The Islamic capital market response to the real earnings management

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A B S T R A C T

This study aims to prove the effect of the company’s status, i.e. membership on the Islamic capital market and the status as suspect firm, as a determinant of real earnings management (REM). REM is conducted by abnormally increasing sales, increasing production and reducing discretionary costs in order to achieve a certain earnings target. This study uses Earnings Distribution Analysis (EDA) technique, which refers to the Prospect Theory (Kahneman & Tversky, 1979) to identify the suspect firms. Suspect firms are companies that have small positive earnings. The samples of this research are companies listed on the Indonesia Stock Exchange in 2011 and 2012. Based on the result of regression analysis, hypothesis testing results show that the suspect firms conduct real earnings management in all three types of activities more aggressively than the non-suspect firms. Furthermore, this study also showed empirical evidence that there are differences in real earnings management actions between companies listed in the Islamic capital market compared to conventional capital markets. Then, this study also showed that the Islamic capital market is more appropriate in response to the REM than the conventional capital market.

A B S T R A K


1. INTRODUCTION

Information is important in the capital market, especially when it is about earnings. According to Penman (2012, p. 220), earnings is one of the sources of information for investment decisions. The investors use current earnings and information in the financial statements to calculate the return of their investment. They will make the decision to invest only in companies that give reasonable positive return. If this mechanism goes well, the capital market will be able to help streamline the distribution of wealth, because the flow of funds leads to a good company to ensure economic growth in order to improve the welfare of society. Therefore, earnings become essential information in the context of investment, especially in the capital market.

Using earnings as one of information for in-
tment decision must pass rigorous assessments. The Financial Accounting Standard does not limit the selection of accounting policies and procedures chosen by the manager to report the earnings. Moreover, the process of selecting accounting policies and procedures are complex and challenging, not just based on considerations about providing high quality information for investors. Therefore, investors have to analyze the earnings quality carefully.

One important thing for analyzing the quality of earnings is the level of the aggressiveness of REM because according to Roychowdhury (2006) REM reduces earnings quality. Therefore, the investors should understand that consequence in order to get good return. Generally, earnings management is an accounting policy choice that is used in order to pack earnings to make it look attractive. Therefore, investors should have high effort to analyze the earnings in order to get a reliable assessment of earnings quality.

The statement is an important argument that the market should respond wisely because the company’s future earnings are not affected by the form of earnings but by the essence of the earnings information itself. Therefore, in order to obtain good information, the market should examine the quality of earnings information, including measures of earnings management. There are arguments underlying the study of market response on the earnings management. For example, the measure reduces the quality of earnings and threatens the company’s value. By doing so, the market imposes sanctions on companies doing earnings management, e.g., they should not buy their shares.

Recent studies identify one form of earnings management based on real activity, not just an accrual (accounting) manipulation. In this case, Mulford (2002, p. 144) stated that real earnings management is the management of real activity originating from business decisions that management used to improve earnings. Another proponent is Roychowdhury (2006) who stated that such measures have a direct impact on cash flow. In addition such measures also have their indirect impact on the accrual.

Real earnings management is new and considered more secure than earnings management based accrual although they have the same big risk for companies and investors. This cause real earnings management to change the company’s normal business. Besides that it can affect the valuation of the company’s performance. Therefore, the market should determine the actions of the risk in order to get the flow of resources to the appropriate qualified companies only and market mechanisms to operate efficiently and effectively.

In relation to the above description, it is still limited for the empirical testing on the market response to the actions of real earnings management. For example, in Brazil Cupertino, Martinez & da Costa Jr. (2015) found that the market did not understand the risks of such action. This is evidenced from the market response that was positive on companies conducting earnings management through sales activities and production.

Based on the above phenomenon and empirical findings, this study examines the existence of real earnings management in Indonesia capital market, followed by the test of differences between the Islamic capital market and conventional capital markets. This research aims to show the differences in the quality of corporate earnings in both types of capital markets. The study also identifies the company that conducted real earnings management by using techniques Earnings Distribution Analysis (EDA) as the study Roychowdhury (2006) and Gunny (2010). The technique refers to the Prospect Theory arguments by Kahneman & Tversky (1979).

