assets are non-monetary assets that can not be seen, touched, or physically measured, such as trademarks, brand names, and patents therefore a company like Microsoft will have far fewer assets on its balance sheet than Ford.

The next ratios is return on equity (ROE), Bull (2008) said that the return on equity (ROE) ratio presents a broader measure than the return on capital assets ratio. In other definition, return on equity (ROE) measures how much net income was earned as a percentage of shareholder's equity, more simply it can show how much profit a company generates with the money shareholder has invested, it is calculate as net income divided by common equity, return on equity helps to assess how efficient a company to generate profits, then the firm with consistently high return on equity, especially relative to industry norms, typically have some type of competitive advantage.

### **Solvency ratio**

Reeve et al. (2007) said that the ability of a business to meet its financial obligations (debts) is called solvency. A business that has bad history in paying their debts or obligation will have difficulty in obtaining credit. A lack of available credit may, lead to a decline in the business' profitability. Eventually the business may be forced into bankruptcy. Likewise, a business that is less profitable than its competitors is also refers to the at disadvantage in obtaining credit or new capital from stockholder Solvency assessed by examining balance sheet relationship using many ratios, and one of the ratios is the ratio of debt to equity.

Australia Shareholders' Association (2010) state that, the debt to equity ratio provides an indication of company's capital structure and whether the company is more reliant on borrowings (debt) or shareholder capital (equity) to fund assets and activities. In line with it, Rist & Pizzica (2015) said that the debt to equity ratio measures how much of the company financed by its debt holders compared with its owners and is another measure of financial health, a company with a large amount of debt will have a very high debt to equity ratio, whereas on with little debt will have a low debt to equity ratio.

### **Stock Price**

Based on the styles of the stocks types, stocks are divided into four categories. The first is aggressive growth stock which is the stocks that have rapidly expanding, company believed to have the greatest growth prospects in the marketplace, the lure of the of aggressive growth stocks is the idea of getting early on the next big thing and those aggressive growth stocks that fulfill the hopes of investor of large return. The second is growth stocks, it is shares of corporations that have above-average prospects but whose potential is not quite as dramatic as aggressive growth stocks, the value of this stock typically offer fairly modest dividends and as profits usually are still being reinvested back into the business at a fairly high rate. The third is value stocks, it is shares that are

considered to be selling below their true worth, considering their existing operations, future growth prospects, or current assets. It may offer above-or below-market dividend yields but generally don't fall into the top tier of dividend paying companies. The last is income stocks which is stocks that has been offered by the companies with highest dividend yields in the stock market. Many conservative investors also invest in income stocks because they want the potential for capital appreciation and increase those dividends (Broadridge Investor Communication Solutions. Inc, 2015). According to the types of the stocks above, each of type will represent the stock price with different way and value.

Stock price change every day as a result of market volatility, it change because of demand and supply, if more people want to buy a stock (demand) than sell it (supply), then the price moves up and conversely if more people wanted to sell a stock than buy it the greater supply than demand will make the price fall down. The variation in price among common stocks is of considerable interest for the discovery of profitable investment opportunities, for the guidance of corporate financial policy, and for the understanding of the psychology of investment behavior (Gordon, 2009). This statement is supported by Hill & Irwin (2008), the simplest way of understanding how stocks can make returns goes by the old saying "buy low and sell high". It is the investor's objective to purchase shares of a firm at a value which they expect to appreciate in the future, the returns on common shares can be made in two ways: capital appreciation and/or through dividends which are capital appreciation basically means that the stock's price rise in value over the duration that the investor owned the stock.

## **Hypothesis Development**

### **The relationship between Dividend policy and Stock Price**

Announcement of dividend payment has significant return to the market when providing information. In contrary, when the dividend announcement did not provide significant abnormal return because if it doesn't contain of any information. Information on dividend announcement will be mirrored by the capital market reaction immediately after the announcement of the dividend, both positive and negative reaction (Novianti et al. 2013). In line with Novianti et al. (2013), DeAngelo & DeAngelo (2005) showed that dividend policy is related to the fluctuation of the stock price because dividend policy contains information which gives message about the status of the company to shareholders. The status or the message is going to be a signal for the shareholder or investor to invest in some company or firm. It might be happen because Investor usually looks for information on a company before they decide to invest their capital in the company or not, whether it is in the form of shares or other forms of investment (Novianti et al. 2013). This reason declaration of dividend sometimes leads to reduction, and it is occasionally leads to increase in stock price (Mohemi et al. 2013). Therefore, Masum (2014) state that dividend policy decision affects a firm's stock price is a widely researched topic in the field of investment and finance.

Research about the effect of dividend announcement on stock price changes (returns) before and after the ex-dividend date on the IDX in the period January to December 2010 Novianti et al. (2013) state that announcement of dividend increases influence on stock return before and after the ex-date dividend in Indonesia Stock Exchange (IDX), it is characterized by the average significant positive abnormal return on day T-4, then the

dividend reduction announcement doesn't affect the stock returns before and after the ex-dividend date on the Indonesia Stock Exchange (IDX) and it is shown by the presence of a significant negative abnormal return on day T+9. Baker (2009) Said the notion that dividends affect the value of a firm's share is not new. Sularso (2013) also support this research, he said that basically a lot of factors that affect a company's shares price on the stock exchange, one with the announcement of the dividend will impact the company stock price, especially around the announcement date and the ex-dividend date.

**H1:** Dividend policy has correlation with stock price

### **The relationship between Profitability Ratio and Stock Price**

The investors are interested in predicting the perspective of the future (Heirany et al. 2014). Investor persuading to gain further profits tries to get the most return on assets. It has made a good proportion of financial researched oriented toward predicting price or return of stocks in different markets (Saeidi & Okhli, 2012). By using profitability ratio, the investor can know how the company runs their business. Two well-known profitability ratios are return on asset (ROA) and return on equity (ROE), both describe how a company's ability to generate earnings from their investment, but they don't exactly represent the same things.

Dadrasmoghadam & Akbari (2015) in his research the relationship between financial ratios in the stock prices of agriculture-related companies accepted on the stock exchange for Iran emphasize that the profitability ratio positively and significantly related to stock exchange agriculture of industry. It is also support in Heirany, Moeinadin, & Nazemizadeh (2014) research that state the investor has been highly considered about income, the predicted earnings are published extensively because when the earning are lower than the expected level, the stock will decrease.

**H2:** Profitability ratio has correlation with stock price

### **The Relationship between Solvency Ratio and Stock Price**

Drake (1998) said that, the main focuses of solvency ratios are the entity's ability to repay the debts. The creditors and the shareholders are equally interested in these ratios. These ratios indicate the entity's ability to withstand relatively for business conditions without suffering net losses or insolvency. Although, these ratios should not be taken at face value since they are dependent on many factors, these ratios are most useful for making apple-to-apple comparisons in the industry.

The way to calculate solvency ratio is using debt to equity ratio. Ratio of debt to equity is a solvency measure that indicates the margin of safety for creditors. It also indicates the ability the business to withstand adverse business conditions. When the claims of the creditors are large in relation to the equity of stockholders', it is usually significant interest payments. If earning decline to the point where the company is unable to meet interest payments, the business may be taken over by the creditors. The relationship between creditor and stockholders' equity is shown in the vertical analysis of the balance sheet (Reeve et al. 2007).

