Abstract

This study was conducted to see how they affect the cash ratio, debt to equity ratio and return on assets and dividend policy as measured using the dividend payout ratio in the companies listed in the Indonesia Stock Exchange during the observation period 2005-2014. Sampling technique used in this research is purposive sampling in order to obtain the number of samples are 25 companies.

Analysis of the data used in this research is regression analysis using panel data test, and the test model used data from panel data test model is a model of Ordinary Least Square (OLS) and Fixed Effects Method (MET). From the research that has been done can be concluded that the cash ratio, return on assets, debt to equity ratio, earnings pershare significant negative effect using OLS test panel data models and MET.

Keywords: cash ratio, debt to equity ratio, return on assets, dividend payout ratio, Test panel data, MET Model, OLS Model.

I. Introduction

In the Indonesian capital markets is a market that is used to make transactions of various long-term financial instruments in the form of equity and debt with maturities of more than one year. By doing transactions in the capital market, investors are expected to have the advantage of its investments, namely in the form of dividends and capital gains. Sebgaian other investors have the primary goal in placing investments in such companies to seek income or rate of return on investment (return) he has done, whether in the form of dividends (dividend yield) as well as income from the difference between the selling price of the share purchase price (capital gain ). But on the other hand, the company will pay dividends faced with a wide range of considerations, among others, as quoted from the author (Brigham and Gapenski, 1996): the need to withhold part of the profit for re-investment may be more profitable, financing needs, the liquidity of the company, the nature of the shareholders, certain targets relating to the dividend payout ratio and other factors
relating to the dividend policy.

According to (Jensen et al., 1992) provides an understanding of the dividend is a distribution which may take the form of cash, other assets, letter or other evidence that states the company's debts to the shareholders of a company as a proportion of the number of shares held by the owner. As for the dividend policy (dividend policy), (Sartono, 2010) mean that the dividend policy is a decision whether the profits from the company will be distributed to shareholders as dividends, or will be detained in the form of retained earnings to finance future investment.

This research was done by using several variables financial ratios and using panel data test on 25 companies listed on the Indonesian stock exchange during the financial period 2005-2014. The authors assume that the financial ratios is the result of a comparison of items in the financial statements in a given period. Financial ratios are used, among others, is the liquidity ratio as measured by cash ratio, leverage ratio as measured by the ratio of debt to equity ratio, dan profitability as measured by return on assets.

II. Literature Review

- **Theory dividend policy**

Dividends are payments from the company to shareholders on profits earned. According Sutrisno (2001) dividend policy is a policy relating to the payment of dividends by the company, such as determination of the amount of dividends to be distributed and the amount of the balance of retained earnings for the benefit of the company. Yet another case with Gitman (2003) which gives the definition of the dividend policy as a plan of action that must be followed when a company dividend decisions must be made. While Lee and Finerty (1990) defines the dividend policy as a company's decision whether to distribute earnings generated to shareholders or will hold earnings for reinvestment in the company activities.

According to Weston, Brigham and Gapenski (1996) optimal dividend policy is a dividend policy that creates a balance between current dividends and accretion in the future so as to maximize the company's stock price. Prosentasee profit paid sabagai dividend will fluctuate from one period to another in line with the number of opportunities received persahaan. By pays dividends it is expected that the company will have a high value in the eyes of investors. In addition to the continuous dividend payments, the company is able to face the economic turmoil and capable of delivering results to shareholders.

Several theories relating to the dividend policy and the underlying assumptions, among others.
a. Dividends are not relevant

According to Modigliani and Miller (1961) in Sartono (2010) dividend payout ratio has no effect on the company's stock price or cost of capital. Modigliani and Miller stated that the dividend payout ratio is not relevant, then the value of a company is determined by the earning power of the company's assets. While the decision whether the profit earned will be distributed in the form of dividends or detained will not affect the value of the company. To prove his theory, Modigliani and Miller (1961) suggests the following assumptions.