The next test is to show the market response over the aggressiveness of real earnings management on each type of capital markets. Those responses were seen through the value of Cumulative Abnormal Return (CAR) around the date of publication of earnings. Purpose of the test is to show the level of investors’ understanding on the quality of earnings. Really, earnings responded better quality than the earnings that are less qualified.

By assuming the efficient capital markets, this research also examines the capital market efficiency in Indonesia. If the market responses to good earnings quality, it can be said that the market is aware of, understand and respond properly to the information so that it can be concluded that the Indonesian capital market semicircular strong. The evidence is important significance for issuers to encourage them to present quality financial information. That understanding also implies an effort to improve the competency of accountants and auditors as the authorities producing financial statements.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Real Earnings Management

According to Roychowdhury (2006), there are
three types of real earnings management as independent variable such as real earnings management through increased sales (MLR sales), increased production (MLR Production), and reduction of discretionary costs (MLR Cost Discretionary). The value of real earnings management through each of these real activities was obtained from the difference between their respective real activities with the normal real activities. Normal activity is calculated by using the model formulated by Roychowdhury (2006) in each group-year industry. The following model to calculate each of the normal activities:

a. Normal Sales (NS)

\[ \frac{N_S}{A_{t-1}} = \alpha_0 + \alpha_1 \left( \frac{1}{A_{t-1}} \right) + \beta_1 \left( \frac{S_t}{A_{t-1}} \right) + \beta_2 \left( \frac{\Delta S_t}{A_{t-1}} \right) + \epsilon_t. \]  

Where:

- \( N_S \) = operation cash flow in year t
- \( A_{t-1} \) = assets in year t-1
- \( S_t \) = sales year t
- \( \Delta S_t \) = difference between sales in year t to the year t-1

b. Normal Production (NP)

\[ \frac{N_P}{A_{t-1}} = \alpha_0 + \alpha_1 \left( \frac{1}{A_{t-1}} \right) + \beta_1 \left( \frac{S_t}{A_{t-1}} \right) + \beta_2 \left( \frac{\Delta S_t}{A_{t-1}} \right) + \epsilon_t. \]  

Where:

- \( N_P \) = cost of goods sold + inventories at year t
- \( A_{t-1} \) = assets in year t-1
- \( S_t \) = sales year t
- \( \Delta S_t \) = difference between year t to the year t-1

3. RESEARCH METHOD

Population and Sample

The samples consist of companies listed in Indonesia Stock Exchange in 2011 and 2012. They were drawn from all kinds of industries except the financial and banking industry. In addition, the samples were also restricted to companies that have a complete financial data, no corporate action, active stock data, as well as the financial statements are presented in nominal amount.

Cumulative Abnormal Return (CAR)

Measurement of CAR as dependent variable in this study use abnormal return which is obtained from the difference of the stock return with the expected return, for 3 days i.e. t-1, t0 and t + 1. The calculation of expected return uses a market model. Related to the calculation of estimated parameters for calculating the expected return, this study uses a range of observations around the publication date of the financial statements, i.e., t-60 and t-10.

This study used two techniques of data analysis, i.e. regression and difference test. Regression was used to analyze the influence of the status of the company, namely the suspect/non-suspect and ICM/non ICM on the level of real earnings management. Multiple regression models were used to include some control variables, namely the size of the company (SIZE), earnings (Net Income) and Return on Assets (ROA). Those variables are proxy of some of the company's fundamental performance.