Solvency ratios means that the ability of a company to survive over long period of time. It will give impact to the company to get fund from creditors, stockholders', or investors. Especially for the listed company because high debt to stockholders' equity also can give impact to their stock price because according to the Rist & Pizzica (2015) companies with

lower debt to equity ratios are generally less risky than those with higher debt to equity ratios. And there no people want to lose or risky their money.

**H3:** Solvency ratio has correlation with stock price

## Research Method

### Sample

This method focused on several criteria and requirements to selection the data, whether it is proper for the research or not. We used sample only come from listed bank company in Indonesia, and those data taken from IDX and have duration starting from 2010 – 2014.

### Variable

Dividend policy is the first independent variable which describe how company determining the proper amount of dividends to pay. To measure dividend policy by dividing cash dividends by net income. Companies that have high growth rates generally have low payout ratios because they reinvest most of their net income into the business (Weygandt et al. 2013).

$$\text{Dividend Payout Ratio} = \frac{\text{Cash Dividend}}{\text{Net Income}}$$

### Profitability Ratio

The second independent variable is profitability ratio. This ratio measures the income or operating success of a company for a given period of time. Analysts frequently use profitability as the ultimate test of management's operating effectiveness (Weygandt et al. 2013).

#### *Return On Asset (ROA)*

Reeve et al. (2007) define Return on assets (ROA) as a measurement for the profitability of total assets, without considering how the assets are finance, this rate therefore not affected by whether the assets are financed primarily by creditor or stockholder. An overall measure of ability is return on assets. It is computed by dividing net income by average assets (Weygandt et al. 2013).

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

#### *Return On Equity (ROE)*

Return on equity was measures from the ordinary shareholder's viewpoint. We compute it by dividing net income available to ordinary shareholders by average ordinary shareholders' equity (Weygandt et al. 2013).

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total stockholders' equity}}$$

### Solvency Ratio

The third independent variable in our study is solvency ratio also called as leverage ratio, which means how the long-term funds are used in the business concern (Paramasivan & Subramanian, 2009). Debt to stockholders' equity (leverage or gearing) ratio indicates the extent to which the business is reliant on debt financing versus equity to fund the assets of the business.

$$\text{Debt to stockholders' equity ratio} = \frac{\text{Total Liabilities}}{\text{stockholders' equity}}$$

### Stock Price

Our dependent variable in this study is stock price which is coming from bank companies' stock price during 2010 – 2014. The data will be using monthly average price that convert as annual average price.

### Analysis Method

Multiple regressions also calculate the error term or random variable which appear ( $\epsilon$ ) between dependent and independent variable, therefore the idea comes out with multiple regression equation that the mean or expected value of  $\epsilon$  is zero. Whereas the distraction variable in this research are assuming as zero or neglected. Then a consequence of this assumption is that the mean or expected value of  $y$ , denoted  $E(y)$ , is equal to  $\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p$  and the mean value of  $y$  is related to  $x_1, x_2, \dots, x_p$  (Anderson et al. 2014).

Multiple Regression Equation:

$$E(y) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p$$

### Result

Samples that have been used by the researcher are the companies in Indonesia which is listed in Indonesia Stock Exchange (IDX) started from 2010 until 2014. Companies in this research refer to bank companies which is include in finance sector stock in Indonesia Stock Exchange (IDX). Not all the bank companies can be a sample in this research, the bank companies have fulfill the sample requirements. This is stated in the table below:



**Table 1.  
Sample**

No	Description	Amount
1	All of the company in finance sector who listed in Indonesia Stock Exchange	85
2	Other companies in finance sector which is not banking companies.	(44)
3	The companies who listed after 2010	(2)
4	The companies who have incomplete and sufficient data	(10)
Total sample of the company		29

## Multivariate Analysis

### Multiple Linear Regression

In this research we using three independent variables which multiple linear regression analysis below:

$$SP = DPR + ROA + ROE + DER$$

### Numerical Descriptive Statistic Measurement

Numerical descriptive statistic measurement will present the total samples (N), minimum value (minimum), maximum value (maximum), and mean value (Mean), of each variable in this research. After that it is also state the valid total samples of this research (Valid N), here are the result;

**Table 2.  
Numerical Descriptive Statistic Measurement**

	N	Minimum	Maximum	Mean
SQRTSP	29	7.07	95.26	25.96996
DER	29	4.78	23.45	1.96508
DPR	29	.00	.98	.21462
ROA	29	-.02	.03	.01115
ROE	29	-.11	3.05	.55050
VALID N (listwise)	29			

## Data Analysis

### Normality Test

Based on the histogram graphic and P-Plot of regression standardized residual, it can be assumed the data have normal distribution. Even though in the graphic histogram show little bit positive skewness pattern because of some outlier on the data, it still not far from the center or 0 in X pivots. After that the plots on the P-Plot are spread not far from diagonal line.

### Multicollinearity Test

Based on the amount of the correlation between each independent variables, the researcher know that the biggest correlation amount's is occurred between DPR and ROA variables which is -.490 or 49,0%. Because the entire correlation amount is under 90% between each independent variable, therefore it's assume there is no serious multicollineriatiy in this research. Below is the result of multicollinearity test:

**Table 3.**  
**Multicollinearity Test**

Model		ROE	DPR	DER	ROA
Correlations	ROE	1.000	.149	.097	-.203
	DPR	.149	1.000	.18	-.409
	DER	.097	.018	1.000	.187
	ROA	-.203	-.490	.187	1.000

Based on the amount of the tolerance and Variance Inflation Factor (VIF) it can be assumed there is no multicollinearity in this research. The lowest and the highest value of tolerance and VIF is .699 and 1.430. All of the tolerance value more than .10 and VIF value still less than 10.

**Table 4.**  
**Multicollinearity Test 2**

Model	Unstandardized Coefficient		Standardized Coefficient t	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	34.973	18.982		1.842	.078		
DER	-2.215	1.936	-.168	-1.145	.264	.932	1.073
DPR	45.129	19.778	.373	2.282	.032	.747	1.339
ROA	969.806	406.529	.404	2.386	.025	.699	1.430
ROE	-2.604	6.883	-.044	-.300	.767	.938	1.066

### Autocorrelation Test

The result of autocorrelation test will be show on the table below, which is consist of several information:

**Table 5.**  
**Autocorrelation Test**

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Durbin – Watson
1	.721 <sub>a</sub>	.520	.440	19.43417	2.672

DW value is 2.672, this value will compare with the value from 5% significance value on the table. Amount of the sample and independent variables are 29 (n) and 4 (k=4), therefore the Durbin Watson table's will be:

**Table 6.  
Durbin – Watson Test**

N	K=4	Du
	DI	
15	0.69	1.98
.	.	.
.	.	.
29	1.124	1.74

Because of the value of DW is 2.672 which is more than (du) 1.74 and less than  $4 - 1,74$  ( $4 - du$ ), therefore  $H_0$  (there is no autocorrelation positive or negative) is rejected or it can be assume there is no autocorrelation is this research.

### Hypothesis Test

#### Coefficient ( $R^2$ ) Test

The value of adjusted R square is .440, it means 44% stock price variation can be explained by the variation of independent variables which are Debt to equity ratio (DER), Dividend Payout Ratio (DPR), Return On Asset (ROA), and Return On Equity (ROE). On the other hand the rest of percentage which is 56% will be explained by other variables outside the model research.