1. There are no personal taxes and corporate income tax
2. No cost or emissions flotation costs and transaction costs
3. The capital budgeting policy independent company dividend payout ratio
4. Investors and managers have the same information about investment opportunities in the future
5. The distribution of income among early dividend retained earnings does not affect the level implied by the investor profits

b. Bird in the hand theory

This theory proposed by Gordon and Lintner (1956) in Ambarwati (2010) which considers the dividends received is something that is definitely on hand so that it has a low risk lebih compared to capital gains. Gordon and Lintner (1956) also found investors prefer dividends because more certain revenue than expected return is uncertain when reinvesting dividends on certain investments.

c. Tax preference theory

Capital gains taxed at lower rates than the tax on dividends, the shares have become more attractive high growth Conversely, if the capital gain is equal with income taxed on dividends, capital gains, the profits to be reduced, however, the tax on dividends as a tax on capital gains paid after the sale of new shares, while the tax on dividends to be paid each year after the payment of dividends. Investment period also affect the income investor if investors only buy shares for a period of one year, then there is no difference between the tax on capital gains and taxes on dividends. Investor will ask for the rate of profit after tax was higher against the stocks that have a dividend yield that is higher than the stock with a low dividend yield. Therefore, this theory suggests that the company should determine the dividend payout ratio is low or even no dividends (Litzenberger and Ramaswamy, 1979) in Puspita (2009).

- Ratio of cash (Cash Ratio)

Cash ratio is one measure of the liquidity ratio (liquidity ratio) which is the ability of the company meet its short-term liabilities (current liability) through a number of cash (and
cash equivalents, such as current accounts or other savings in the bank that can be withdrawn at any time) owned by the company. The higher cash ratio shows the company's ability to meet cash (pay) short-term liabilities (Brigham and Gapenski, 1996). According to Harahap (2009) cash ratio can be formulated as follows.

\[
\text{cash ratio} = \frac{\text{cash + equivalent}}{\text{current liabilities}}
\]

Cash and cash equivalents in the equation indicates the amount of cash and cash equivalents (current accounts and other deposits that uptake is not limited by time) which is reflected in the balance sheet (the assets / current assets). Current liabilities indicates the number of short-term liabilities are reflected in the balance sheet (liabilities / current liability).

Mollah and Keasen (2000) showed that the ratio of cash position is an important variable to be considered by management in dividend policy. Payment of the dividend is a cash outflow, high free cash flow will enable the company to focus more on dividend payments or settle debts to reduce agency costs (Mollah and Keasen, 2000). So the company is getting stronger cash ratio, means the greater the ability to pay dividends.

- **Debt to equity ratio (DER)**

Debt to Equity Ratio (DER) reflects the company's ability to meet all its obligations, which is shown by how much a part of their own capital is used to pay the debt. According to RJ (2000), one of the ratios that are included in the solvency ratio or leverage is debt to equity ratio. This ratio is used to determine what proportion of any capital itself is used as collateral for the overall corporate debt or to assess the amount of debt that is used by the company. Debt to equity ratio is calculated by the total debt divided by total equity (Jensen et al., 1992). According Sartono (2010), debt to equity ratio can be defined by the following equation.

\[
\text{debt to equity ratio} = \frac{\text{total liabilities}}{\text{total equity}}
\]

- **Return on asset**

ROA is a profitability ratio, ie the ratio that indicates how effectively the company is operating so as to produce profit / loss for the company. Ang (1997) mentions that the ROA ratio is used to measure the effectiveness of the company in generating profits by exploiting its assets. This ratio is an important ratio between profitability ratio that exists. According to
Ang (1997) ROA can be measured by the following calculation.

\[
\text{net income after tax} \over \text{total assets} = \text{return on asset} \quad \text{(3)}
\]

ROA higher value would indicate that the company is able to generate a profit versus a relatively high asset. Investors would like companies with high ROA, because companies with high ROA is able to generate the level of profits greater than firms with lower ROA.

- **Previous research**

Research conducted by Chang and Ree (1990), which examines the effect of Growth, Earnings variability, Nondebt Tax Shields, Firm Size and Profitability of the House of Representatives. The conclusion that the variable Growth in this study had no significant effect, but still negatively affect the Dividend Payout Ratio, while variable Earning variability, Nondebt Tax shields, and Firm Size positive effect on Dividend Payout Ratio. In the study conducted by Jensen et al. (1992) concluded that the policy of insider ownership, debt, and dividend associated with the characteristics of the company has a relationship of interdependence.

Research by Mahadwartha and Jogiyanto (2002), examines the effect Investment Opportunity Set (IOS), managerial ownership, firm size, and debt policies towards DPR. The conclusion of the results of these studies is, debt policy, investment as opportunity set, has a positive influence on the House of Representatives. In the variable managerial ownership and size of the company has a negative influence on the House of Representatives.

Ismiyanti and Hanafi (2003) conducted a study that examines the effect of the debt policy, managerial ownership, risk, institutional ownership, return on assets, and fixed assets are measured on dividend policy with a dividend payout ratio of companies engaged in the manufacturing sector on the JSE between 1998-2001. Ismiyanti research results and Hanafi (2003) is that risk and fixed asset has a negative effect on the dividend payout ratio.