The second analysis technique is a difference test used to analyze the CAR differences between the two groups of samples based on the level of aggression in real earnings management. The division level of aggressiveness of real earnings management is determined based on the ranking of the value of each real earnings management activities, namely the top 25% (Q1) with 25% in the bottom (Q4). The test is also applied to two sample groups, namely non ICM and ICM to indicate the market response on real earnings management in both types of capital markets.
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1. Real Earnings Management

2. Cumulative Abnormal Return (CAR)

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4. DATA ANALYSIS AND DISCUSSION

Based on observations of companies listed on the Stock Exchange in 2011 and 2012, there are 878 firm-years identified as initial observation. Those observation are divided into 510 firm-years (58%) included in ICM DES and 368 firm-years (42%) that are not included in the ICM. Furthermore, there are 449 firm-years observation that has complete data to calculate variables of the study, with the composition of the company 313 firm-years (69.71%) including ICM and 136 firm-years (30.29%) that are not included in the ICM. The amount as shown in Table 1 is spread on the entire industry, in which the largest portion is on Trade in Services and Investment industry, as 26%.

The statistic description of the two groups of samples based on the variables presented in Ta-

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Samples Description</th>
</tr>
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<tbody>
<tr>
<td>Industries</td>
<td>ICM</td>
</tr>
<tr>
<td>Agriculture</td>
<td>17</td>
</tr>
<tr>
<td>Mining</td>
<td>26</td>
</tr>
<tr>
<td>Basic Industry and Chemicals</td>
<td>50</td>
</tr>
<tr>
<td>Various Industries</td>
<td>26</td>
</tr>
<tr>
<td>Consumer Goods Industry</td>
<td>33</td>
</tr>
<tr>
<td>Property Real Estate and Construction</td>
<td>55</td>
</tr>
<tr>
<td>Utilities and Transportation Infrastructure</td>
<td>22</td>
</tr>
<tr>
<td>Trade in Services and Investment</td>
<td>84</td>
</tr>
<tr>
<td>Total</td>
<td>313</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables (Mean)</td>
<td>ICM</td>
</tr>
<tr>
<td>CAR</td>
<td>-0.004</td>
</tr>
<tr>
<td>MLR Sales</td>
<td>0.018</td>
</tr>
<tr>
<td>MLR Production</td>
<td>-0.145</td>
</tr>
<tr>
<td>MLR Cost Discretionary</td>
<td>0.015</td>
</tr>
<tr>
<td>Size</td>
<td>4.125</td>
</tr>
<tr>
<td>NI</td>
<td>0.025</td>
</tr>
<tr>
<td>ROA</td>
<td>0.006</td>
</tr>
<tr>
<td>N</td>
<td>313</td>
</tr>
</tbody>
</table>
ble 2. The table shows the average value. In general, both groups of samples are significantly different at a level of 5%. General financial performance of each sample group appears on the SIZE variable, NI, and ROA. Company size (SIZE) of ICM group is smaller than the non-ICM group. However, earnings performance (NI) and profitability (ROA) of ICM group is better than the non-ICM group.

An overview of the market response (CAR) in each group showed that the market responded negatively on the earnings information in the ICM group, otherwise the market response to the earnings information non ICM group is positive. Based on the positive accounting theory, this fact shows preliminary evidence that there are differences in response to market on the earnings information in both types of markets, which, of course requires further explanation. Based on these facts, there is prediction that the market also uses the status of the company as important information in making investment decisions.

Table 2 also presents a description of the level of aggressiveness in real earnings management. In general, there are differences in the level of aggressiveness of real earnings management in each sample group, both for MLR in Sales, MLR in Production, or MLR in Discretionary Expense. This is shown from the average value of three of the opposite sign. The table shows that the ICM group did MLR in Sales and MLR in Discretionary Expense more aggressive than non-ICM group. The opposite occurs in MLR in Production.

In general, the level of aggressiveness in real earnings management in the ICM group was higher than non-ICM group. This empirical finding becomes one of the important arguments concerning the finding that the CAR in the ICM group is negative. It means that the market understands that the companies included in the ICM conduct real earnings management aggressively and they are punished by the market in the form of a negative CAR. In contrast, markets reward companies to the non-ICM (in the form of positive CAR) on actions did not do real earnings management aggressively.