**Table 7.  
Coefficient ( $R^2$ ) Test**

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.721 <sub>a</sub>	.520	.440	19.43417

#### Statistic F Test

The criteria for the F test are:

If the  $F_{\text{formula}} > F_{\text{table}}$ , means that Hais supported and  $H_0$  is rejected.

If the  $F_{\text{formula}} < F_{\text{table}}$ , means that  $H_0$  is supported and  $H_a$  is rejected.

**Table 8.  
Statistic F Test**

Model	Sum of Square	Df	Mean Square	F	Sig.
1 Regression	9819.286	4	2454.821	6.500	.001 <sub>a</sub>
Residual	9064.487	24	377.687		
Total	18883.773	28			

Based on the F test above,  $F_{\text{formula}}$  show 6.500 with .001 profitability value. Because of the value of  $F_{\text{formula}}$  is more than  $F_{\text{table}}$  value which is 2.78 ( $k=4$ ,  $df 29 - 4 - 1 = 24$ , and  $\alpha = 5\%$ ). Therefore the  $H_a$  is supported and the  $H_0$  is rejected, whereas the independent variables (DPR, ROA, ROE, and DER) as group have significant correlation with dependent variable (Stock Price of banking companies in Indonesia during 2010 – 2014).

## Statistic t Test

The criteria for the t are:

If the  $t_{\text{formula}} > t_{\text{table}}$ , means that  $H_a$  is supported and  $H_0$  is rejected.

If the  $t_{\text{formula}} < t_{\text{table}}$ , means that  $H_0$  is supported and  $H_a$  is rejected.

**Table 9.**  
**Statistic t Test**

Model	Unstandardized Coefficient		Standardized Coefficient t	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	34.973	18.982		1.842	.078		
DER	-2.215	1.936	-.168	-1.145	.264	.932	1.073
DPR	45.129	19.778	.373	2.282	.032	.747	1.339
ROA	969.806	406.529	.404	2.386	.025	.699	1.430
ROE	-2.604	6.883	-.044	-.300	.767	.938	1.066

In this research it is important to testing partial hypothesis of each independent variable which are ROA, DPR, DER, and ROA. T test in this research will look the level of significance with standard error < 5%. Steps to conduct the test are to determine  $t_{\text{formula}}$  and  $t_{\text{table}}$  whereas  $t_{\text{table}}$  show 2.06 ( $k=4$ ,  $df\ 29 - 4 - 1 = 24$ , and  $\alpha = 5\%$ ). From the result above, the researcher will try to figure out whether the  $H_a$  or  $H_0$  is supported in this research for each independent variable.

- $DER = t_{\text{formula}} < t_{\text{table}}$  ( $-1.145 < 2.06$ ), means that  $H_0$  is supported and  $H_a$  is rejected. Debt to equity ratio has insignificant correlation with Stock Price of banking companies in Indonesia during 2010 – 2014.
- $DPR = t_{\text{formula}} > t_{\text{table}}$  ( $2.282 > 2.06$ ), means that  $H_a$  is supported and  $H_0$  is rejected. Debt payout ratio has significant correlation with Stock Price of banking companies in Indonesia during 2010 – 2014.
- $ROA = t_{\text{formula}} > t_{\text{table}}$  ( $2.386 > 2.06$ ), means that  $H_a$  is supported and  $H_0$  is rejected. Return on assets ratio has significant correlation with Stock Price of banking companies in Indonesia during 2010 – 2014.
- $ROE = t_{\text{formula}} < t_{\text{table}}$  ( $-.300 < 2.06$ ), means that  $H_0$  is supported and  $H_a$  is rejected. Return on equity ratio has insignificant correlation with Stock Price of banking companies in Indonesia during 2010 – 2014.

## Multiple Regression Equation

Based on the test that has been done. We will create the multiple regression equation:

$$SP = DPR + ROA + ROE + DER$$

$$SP = 45.129 + 969.806 - 2.604 - 2.215$$

Means:

DPR : Dividend Pay-Out Ratio

ROA : Return on Assets Ratio

ROE : Return on Equity Ratio

DER : Debt to stockholders' Equity Ratio

SP : Stock Price

### The Correlation between Dividend Policy With Stock Price

The result of the t test for dividend policy (dividend payout ratio) will be shown the table below, which is consist of several information that will be explain more by the researcher;

**Table 10.**  
**t Test for DPR**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	34.973	18.982		1.842	.078		
DPR	45.129	19.778	.373	2.282	.032	.747	1.339

From the result, it can be seen the result of DPR  $t_{\text{formula}}$  value is more than the  $t_{\text{table}}$  ( $2.282 > 2.06$ ). It means that  $H_a$  is accepted and  $H_0$  is rejected. Dividend pay-out ratio has significant correlation with stock price in banking companies in Indonesia during 2010 – 2014. This is supported with profitability ratio which is calculated using dividend payout (DPR) ratio show .032, because of the significant value of DPR ratio is below .05, It proves  $H_a$  is accepted and  $H_0$  is rejected.

Dividend Payout ratio explain the ability of a company to pay dividends compare with the amount of net income. Because of the  $H_1$  has been proven, which is Dividend policy has correlation with stock price of banking companies in Indonesia during 2010 - 2014 through dividend payout ratio. If the company has good ability to pay their dividend or the company has big dividend payout ratio. The stocks of those companies will be attracted by the investor, after that this condition will be impact the stock price of those companies. This result is consistent with Novianti et al. (2013) and DeAngelo & DeAngelo (2005) study.

### The Correlation between Profitability Ratio With Stock Price

The result of the t test for profitability (return on assets and return on equity) ratio will be show on the table below, which is consist of several information that will be explain more by the researcher:

**Table 11.**  
**t Test for ROA & ROE**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	34.973	18.982		1.842	.078		
ROA	969.806	406.529	.404	2.386	.025	.699	1.430
ROE	-2.604	6.883	-.044	-.300	.767	.938	1.066

From the result, it can be seen the result of ROA  $t_{\text{formula}}$  value is more than the  $t_{\text{table}}$  ( $2.386 > 2.06$ ). It means that  $H_1$  is supported and  $H_0$  is rejected. Return on assets ratio has significant correlation with stock price of banking companies in Indonesia during 2010 – 2014. This is supported with profitability ratio which is calculated using return on asset (ROA) ratio show .025, because of the significant value of ROA ratio is below .05, it proves  $H_1$  is supported and  $H_0$  is rejected.

On the other side the result above show ROE  $t_{\text{formula}}$  value is less than the  $t_{\text{table}}$  ( $-.300 < 2.06$ ). It means that  $H_0$  is supported and  $H_1$  is rejected. Return on an equity ratio has insignificant correlation with stock price of banking companies in Indonesia during 2010 – 2014. This is supported with profitability ratio which is calculated using return on equity (ROE) ratio show .767, because of the significant value of ROA ratio is above .05, it proves  $H_0$  is supported and  $H_1$  is rejected.

Return on assets (ROA) ratio present the ability of some companies to generate income from their own assets. It is calculated from net income divided by total assets. After that, high ROA ratio represent high value of total assets that company own. It will increase the value of company stock price. Company can get high profit through their assets, therefore the investor not to be worry about the going concern of that company.