While Damayanti and Achyani (2006) conducted a study of all manufacturing companies listed in Jakarta Stock Exchange 1999-2003 period to test the influence of the independent variable investment company, liquidity, profitability, growth, size of the company and the dependent variable dividend payout ratio. The results showed that all of these variables did not significantly influence the dividend payout ratio.

Research by Andriyani (2008), which analyzes the effect of the cash ratio, debt to equity ratio, insider ownership, investment opportunity set, and the profitability of the dividend
policy is done on automotive companies listed in Indonesia Stock Exchange in the period 2004-2006. Research results stated that the cash ratio, debt to equity ratio, investment opportunity set, and return on assets partially significant effect on the dividend payout ratio, while insider ownership no significant effect on the dividend payout ratio.

Amidu and Abor (2006) examine the factors that affect the dividend payout ratio at 22 companies listed on the Ghana Stock Exchange in the period 1998-2003. The variables used for predicting the House is profitability, cash flow, tax, risk, insider ownership, growth, and market to book value. Research results indicate that profitability, cash flow, and tax positive significant effect on the DPR, while the risk, insider ownership, growth, and market to book value significant negative effect on the DPR. And Anil Kapoor (2008) investigated the factors that affect dividend payout ratio on IT companies in India. The variables that allegedly affect dividend payout ratio in these studies is earnings before interest and taxes / total assets, cash from operations, corporate tax / profit before tax, annual sales growth, and market to book value.

Gill et al. (2010) examined the factors that affect the dividend payout ratio at 266 manufacturing and service company in the United States. The variables used in predicting the DPR is corporate profitability, cash flow, tax, sales growth, market to book value, and the debt to equity ratio. Results from this study indicate that the service companies, DPR paid significantly affected by the variable profit margin, sales growth and the debt to equity ratio, while the cash flow variables, tax and market to book value does not affect the DPR. In the manufacturing variables that affect the House is the profit margin, tax and market to book ratio, while the cash flow variables, sales growth and the debt to equity ratio does not affect the DPR.

Appannan and Sim (2011) examined the factors that influence the dividend policy at five companies that enter into the food processing industry category (consumption) which is listed on the Kuala Lumpur Stock Exchange. The variables used to predict the DPR is profit after tax, cash flow, debt to equity ratio, past dividend per share, sales growth, the size of the firm and outstanding shares of the firm. Results of the study showed that the variable debt to equity ratio and past dividend per share is the most powerful variable influence on the House while the variable profit after tax, cash flow, sales growth, the size of the firm and outstanding shares of the firm is not too significant effect on DPR.

III. Research Hypothesis

According to the book Stice (2004) in Puspita (2009) defines as return on assets ROA (return on assets). ROA is a financial ratio used to measure the rate at which the asset was used to generate a profit. The greater the ROA shows a company's performance is getting better, because the greater the return on investment. Thus increasing ROA will also increase dividend income. The company's ability to earn profits is a key indicator in the company's
ability to pay dividends, so the profitability as the most important determinants of the dividend. Amidu research and Abor (2006) show the positive influence of ROA to the House.

Based on the above explanation authors formulate hypotheses as follows.

H1: There is a positive relationship between the cash ratio, return on assets, debt to equity ratio and dividend payout ratio using panel data test OLS models.

H2: There is a positive relationship between the cash ratio, return on assets, debt to equity ratio and dividend payout ratio by using the test panel data models MET.

IV. Research Methods

- **Study Design**

The study design is a plan of the structure that directs the process of research and research results as far as possible be valid, objective, efficient and effective (Jogiyanto, 2007). This study aims to determine the effect of the cash ratio, debt to equity ratio and return on assets in the dividend payout ratio. There are four variables used in this study is the cash ratio, debt to equity ratio, return on assets and dividend payout ratio. Population in this research are manufacturing companies listed on the Stock Exchange in the year 2005-2014. The sample was selected by purposive sampling method. After the sample set, followed by collecting data through non-participant observation method, that is by reading, observing, recording and studying the description of books, journals and business accounting, Indonesian Capital Market Directory (ICMD) as well as accessing Internet sites that relevant. The hypothesis of this study will be analyzed using panel data regression analysis to examine the relationship of cash ratio, debt to equity ratio, return on assets and dividend payout ratio. Results of the analysis are then interpreted and followed by making the conclusion of the study.

- **Location and Time Research**

The study was conducted at the time of March-May 2015 at the Jakarta by downloading data from the official website of the Indonesian Stock Exchange (BEI) is www.idx.co.id and Indonesian Capital Market Directory (ICMD). The unit of analysis in this study is an organization in the form of companies listed on the Stock Exchange in the year 2005-2014.