This research identifies the companies that were alleged to do real earnings management (suspect-firm) through EDA techniques (Roychowdhury 2006; Gunny 2010; Aflatoonii & Mokaromi 2013; and Chen, Lin & Weng 2013). Firms that suspected of real earnings management reported positive earnings despite the small value. Some of these studies showed that suspect-firm conducted real earnings management (Roychowdhury 2006 and Gunny 2010).
EDA technique is applied only on samples that have a ratio of net earnings per total assets at the beginning of the year in interval -0.075 to +0.075. The restrictions are intended to focus on companies around in the critical point, i.e. 0.000 which is the boundary between profit and loss. There are 229 firm-years (51% of the sample) who complete these criteria. Furthermore, the EDA samples were divided into 30 groups, where each group had intervals of 0.005, which is ordered from -0.075 to +0.075. In order to get a graphic illustration of the EDA, the group calculated each frequency. The EDA is illustrated in Figure 1.

Figure 1 shows the EDA illustration depicting the frequency distribution of earnings which is not normal. The figure shows a drastic increase in the frequency of group 15 (for 6 firm-years) to a group of 16 (as many as 20 firm-years). Group 15 is a sample group that had total assets ratio of earnings per year at the beginning in the interval -0.005 to 0.000, while the group of 16 has the interval 0.000 to 0.005. Similarly, it was also found in the results of observations by Burgstahler & Dichev (1997), Roychowdhury (2006), Gunny (2010), Aflatooni & Mokaromi (2013), Chen, Lin & Weng (2013), and Yuliana, Alim & Anshori (2015).

The explanation of the phenomenon is referred to Prospect Theory (Kahneman & Tversky 1979) due to the behavior of managers to manage earnings in order to push company earnings at a positive value or not showing a loss. Such actions are also consistent with the view that earnings management is a function of anxiety (Albrecht, Stice & Stice 2008, p. 198). One of the triggers for anxiety is when company earnings are at a loss, although its value is small. If the manager of the company reported a loss as it is, then the manager faces the problems related to a possible reduction in the company’s stock price, the possibility of a penalty of creditors/suppliers, may not get a bonus, and other bad consequences. The manager of course avoids it, especially if the loss is small value. One attempt to turn a small loss into positive earnings despite the small value can be done through a subtle way that is earnings management (Penman 2010, p. 608).

In the above condition, the company’s managers have a strong motivation to improve earnings from being negative, although its value is small. They did it by doing real earnings management. Mulford (2002, p. 144) stated that real earnings management is the management of real activity originating from management business decisions that used to improve earnings. The real activities to improve earnings include increased sales, increased production, and the reduced discretionary costs which conduct in the levels exceed the normal business of the company (Roychowdhury 2006).

Mulford (2002, p. 72) called evidence of earnings management techniques of EDA as evidence in academic research side. One way to establish the occurrence of earnings management according to an academic approach is through detecting a
straight increase in the frequency of reporting small positive earnings. On the other hand, it was found rarely the frequency of reporting small negative earnings. Based on these findings, the companies that are in a group of 16 allegedly real earnings management (suspect), whose evidence requires further analysis as part of further discussion.

This section describes the findings about the determinants of the real earnings management which are derived from the status of the company, namely suspect/non suspect and ICM/non ICM. Based on the identification of suspect-firm using EDA techniques, it is necessary to prove that the firm is conducting in real earnings management. Regression test results as shown in Table 3 indicate that the suspect-firm significantly perform real earnings management through reduction of discretionary expense, while the two other real earnings management activity is not the case. Regression coefficients for Suspect variables in the equation of real earnings management through reduction of discretionary expense, showed a negative value (-0.073). The meaning of these values is that the suspect-firms have a tendency to do real earnings management through reduction of discretionary expense more aggressively than the non-suspect-firms.

Empirical evidence shows that the use of Prospect Theory to explain the motivation of real earnings management is only valid on the condition of MLR through reducing discretionary expense, while the other two types MLR (sales and production) requires further explanation. Therefore, this study includes the company’s status as a member of ICM as a determinant of the real earnings management.