Besides that, the investor also can get dividend or profit sharing. Another thing is, if the company is settled, it will be more attracting for investor to invest in that company. This condition will make the market price of the company stocks increase, then give benefits to their current investor. It show  $H_2$  has been accepted which is Profitability ratio has correlation with stock price of banking companies in Indonesia during 2010 – 2014 through return on asset (ROA). This result is consistent with Dadrasmoghadam & Akbari (2015) study.

### **The Correlation between Solvency Ratio With Stock Price**

The result of the t test for solvency (debt to equity) ratio will be show on the table below:

**Table 12.**  
**t Test for DER**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	34.973	18.982		1.842	.078		
DER	-2.215	1.936	-.168	-1.145	.264	.932	1.073

From the result, it can be seen the result of DER  $t_{\text{formula}}$  value is less than the  $t_{\text{table}}$  (-1.145 < 2.06). It means that  $H_0$  is supported. Debt to Equity ratio has insignificant correlation with stock price in banking sector during 2010 – 2014 in Indonesia. This is supported with profitability ratio which is calculated using return on equity (ROE) ratio show .264, because of the significant value of ROA ratio is above .05, it proves  $H_a$  is rejected and  $H_0$  is accepted.

Solvency ratio is the ratio that has been used to assess the ability of a company to pay their liabilities, whether it is short-term liabilities or long-term liabilities. If some companies have high solvency ratios, the companies have to maximize their income to cover up their liabilities. It show  $H_3$  is rejected which is solvency ratio has correlation with stock price of banking companies in Indonesia during 2010 - 2014.

## Conclusion and Limitation

This research is conduct to analyze the impact of dividend policy (dividend payout ratio), profitability (return on asset and return on equity) ratio, and solvency (debt to equity) ratio toward stock price of banking companies in Indonesia during 2010 – 2014. Dividend policy (dividend payout ratio) has significant correlation stock price. This result is consistent with Novianti et al. (2013) and DeAngelo & DeAngelo (2005). Profitability ratio which is calculated using dividend payout ratio proves  $H_1$  is supported. Profitability ratio through return on asset ratio has significant correlation with stock. This result is consistent with Dadrasmoghadam & Akbari (2015). Return on a equity ratio has insignificant correlation with stock price. This is supported with profitability ratio which is calculated using return on equity (ROE) ratio show above the standard, it proves  $H_2$  is rejected.

Solvency (debt to equity) ratio has insignificant correlation with stock price of banking companies in Indonesia during 2010 – 2014. DER  $t_{\text{formula}}$  value is less than the  $t_{\text{table}}$ , which is means that  $H_3$  is rejected. Return on equity ratio has insignificant correlation with stock price of banking companies in Indonesia during 2010 – 2014. This is supported with profitability ratio which is calculated using return on equity (ROE) ratio show .264, because of the significant value of ROA ratio is above .05, it proves  $H_a$  is rejected and  $H_0$  is supported.

Dividend policy (dividend payout ratio), profitability (return on asset and return on equity) ratio, and solvency (debt to equity) ratio as a group has significant correlation the stock price of banking companies in Indonesia during 2010 – 2014. F test result show

6.500 with significant value .001. Based on the result,  $H_4$  is supported because of the value of F formula is more than F table value.

Here are some limitations in this research that we found during the research period. The small amount of Bank Companies in Indonesia who listed in ISX. It refers to the amount of the samples in this research. The amount of independent variables is too small. Therefore the result of this research not specific yet. The research conduct based on the duration that has been set which is  $\pm 4$  months, the researcher only can focus direct to the 3 independent variables. Since there are no "total debt" in financial reporting of banking companies. The researcher uses "total liabilities" as a base calculation in calculate debt to equity ratio of solvency ratio. The amounts of the independent variables in this research have to be increase in the next research. To gain more variety result to explain the dependent variable. For the next research, insignificant variables which are solvency (debt to equity) ratio and profitability (return on equity) ratio can be measured with another calculation in order to give clear presentation of those variables. Demography also become limitation of this research. The research was conduct in Indonesia, for some references that researcher cannot find through the internet. The researcher has to use the references that are provided near the research area (JABODETABEK). Explore the research with increasing the amount of the samples to gain clear information or figure of the real condition. Therefore the research will be more supported.

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# **The Working Capital Management and Profitability Analysis on The Leading Dairy Food Industries in Indonesia**

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## **Abstract**

*The main purpose of this study is to analyze trends in the working capital management that impact the profitability of those Indonesian dairy food companies with the highest levels of sales revenue which is listed in Indonesian stock exchange. Working capital management is one of the most important financial decisions in the company that can increase the company's value. The test was adopted to examine return on equity as the dependent variable and average collection period, day payables outstanding, current ratio as the independent variables. The data were taken by using purposive sampling method with level significant of 5%. The result of multiple linear regression analysis indicated there was a positive significant impact of day payables outstanding and current ratio on return on equity. Meanwhile for the average collection period was insignificant negatively impact on the return on equity. Further, in this research is suggested that managers in dairy food industries can optimal their return on equity by balancing between profitability and liquidity, and paying more attention on effectiveness of working capital management. In any case, working capital is a particularly important topic in industry due to the continuous development of technology and rapid changes in business environment.*

**Keywords:** Average Collection Period, Current Ratio, Day Payables Outstanding, Effectiveness, And Return On Equity

## **Introduction**

Working capital is the total current assets of the company as should be available to finance operations company everyday (Agnes, 2015). Company basically requires sufficient capital in conducting its operational activities. It is the company's assets that are rotated continuously in accordance with company objective. Working capital management is also important financial decisions in the company that can increase the company's value. Efficient working capital management involves planning and controlling current assets and liabilities that eliminates risk of inability to meet short term commitments and avoids extensive investment such assets (Lazaridis and Tryfondis, 2006). In the term of working capital, high levels of current assets may decrease risk of liquidity related to cash opportunity cost that invest in long term assets. However, high levels of current assets may affect negatively profitability of the company whereas low level of current assets may result in decreased liquidity and problems in operations (Afza and Nazir, 2009). This study analyzed whether working capital management is able to influence the important variables of dairy food companies profit.

Profitability is one of the most important factors for company to maintain in a competitive environment. It refers to the possibility that the company will be successful financially. In order to measure the profitability of company's performance, return on equity has been used in this study. Return on equity is the amount of net income returned as a percentage of shareholder equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested (Gibson, 2011).

The researcher used the data from ten dairy and food companies listed on the Indonesian Stock Exchange and have the largest total assets of food manufacturers in last five years from 2012 until 2016. The study is focused on the average collection period, the day payables period, and the current ratio that represent the working capital management in this research to see how much influence the average collection period, account payable period, and current ratio to the return on equity.

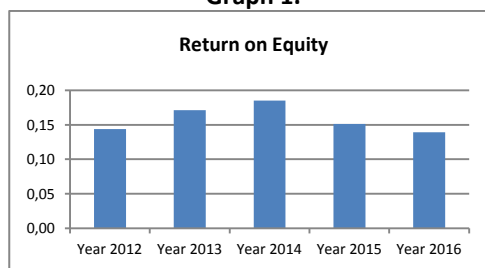
## Literature Review

In the relation to the subject matter, we shall put into consideration the previous researches. The previous research (Akoto et al. 2013) studied relation between working capital management and profitability of the company. It showed average collection period has a negative and relationship toward return on equity, day payables period has positive but insignificant toward return on equity, and current ratio has a positive and statically significant toward return on equity. By choosing a company listed in capital market of India during 2000-2009. Rajesh and Reddy (2011) studied the effect of working capital management on profitability. Results indicated that components of working capital management are effective on performance of companies. Moreover, Gill (2010) provided the result that average collection period has negatively correlated with profitability, and day payables period has no significant effect on return on equity. Besides, Azeez et al. (2016) resulted average collection period has negative significant effect toward profitability, and day payable outstanding has positive significant effect toward profitability.