- **Types, Sources and Data Research**

The type of data

Based on the type, the data used in this research is quantitative data that is data in the form of figures or qualitative data diangkakan (Sugiyono, 2008). Quantitative data in this research
is financial statements and summary of the performance of companies listed on the Stock Exchange in 2005-2014.

Data source

Based on the data source, the data used in this research is secondary data, ie data obtained from sources that do not directly provide the data to the data collector (Sugiyono, 2008). In this study the data obtained from the website of the Stock Exchange and ICMD. Secondary data used in this research is financial statement data and company profile manufacturing companies listed on the Stock Exchange in 2005-2014.

Research Data

Data in this study were selected by purposive sampling method using the following criteria: 1) The company listed on the Stock Exchange in succession from 2005 to 2014 year, 2) the Company publishes its financial statements for the period ended December 31 and 3) Companies dividends ten consecutive years from 2005 to 2014 year.

List of Financial Statement Data Research Company That Made

<table>
<thead>
<tr>
<th>No</th>
<th>Code Name</th>
<th>Issuer name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AKRA</td>
<td>PT. AKR Corporindo Tbk</td>
</tr>
<tr>
<td>2</td>
<td>ASII</td>
<td>PT. Astra Internasional Tbk</td>
</tr>
<tr>
<td>3</td>
<td>AUTO</td>
<td>PT. Astra Otoparts Tbk</td>
</tr>
<tr>
<td>4</td>
<td>BATA</td>
<td>PT. Sepatu Bata Tbk</td>
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<tr>
<td>5</td>
<td>BRAM</td>
<td>PT. Indo Kordsa Tbk</td>
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<td>6</td>
<td>CLPI</td>
<td>PT. Colourpark Indonesia Tbk</td>
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<tr>
<td>7</td>
<td>DLTA</td>
<td>PT. Delta Djakarta Tbk</td>
</tr>
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<td>8</td>
<td>GDYR</td>
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<tr>
<td>9</td>
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<td>PT. Gudang Garam Tbk</td>
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<td>KBI</td>
<td>PT. Sumi Indo kabel Tbk</td>
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<td>13</td>
<td>INDF</td>
<td>PT. Indofood Sukses Makmur Tbk</td>
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<td>15</td>
<td>LTS</td>
<td>PT. Lautan Luas Tbk</td>
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<td>16</td>
<td>KLBF</td>
<td>PT. Kalbe Farma Tbk</td>
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<tr>
<td>17</td>
<td>LION</td>
<td>PT. Lion Metal Works Tbk</td>
</tr>
<tr>
<td>18</td>
<td>LMSH</td>
<td>PT. Lionmesh Prima Tbk</td>
</tr>
<tr>
<td>19</td>
<td>MLBI</td>
<td>PT. Multi Bintang Indonesia Tbk</td>
</tr>
</tbody>
</table>


**Data Analysis Techniques**

According Widarjono (2007, 251), to estimate the parameters of the model with panel data, there are three techniques (models) are often offered, but I only used two models to answer the hypothesis in this study, namely:

1. **Model Common Effect**
   This technique is the simplest technique to estimate parameters of panel data models, which combine cross section data and time seriessebagai one entity without notice of the time difference and entities (people). Where is the approach that is often used is a method of Ordinary Least Square (OLS). Model common Effect ignore individual differences in dimensions or time or in other words, the behavior of the same data among individuals in different periods.

2. **Fixed Effects Model (Fixed Effect)**
   Fixed Effect model approach assumes that the intercept of each individual is different among individuals while the slope is fixed (same). This technique uses a dummy variable to capture the differences between individual intercepts.

**V. Results And Discussion**

When we create a set of panel data, and we want to make the model, then of course the question will arise whether a suitable method for the data available? Common? MET? Or MER ?.

**H1 : Effect of cash ratio, debt to equity ratio, return on assets and dividend payout ratio by using the test model OLS panel data**

With us choose common means we want to estimate the model by OLS, or in other words we use intercept fixed for each individual, is mathematically written by ait = 0. In order to answer the research hypothesis, then we will choose the model common that the results can be seen in the picture below this:
Dependent Variable: CR
Method: Pooled Least Squares
Date: 05/15/15   Time: 02:17
Sample: 2005 2014
Included observations: 250
Cross-sections included: 1
Total pool (balanced) observations: 250
Cross sections without valid observations dropped