Regression test results showed further evidence regarding the effects of the status of companies included in the ICM to the aggressiveness of real earnings management. It also shows that ICM variable is in a positive significance in the regression where the dependent variable is Sales MLR and MLR Discretionary fee. In the test results in which the MLR sales as the dependent variable, the coefficient of ICM is positive significant indicates that the ICM group are more aggressive in conducting real earnings management than non-ICM firms. Furthermore, empirical evidence also shows that the coefficient of ICM in the regression test of MLR Cost Discretionary show a positive and significant value as well. It implies that the ICM group did MLR Discretionary expense more conservatively than non-ICM group.

The coefficients have opposite signs with Suspect coefficient, meaning that the behavior of the two groups differ in conducting MLR Discretionary expense. In addition, the company’s status as a member of the Islamic capital market becomes one of relatively strong argument in explaining the variation in real earnings management. Therefore, this study complements the use phenomenon of Prospect Theory in real earnings management.

This section identifies the results in real earnings management. The real earnings management is affected by the status of the company, whether suspect/non Suspect and ICM/non ICM, this study examines the level of investor awareness of the risks in the real earnings management actions. Before testing the market response to the actions of real earnings management in each status, it first has served the market response to the overall actions of real earnings management, as shown in Table 4. It shows the results of different test market response, which is measured by CAR.

The samples are distinguished by the level of aggression in real earnings management conducted. Q1 group is a group of companies that conduct real earnings management aggressively.

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### Table 5
**CAR Difference Test Results: ICM and non ICM**

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q4</th>
<th>t Test</th>
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</thead>
<tbody>
<tr>
<td>ICM:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLR Sales</td>
<td>-0.001</td>
<td>-0.002</td>
<td>-2.267***</td>
</tr>
<tr>
<td>MLR Production</td>
<td>0.000</td>
<td>0.025</td>
<td>2.185***</td>
</tr>
<tr>
<td>MLR Discretionary Exp.</td>
<td>0.002</td>
<td>0.003</td>
<td>-1.690***</td>
</tr>
<tr>
<td>Non ICM:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLR Sales</td>
<td>0.065</td>
<td>-0.011</td>
<td>1.158</td>
</tr>
<tr>
<td>MLR Production</td>
<td>0.060</td>
<td>-0.012</td>
<td>-0.706</td>
</tr>
<tr>
<td>MLR Discretionary Exp.</td>
<td>-0.016</td>
<td>0.056</td>
<td>2.107***</td>
</tr>
</tbody>
</table>

*; **; and ***, significant at α 10%; 5%; and 1%.
The group was 25% (112 firm-years) top ranks. Instead, Q4 was 25% firm-years which are at the lowest rank. Thus, both have different levels of aggressiveness in real earnings management.

Table 4 shows that there are significant CAR differences between the groups of Q1 to Q4 in all of real earnings management activities. However, these differences have a different interpretation when it is associated with the understanding that real earnings management reduces the quality of earnings. According to this understanding, the CAR in Q1 group should be lower than the Q4 groups.

Empirical evidence shows that this only applies to the CAR different test results on samples of MLR Discretionary fee. It means, that the market understands the risks arising from the MLR discretionary expense. Table 4 shows the average of CAR in the group Q1 is lower than the group Q4, with a significant difference. These results are consistent with previous regression test results which prove that the cause of the MLR Discretionary expense is an opportunist action by manager that turn a negative earnings into a positive earn- ings (see Table 3). Thus, these findings are consist- ent with Capital Market Hypothesis and Positive Accounting Theory.

In different tests on Sales MLR and Production MLR, the empirical facts show precisely the opposite result. CAR in Q1 group is higher than the CAR in Q4 group. The findings are also consistent with previous findings that show empirical evidence that in the Indonesian capital market, Sales MLR and Production MLR were not affected by the company’s status as a suspect/non suspect that the assertion that real earnings management reduce earnings quality unsupported empirical evidence. Based on these facts, it is natural for the market to respond MLR Sales and Production MLR as things that are not bearing risk and do not deserve the penalty of the market.