## Return on Equity

The dependent variable in this research is profitability or return on equity. It is an ability of a company or institution to make a profit within a specified period by using the asset, and the amount of net income returned as a percentage of equity's holder. Return on equity has been expressed as one of a good measurement of profitability, therefore many researchers are used this method (Akoto et al. 2013).

**Graph 1.**

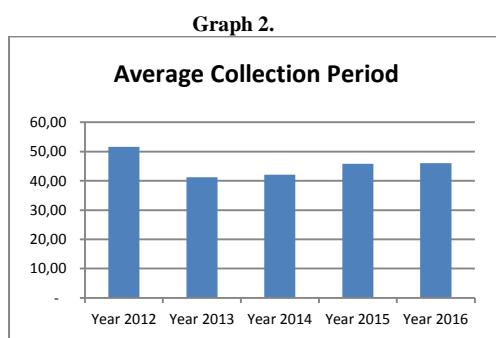


(source: secondary data from idx that has been processed by author)

From graph1,it can be seen that the industries’ average of return on equity increased from 14% in 2012 to 19% in 2014, then back to 14% in 2016.

### Average Collection Period

The average collection period is contrary with the day payables outstanding in short-run activities. It is an account offered by the firm or a company to their consumers. By having good management in collecting receivable are intended to reduce the length of time between the sale and the time of cash payment received. Moreover, it will be undertaken by the customers to the firm or company that give the goods or services. The aim is to reduce the arrears payment by costumers (Majeed et al. 2013).

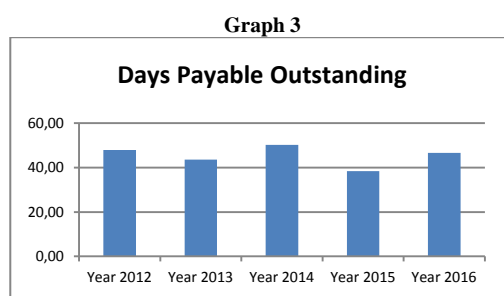


(source: secondary data from idx that has been processed by author)

From graph 2, it showed that the industries’ average of average collection period is increase since 2013 from 41.23 to 46.02 in 2016.

### Day Payables Outstanding

Day payables outstanding is to find how long for a firm or a company can pay their account payable (Gill, 2010). It describes how long it takes a company to pay its invoices from trade creditors, such as supplier.

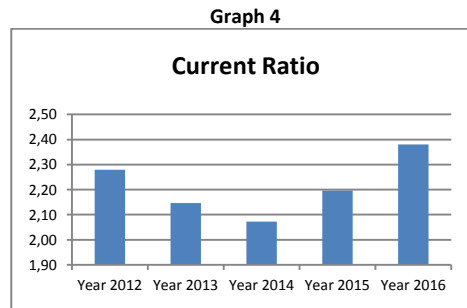


(source: secondary data from idx that has been processed by author)

From graph 3, it showed that this ratio in period 2012-2016 was fluctuated and finally increase to 46.59.

### Current Ratio

Current Ratio is to measure of a company’s liquidity or ability to payoff short-term liabilities, it is calculated by dividing current assets by current liabilities (Usama, 2012).



(source: secondary data from idx that has been processed bt author)

From graph 4, it indicated the ratio decrease to 2.07 in 2014 and increase to 2.28 in 2016.

The availability of data and limitation of time the researchers focus on conducting period 2012-2016. Based on the background above, the author decides to conduct further research with the title “*The Working Capital Management and profitability Analysis on The Leading Dairy Food Industries in Indonesian During 2012-2016*”.

## Research Method

Three main hypotheses have been formulated in order to test the main research question. They were tested in all companies involved by using descriptive analysis and statistical analysis to interpret the data. The purpose of descriptive analysis is to define the condition of the company from the data acquired by the researchers. Statistical analysis is to process the data with the assist of SPSS 23 as statistical tool to run the data. Based on the statement of problem and theoretical framework above, the hypothesis that tested in this research can be stated as follows:

Hypothesis 1: there is a significant relation between average collection period and return on equity of the companies

Hypothesis 2: there is a significant relation between day payable outstanding and return on equity of the companies

Hypothesis 3: there is a significant relation between current ratio and return on equity of the companies

Hypothesis 4: average collection period, day payable outstanding, current ratio have simultaneous influence toward return on equity of the companies

## Data Analysis

In this research, the population is taken from ten leading dairy food companies in Indonesia that listed in Indonesian stock exchange that have met the requirement by applying purposive sampling technique. It used cross-sectional data was taken from secondary data that published in IDX that cover the period from 2012-2016.

The method of present study is correlation to determine the relation between different variables using correlation coefficient. The determination of square of correlation coefficient is a standard that describes the relation between independent and dependent variable. The value of this coefficient indicates how many changes in dependent variable can be explained by independent variable. Descriptive statistic has been used to analyze data including central and scatter indices. It is statistic of data analysis that explain

with description or data picture that already submitted and make it with conclusion that applies to public or generalization.

### Multiple Regression

Based on the result of assumption classic tests result itfound that the data on this research has resulted normally and indicated no multicollinearity, heteroscedasticity, and autocorrelation problems that happened. Thus it meets the requirements to perform multiple regression analysis and perform hypothesis testing. The equation formula is:

$$Y = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \dots + \beta_nX_n$$

From table 1, it conclude the multiple regression equation for the dairy food companies as follows,

$$ROE = 0.20 - 0.1644E5ACP + 0.01DPO + 0.043CR$$

Where,

ACP = Average collection period

DPO = Day payable period

CR = Current ratio

### Result

T-test and F-test are used in this research to conduct a hypothesis testing. The purpose of T test is to define whether each independent variable has partial significant influence toward dependent variable. The purpose of F-test is to define whether all independent variables have simultaneous influence toward dependent variable (Ghozali, 2005).

#### Significant Simultaneous Test (F Test)

Significant Simultaneous Test is taken by comparing the significance value of  $F_{table}$  and  $F_{count}$ . The results: if  $F_{count} \leq F_{table}$ ,  $H_0$  accepted  $H_a$  rejected, for  $\alpha \geq 0.05$ , and if  $F_{count} \geq F_{table}$ ,  $H_0$  rejected  $H_a$  accepted, for  $\alpha \geq 0.05$

Where:

$H_0$ : there is no significant impact of independent variables toward dependent variable

$H_a$ : there is significant impactof independent variables toward dependent variable

Table 1

Anova
F = 12,280
Sig = 0.000

Source: Adjusted by Authors, processing result on secondary data SPSS 23

Based on the table 4.7 result the  $F_{count} 12.280 > F_{table} 4.76$ with the sig. value of F test is 0.000 which is  $<0.05$ . The researcher can reject  $H_0$  and accept  $H_a$ . It means all independent variables affect significantly toward dependent variable.