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DER?</td>
<td>-0.175804</td>
<td>0.053056</td>
<td>-3.313535</td>
<td>0.0011</td>
</tr>
<tr>
<td>ROA?</td>
<td>3.998004</td>
<td>0.437530</td>
<td>9.137659</td>
<td>0.0000</td>
</tr>
<tr>
<td>DPR?</td>
<td>0.181908</td>
<td>0.063403</td>
<td>2.869081</td>
<td>0.0045</td>
</tr>
</tbody>
</table>

R-squared  -0.074512
Adjusted R-squared  -0.083212
S.E. of regression  0.890074
Akaike info criter.  2.616903
Schwarz criterion  2.659161
Hannan-Quinn criter.  2.633911

Seen that the numbers R^2 is relatively small, and three independent variables was significant for DER, ROA and DPR. Determinant coefficient values indicate that the model describes the relationship between CR, ROA, ROE, and the DPR of 7.45%. So that we can interpret common models slope above that with every change of one point to be able to reduce the cash ratio and increase the value of \{-0.17 DER\} and \{\} 3.99 and 0.18 points.

H2 : Effect of cash ratio, debt to equity ratio, return on assets and dividend payout ratio using panel data test model MET

Given the amount of time that is less than the number of companies, the model recommended models MER, but having chosen the model MER turns out that the method can not be used. So the selection of suggestions suggestions MER or MET, as described above, is not an absolute. Therefore, in this study using MET. After processing in get the following results:

Dependent Variable: CR
Method: Pooled Least Squares
Date: 05/14/15   Time: 19:01
Sample: 2005 2014
Included observations: 250
Cross-sections included: 1
Total pool (balanced) observations: 250
White cross-section standard errors & covariance (d.f. corrected)
Cross sections without valid observations dropped
### Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.965569</td>
<td>0.173080</td>
<td>5.578736</td>
<td>0.0000</td>
</tr>
<tr>
<td>DER?</td>
<td>-0.402364</td>
<td>0.096870</td>
<td>-4.153644</td>
<td>0.0000</td>
</tr>
<tr>
<td>ROA?</td>
<td>0.624815</td>
<td>0.667362</td>
<td>-0.936246</td>
<td>0.3501</td>
</tr>
<tr>
<td>DPR?</td>
<td>0.073318</td>
<td>0.038359</td>
<td>1.911365</td>
<td>0.0571</td>
</tr>
<tr>
<td>Fixed Effects (Cross)</td>
<td>1.92E-16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Effects Specification

- Cross-section fixed (dummy variables)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>Description</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-squared</td>
<td>0.203381</td>
<td>Mean dependent var</td>
<td>0.707610</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.193666</td>
<td>S.D. dependent var</td>
<td>0.855203</td>
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<tr>
<td>S.E. of regression</td>
<td>0.767939</td>
<td>Akaike info criter</td>
<td>2.325659</td>
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<tr>
<td>Sum squared resid</td>
<td>145.0738</td>
<td>Schwarz criter</td>
<td>2.382002</td>
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<tr>
<td>Log likelihood</td>
<td>-286.7074</td>
<td>Hannan-Quinn criter.</td>
<td>2.348336</td>
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<tr>
<td>F-statistic</td>
<td>20.93499</td>
<td>Durbin-Watson stat</td>
<td>0.556518</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.000000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If we look at the output between OLS and MET models, it turns out R^2 is larger by 20.33% figure, if we look for independent variables DER and the DPR also gave the same results with significant OLS models and not to ROA, with the same significant level for each variable to the model OLS and MET. If we interpret slope MET models above that with every change of one point to be able to reduce the cash ratio and increase the value of {-0.40 DER} and {0.62 and 0.07} points.

### VI. Conclusion

Thus from the research it can be concluded that: both ROA and DPR positively associated with CR is not the DER which has a negative relationship with the CR. Every increase in the CR of 1000 dollars will raise ROA and DPR respectively for 3998 and 181.9 dollars and will decrease by 175.8 DER common model. In contrast to the model MET any increase in CR of 1000 dollars will raise ROA and DPR respectively amounted to 624.8 and 73.3 dollars, and there will be a decrease of 402.3 rupiah against the DER. So if we make a conclusion between the two models that have been used in this study, it can be concluded that it is not too far away and significant numbers end results achieved for the forecast increase and decrease the relationship between CR, ROA, DER and DPR.

### Reference


Semarang.


- **Sponholtz Carina, 2005.** “Separating The Stock Market’s Raction to Simultaneous Dividend and Earnings Announcements”. Working paper (University of Aarhus C, Denmark).


- **Sutrisno. 1999.** Analisis Faktor-faktor yang Mempengaruhi Dividend payout ratio padaPerusahaan Publik di Indonesia, FE-Unibraw, Malang.