Especially for testing on samples of MLR Sales, it shows interesting results. CAR with different test results shows that the CAR in companies that conduct sales MLR aggressive is positive and well above the average of the entire sample. The significance of these findings is that the market actually appreciates the Sales MLR action. The findings are consistent with empirical facts on the previous regression test that Sales MLR is not affected by opportunistic behavior of managers (as evidenced from Suspect variables were not significant), but it is conducted by a group of companies included in the DES. Thus, the market considers that the Sales MLR is a business strategy that should be appreciated and its practice applied in companies with sharia label.

This conclusion is supported by the results of different test CAR on each sample group which is distinguished by their status, ICM and non ICM, as shown in Table 5. The results of the different tests show that in general, ICM responds differently three activity MLR based on the aggressiveness, while the conventional capital market is only able to distinguish aggressiveness of MLR Discretionary expense only.

Table 5 shows that in the Islamic capital market, the average of CAR in the sample MLR aggres- sive selling (Q1) is higher as compared to the samples with levels that are not MLR of aggressive sales (Q4). The same was found in samples of non ICM although the differences were not significant. The empirical fact is in line with previous findings, namely that the market responded posi- tively to the MLR Sales. Thus, these findings reinforce the conclusion that, with the assumption of efficient capital markets and the positive account- ing theory, MLR Sales does not reduce the quality of earnings because the market actually appreciates the action.

Further empirical evidence is that the Islamic capital market gives sanction on MLR Production which is shown the value of CAR in Q1 (0.000) lower than the CAR in Q4 (0.025), with significant differences. The evidence shows that the Islamic capital markets understand that the MLR production is somethings that pose a risk it feasible to get a penalty. The fact is different with different test results on samples using non-ICM firms, because it turns the conventional capital market did not prove any CAR differences between sample Q1 to Q4.

The empirical evidence of market response on MLR of Discretionary Expense shows solid evidence that it reduces the quality of earnings, both in Islamic and conventional capital markets. This is supported by the CAR in the group Q1 lower and significantly different from the CAR in Q4 group. From the three types of MLR, MLR of Discretionary Expenses, consistently, show empirical evidence that supports the conclusion. It is stated that the real earnings management reduces the quality of earnings. This finding is consistent with the findings of Cupertino, Martinez & da Costa Jr. (2015) which showed empirical evidence that in Brazil, the market responds correctly only real earnings management actions on MLR Discretio- nary fee.
5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

It is evident that empirically this study shows different evidence. First, for the three real earnings management activities, only real earnings management through reduction of discretionary expense is supported empirically that it reduces the quality of earnings and market appropriately response to such actions. It is also empirically clear that real earnings management through increased sales is precisely the opposite of the theory that real earnings management reduces earnings quality.

Second, this study shows that real earnings management through increased sales actually made by companies that are the members of the Sharia capital market and they gain their market appreciation. However, the real earnings management is the company strategy to increase the value of company. Then, real earning management through increasing products shows the evidence which is less sturdily to reduce real earnings management. Yet, in general, the market failed to response to the exact risk.

In general, this finding can contribute to identifying the performance of real earnings management and the impact to the earnings quality. This study also shows the empirical evident about the market response on the performance of real earnings management. Then, this study shows the empirical evidences that the status of the company as the member of Sharia Capital Market becomes one of the strong determinant of real earnings management. Sharia Capital Market also provides a response more precise on the performance of earnings management.

This research gives opportunities for further research, among others, to test the efficiency of the capital market in Indonesia by a way to include some other variables that proved to be a sturdy become the determinant of market response. Thus, it can widen the conclusion from this study by reexamining more companies. In addition, in relation to the finding, it is obvious that real earnings management does not strongly reduce the quality of earnings. Finally, further studies can conduct research on the determinants of real earnings management by using strategic management.

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