## Significant Partial Test (T Test)

Table 2. Multiple Regression Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		t	Sig.	Collinearity Statistic	
		B	Std. Error			Tolerance	VIF
1	(constant)	.020	.029	.694	.491		
	ACP	-.1.644E5	.001	-.031	.975	.840	1.191
	DPO	.001	.000	3.141	.003	.990	1.010
	CR	.043	.010	4.491	.000	.836	1.196

a. Dependent Variable ROE

Source: Adjusted by Author, processing by SPSS 23

The first hypothesis states that average collection period has negative insignificant toward return on equity. It can be seen from table 1 that the sig. value  $0.975 > 0.05$  which means  $H_0$  was accepted and  $H_a$  was rejected. Compare to graph 1 and 2, it can be concluded the small increasing of average collection period on companies has no significant impact to return on equity. However the higher number of average collection period will decrease the profitability or return on equity of the company so the lower ratio is the better performance of the company.

The sig. value of day payable outstanding  $0.003 < 0.05$  which means  $H_0$  was rejected and  $H_a$  was accepted. It means day payable outstanding has positive significant impact toward return on equity. In this result find out that if payment to suppliers will take more time, the profitability will increase, because they can use the cash to pay other liabilities or purchase assets. Besides, the sig. value of current ratio  $0.000 < 0.005$  which means  $H_0$  was rejected and  $H_a$  was accepted. It also has positive significant impact toward return on equity. Therefore, the higher number of day payables outstanding and current ratio will increase the return on equity of company so the higher ratio is the better performance of company. This result is in accordance with the result of Azeez et al. (2016).

## Coefficient Multiple Determination Test ( $R^2$ )

$R^2$  is adopted to show how far the independent variables used in the regression equation which is able to interpret a dependent variable, and r square that has been corrected called adjusted r square will adjust if there is an additional independent variable (Ghozali, 2005).

Table 3. Auto correlation Test

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.675 <sup>a</sup>	.456	.419	.06801	1.349

a. Predictors: (Constant): ACP, DPO, CR

b. Dependent Variable ROE

Source: Adjusted by Author, processing by SPSS 23

For the coefficient of determination, the R Square show 0.456 that means that all independent variables which are average collection period, days payable outstanding, and current ratio 45.6% influence simultaneously toward return on equity. The rest is influenced by other variables which are not examined in this research.

## Conclusion and Recommendation

Working capital management is one of the most important decisions in financial management. The development of working capital of dairy and food leading companies in Indonesia during 2012-2016 experience fluctuation with increasing trend. In this research, average collection period has insignificant and negative relationship toward return on equity. The higher number of average collection period will decrease the profitability or return on equity of the company so the lower ratio is the better performance of the company. Current Ratio has positive significant impact toward return on equity. Therefore, the higher number of current ratio will increase the return on equity of company so the higher ratio is the better performance of company. Overall the working capital of the company is the position of positive current assets which are greater than the current liabilities. If the proportion of the use of current assets in working capital is lower compare to the use of current liabilities used to cover debt, it has the potential to reduce the sales and as the result it can reduce the return on equity of the companies. Besides, the result of day payable outstanding has positive significant impact toward return on equity. It means if payment to suppliers will take more time, the profitability will increase. However high day payable outstanding may indicate the companies have significant financial problem. It might be happened because the management is poor and has the cash flow problem.

It is suggested that companies' manager can obtain an optimal working capital management by balancing between profitability and liquidity. Moreover, they have to use proper strategies to manage current liabilities and assets. Managers can have appropriate policies and methods to control average collection period, day payable outstanding, and increase company's cash and to improve working capital of the company. The companies should use working capital according to business activity by selecting a funding source long term debt properly and to manage the operation of business efficiently.

Generally, managers can improve working capital of the company and increase companies' profitability using these strategies that have been mentioned above.

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# **The Ethics of Professional Skepticism: A Study in Indonesia Supreme Audit Institution**

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## **Abstract**

*This research elaborated the influence of ethics to government's external auditor professional skepticism. Ethics has been argued as one important variable affecting auditor professional skepticism. Components of ethics being tested in this research are moral reasoning and perceived importance of moral intent. Theory of cognitive dissonance was utilized to operationalize the hypothesis analysis of this research. The respondents of this research are auditors of Indonesian Supreme Audit Institution (SAI). Questionnaires were spread of in the SAI training institution and being analyzed with regression analysis by SPSS. The result of this study found a positive relationship between moral reasoning and auditor professional skepticism. However, it failed to proof the relationship between moral intent and auditor professional skepticism. This result gives a practical and theoretical contribution to the development of auditor skepticism in public sector.*

**Keywords:** Moral Reasoning, Perceived Importance of Moral Intent, Auditor Professional Skepticism, Theory of Cognitive Dissonance.\

## **Introduction**

Auditor professional skepticism is a crucial concept in every independent audit engagement ( Nelson, 2009). Lack of professional skepticism may cause an audit failure (Beasley et al. 2001 and Nolder, 2012). Security Exchange Commission (SEC) stated that 60% of audit failures came from the lack of audit profesional skepticism. In Indonesia, the Indonesian Supreme Audit Institution (SAI) mentions the importance of auditor skepticism in its audit standard 2007.

Skepticism is closely related to fraud detection and it has been a core concept in audit (Hurt, 2010). A lot of big scandals commercial sectors audit were caused by the lack of auditor skepticism and low auditor moral hazard. Less skeptical auditor will be les able to detect material misstatement and fraud (Bernardi, 1994). However, auditors face multicultural working environment which requires a good ability to handle ethical dilemmas (Friedman, 2005; Sharp, 2006; Ho, 2007).

Auditors have taken a part on many big financial scandals both in private sectors and in public sectors. Many financial cases in private sectors may cause bankruptcy. The example works on the cases of On-Tel, HIH in Australia, Waste Management dan Xerox in America, Permalat in Italia, Harris Scarfe, and many more (Cohen & Bennie, 2006). In Indonesia, the annual potential loss of the Government is around 100 trillion rupiah. It is caused by system inefficiency and fraud. This data was published by SAI.

In those cases, auditor morality and auditor skepticism must be questioned. One of the major causes of financial scandals is an unethical behavior of auditors (McPhail and Walters, 2009). From the side of skepticism, the failure to gather enough evidences may cause the failure to make a right audit judgement. (Beasley et al. 2001). Audit profession is always linked with ethics and professional skepticism. However, there is still little research conducted to analyse the relationship between ethics and skepticism in public sector audit.

It is important to conduct research about ethics and auditor professional skepticism in public sector as difference culture may cause difference phenomenon (Cohen, 2006). Government auditors are paid with the public fund, so they face a big responsibility to public (Metzger, 2002). Moral pressure of government auditors relatively bigger than private sector auditors (Metzger, 2002). Government auditors must have hold their professionalism to meet public expectation. Nevertheless, friendship and hierarchy often prevents auditors from being professional.

This research is aimed to find the relationship between two components of ethics and government auditors' professional skepticism. The two components being tested are moral reasoning and moral intensity. Moral reasoning was one of the traits to professional skepticism (Nelson, 2009), while Jones (1991) argued that moral reasoning is not enough to explain why people behave ethically. Jones (1991) found that moral intensity is influencing ethical decision-making. Moral intensity covers six characters of moral issue during audit engagement.

This research gives theoretical and practical contributions on auditor professional research, especially in government sector. If this research success to proof the relationship between moral reasoning and professional skepticism, it inspires the SAI to put attention to their auditors' moral reasoning during periodical training or during recruitment. The importance of moral intensity may inspire the SAI to train its auditor on how to face such types and characteristics of issues.

## **Literature Review**

### **Theory of Cognitive Dissonance**

This research use theory of cognitive dissonance to explain the logical reason of its hypothesis. It explains that every person has cognitions which can be a belief, behavior, feeling, and perception about him/her self and the surrounding environment. Elements of cognitions can interact each other or it can interact with environment. When there is an inconsistency during the interaction, it causes dissonance. Dissonance makes psychological discomfort, so people tend to reduce the dissonance in many ways (Killian, 1957 and Pepitone, 1959).

There are three common ways to reduce dissonance. First of all, people reduce dissonance by changing their cognition. Second, people may face dissonance by adding a cognition and leave the other cognitions. Majority of people face dissonance by changing their interest and then choose the more important cognition. However, reducing dissonance is neither simple nor easy.

## **Professional Skepticism**

Professional skepticism is a willingness to postpone judgement until getting sufficient audit evidences (Hurt, 2010). There are six components of it, which are questioning mind, suspicion of the judgement, search for knowledge, interpersonal understanding, self respect, and autonomy (Hurt, 2010). Questioning mind and suspicion of the judgement are widely used in research ( Bunge 1991; Kurtz 1992; Fogelin 1994; Nelson 2009). Auditor reduces dissonance by gathering as much as possible related evidence in order to satisfy their cognition.

Skepticism itself can be viewed from neutral or bias poin of view. From neutral view, auditor may not being skeptic to client. Auditor should be critical, but still positive thinking. On the bias side, auditor must be skeptic and believe on the possibility of any material misstatements done by clients (Nelson, 2009; Brown-Libur, 2013). The more skeptical, the more willingness to gather related evidence (Peccer, 1996; Turner 2001; Nelson, 2009). Highly skeptical auditor convince their assertion and minimize the failure of detecting error (McMillan & White, 1993).

Skepticism can be a trait or a state. As a trait, it is an individual variable that relatively stable (Nelson, 2009; Robinson, 2011), but a state, it is a behaviour influenced by the situation (Cohen and Bennie, 2006; Nelson, 2009; Hurtt, 2010; Robinson, 2011; Brown Liburd et al, 2013). Personality, moral reasoning, problem solving ability, and self confidence are the example of traits (Nelson, 2009). Profesional skepticism is an individual variable that contains traits inside (Beeler and Hunton 2002); Grambling 1999; Houston, 1999; Hackenberk, 1992; Nelson, 2009; Robinson, 2011). On the state side, professional skepticism can be difference from one to another situation (Robinson, 2011).

## **Ethics**

Ethics comes from greece language *ethos* which means culture, character, and behavior (Northouse, 2004). Ethics is a philosophical study of morality (Mappes, 1988; Page, 2005; Ho, 2007). Kohlberg (1969) stated that ethics is a moral concept to judge right and wrong. While moral reasoning is the abilty to judge right and wrong when facing ethical dilemmas (Kolhberg, 1958; Rest, 1983). Ethical dilemmas contain situation that requires several alternative of actions and none alternative is either wrong or correct (Thorne, 2000).

Accountant often faces ethical dilemmas in their working environment. The ethical dilemmas asks accountant to take some action or decision. Moral reasoning give a guidelines on how to behave ethically in accordance with professional codes of ethics such as; *due care*, independency, objectivity, skepticism, and integrity (Thorne, 1998; Jones and Ponemon, 1993).

## **Moral Intensity**

Moral intensity is being constructed in by Jones (1991). It argues that individual variable will not be sufficient enough to explain the process on which people face ethical dilemmas (John, 1991). Jones modify previous research by introducing six characteristic of issues as a variable that may influence ethical decision making (Ferrel and Gresham, 1985; ; Rest, 1986).

Those six characteristic is called moral intensity. They are the nature of effects, social consensus, probability of effects to be occured, temporal immediacy, concentration of

effects, and proximity. Temporal immediacy reflects how fast the effect will come. Concentration of effects reflect the numbers of people will be suffering from effects. Proximity means the closeness of the decision maker to effect.

## **Hypothesis Development**

Based on cognitive dissonance theory, when auditor found a misstatement, he/she will face a dilemma whether to disclose or not, how detail the disclosure, and what is the right audit judgement. Auditor may face the dissonance with keeping in a silent, not disclosing the finding. The second choice is to keep attention to the issue by gathering additional evidence or procedures. Those actions done with a purpose of being able to take the best judgement. Taking the best judgement from valid and complete evidence will reduce the auditor dissonance.

As Arnold dan Ponemon (1991) linked moral reasoning to due care, moral reasoning is closely linked to the ability and willingness to detect finding in misstatement (Bernardi, 1994). Auditor with higher score of moral reasoning will act in accordance to the professional standard (Arnold dan Ponemon, 1991). As the moral reasoning score is higher, the less possibility to disobey audit codes of ethics (Bernardi, 1996). In this case, skepticism is a crucial component of audit codes of ethics. Thus, higher moral reasoning auditor will be more skeptical. Previous research done by Rahman (2012) and Sitanala (2010) found evidence that moral reasoning is positively related to auditor professional skepticism.

Auditor with higher moral reasoning score has a better ability to make a better judgement in audit dilemma (Page, 2005). They act carefully and tend to ensure that the evidence gotten is sufficient. Then, this careful act is identically recognized as being skeptical. From above explanation, the first hypothesis in this research is:

H1 : Auditor with higher level of moral reasoning will be more skeptical than auditor with lower level of moral reasoning.

Jones (1991) argued that individual variable will not be sufficient enough to explain the process on which people face ethical dilemmas (John, 1991). Thus, high moral reasoning will not guarantee better ethical decisions when facing dilemma. Moral intensity is more influencing in ethical decision making process (Haines, *et al.*, 2008; Kelley and Elm, 2003). From cognitive dissonance theory point of view, auditor who realize the importance of moral intensity understands the consequence of audit issue. He/she also realized the consequences of audit action taken. Because of this awareness, he/she will be more careful to judge. This carefulness will force him/her to be more skeptical. The auditor will be more willing to add evidence searching and procedures if it is needed. Thus, the second hypothesis is:

H2 : Auditor with higher level of perceived moral intensity will be more skeptical than those with lower level of perceived moral intensity.

## Research Method

### Data Gathering Technique

This research use survey method. Questionnaires were spread of in SAI Training Institution Yogyakarta. The respondent criteria of this research is auditor who is currently active in audit engagement. The repondents are auditor from various provinces. From 96 questionnaires, 71 numbers were back, but only 65 were pass the validity and reliability test. The response rate is 67,7%.

### Operational Variable Definition and Its Instrument

Moral reasoning is the ability to judge right or wrong when facing ethical dilemmas (Kohlberg, 1969; Rest, 1969; Rest, 1999). It is measured with accounting context defining issues test (ADIT). It was developed by Thorne (2000). ADIT score calculation has the same mechanism with the traditional DIT. P-score is only calculated from respons in stages ke 5a, 5b, and 6.

Professional skepticism is a willingness to postpone judgement until getting sufficient audit evidences (Hurt, 2010). The indicators used in this research is suspicion of the judgement and questioning mind. It is being measured with Hurt (2010) instrument to measure professional skepticism and measured with likert scale .

Moral intensity is dimensions contained in the ethical issues that consist of the nature of effects, social consensus, probability of effects to be occurred, temporal immediacy, concentration of effects, and proximity (Jones, 1991). The respondents were asked to what extent the understanding on those dimensions will influence their decision making. Instrument was measured with likert scale.

### Common Method Bias

There are several ways to reduce bias. First, predictor variable is psychologically separated with the criteria variable. Scenario use third party's name. It can minimize self serving bias. Second, researcher guarantee the confidentiality of all information given by respondents. Third, researched is not directly interacted with the respondent. Fourth, the arrangement of questions follow the most convenience sugestion. The most important part was put at first. The hardest part was in middle. The easiest part is at last (Jogiyanto, 2011).

### Data Analysis

Validity test is utilized by factor analysis in order to measure the unobservable construct of professional skepticism (Gudono, 2012). Reliability test is performed to measure the accuracy of measurement procedures (Cooper and Schindler, 2011). Hypothesis testing was performed by simple regression.

$$SP = \alpha + \beta_1 MR + \beta_2 MI + e$$

SP = professional skepticism  
 A= *intercept*  
 $\beta_1, \beta_2$ = regression coefficient  
 MR= moral reasoning  
 MI= Moral Intensity  
 e=*error*

## Result and Discussion

### Demography of the Respondents

From the education level, there are 77% undergraduates, 20% master graduates, and 3% diploma 3. From gender side, 37% woman and 63% man. Majority of ages is on the range of 30-39 years old, which is 55%. The range 20-29 years old are 23% and the rest is between 40-49 years old.

From the analysis of descriptive statistic, the means of Professional Skepticism is 22.94 with deviation standard 3.53, the means of moral reasoning is 38.76 with deviation standard 12.02, and moral intensity score's mean is 3.86 with deviation standard 0.92.

The respondent's profile was gathered based on the information of gender, education level, age, and period years of working in the SAI. Majority respondents are holding bachelor degree and having 6-10 years of working. Based on the gender, 37% are female and 63% are male. Their age is ranged from 20-29 years old (37%), 30-39 years old (55%), and 40-49 years old (8%).

**Tabel 1**  
Descriptive Statistics

Var.	Samples	Range	Min	Maks	Std.Dev	Means
Skept.	65	16	14	30	22,94	3,53
MR	65	65	10	75	38,76	12,02
MI	65	4	1	5	3,86	0,92

### Validity and Reliability Test

Based on the result of factor analysis, KMO test showed 0.817 or 81,7% which means good sample adequacy (Hair *et al.*, 2010; Gudono, 2012). Bartlett's Test of Sphericity is significant 0.000. It means the matrix is a correlation matrix, not identity matrix, so factor analysis can be used.

**Tabel 2**  
Test of Sampling Adequacy

Kaise Meyer – Olkin	
Measured of Sampling Adequacy	0.817
Barletts Test of Spercicity	
Chi-Square	159.791
Df.	10
Sig	.000
Sourced: SPSS	

Test of reliability reflects the consistency of professional skepticism instrument (Sekaran, 2003; Hurt, 2010; Cooper and Schindler, 2011). It is measured by cronbach alpha. It must be more than 0.60 (Nunally, 1994 dalam Ghozali, 2011). The cronbach alpha is 0.857. It passes the criteria.

**Tabel 3**  
Matrix Component

No. Question	Component
	1
S1	.824
S2	.813
S3	.914
S4	.677
S5	.804
Ekstraktion method	Principal

Test of reliability reflects the consistency of professional skepticism instrument (Sekaran, 2003; Hurt, 2010; ; Cooper and Schindler, 2011). It is measured by cronbach alpha. It must be more than 0.60 (Nunally, 1994 in Ghozali, 2011). The cronbach alpha is 0.857. It passes the criteria.

The test of validity used in moral reasoning is face validity. It is based on the DIT manuals issued by the University of Minnesota. It is used because it involves psychological feeling. The respondent who choose the meaningless answer more than 8 score will be dropped. To test the reliability, respondent who give the same rates more than 9 from 12 statements does not passed the reliability test. Six questionnaires or 8,4% were dropped. Rest (1986b) and Thorne (2000) allowed 5% to 15% dropped questionnaires.



## Regression Analysis

From regression analysis performed with SPSS, adjusted R-Square is 0.453. The model may explain 45,3% variation of professional skepticism model. The F value gotten is 27, 472 significance at alpha 0.000 which indicates excellent goodness of fit. Second step, variable can be supported if the t-score must be more than the t-table. The t-score of moral reasoning is more than t-table, which is 7.409 from t-table 1.686. It has p-values significance at 0.000. In conclusion, first hypothesis is supported. On the other hand, moral intensity has t-score 0.349 which is far lower than 1.686. The p-value is 0.729 and it is higher than the significance criteria. The second hypothesis is not supported.

The first hypothesis is supported. It means that moral reasoning is positively related to government auditors' professional skepticism. It confirms previous research done in Indonesia by Sitanala (2010) and Rahman (2012) that stated the positive relationship between auditor moral reasoning and auditor professional skepticism. It also supported Nelson (2009) model on professional skepticism. Moral reasoning is one of traits in professional skepticism. The higher the moral reasoning level, the less possibility to disobey the ethical conduct and it results on the more skeptical mind (Bernardi, 1994).

However, this research failed to proofany relationship between morale intensity and professional skepticism. However, the result of descriptive statistic give a quite small standard deviation of the means. It can be concluded that almost all respondent put attention to moral intensity when facing audit dilemma. It confirms the arguments of Jones (1991) and Cohen and Bennie (2013) which said moral intensity influence the audit decision-making.

## Conclusion

This research has answer the research question which asking the relationship between ethics and skepticism. Based on the cognitive dissonance theory, auditor with higher moral reasoning tends to decrease dissonance by gathering more evidence and willing to postpone judgement until getting enough evidence. The auditor does not want to make a wrong judgement. He or she tends to obey the audit codes of ethics. Thus, the auditor poses higher skepticism too. It is also concluded that the lower the level of moral reasoning indicates the lower score of professional skepticism.

There are two implications for the SAI. First, it is important for the SAI to pay attention to its auditors' moral reasoning level because it will influence their professional skepticism. The SAI may put ethics as one of training materials. The SAI may also put moral reasoning score as one of recruitment criteria. The second implication, moral intensity is assumed to be importantly used when making audit decision. The SAI may gather more research on the details types of moral intensity and how it influence ethical decision-making.

This research failed to find evidenceon whether the better the understanding on moral intensity will create better skepticism. Moral intensity is a state variable. The practice is depending much on the situation. It is suspected to influence ethical decision making, but it can not be captured simply with a perception questionnaire. This research leave an unanswer gap to find another instrument and research method to capture auditor's response toward moral intensity. Probably, the most suitable method is experiment, since

experiment allows researcher to make a unique context and manipulation that enable researcher to deliver more comprehensive situation representing the real condition.

This research has many constraints in term of sampling size, the difficulty level of moral reasoning scenario. In addition, it takes quite long time to finish the questionnaires. It can cause psychological bias. Next research may use traditional DIT rather than accounting context DIT because of the difficulties in understanding the context of scenario. It is indicated by 6 respondents do not passed the meaningless test. Future research could be more understandable if using an Indonesian adapted instruments to improve respondents understanding.

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