The Effect of Gender Diversity on the Board of Commissioner to Stock Liquidity of Non-Financial Firms Listed in LQ45 During 2013-2017

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ABSTRACT
The purpose of this study is to investigate the effect of board composition (mainly gender diversity of the boards) on the liquidity of the non-financial firms’ stock listed on the LQ45 in 2013-2017. This study used the Ordinary Least Square Regression method to examine the effect of gender diversity (as the main variable of board composition besides Independent Director and Board Size) on stock liquidity in which is divided into three proxies: Amihud Illiquidity Index, Stock Turnover, and Liquidity Ratio. The study shows that gender diversity poses a non-significant effect on a firm’s stock liquidity. Whereas, Independent Director affects stock liquidity positively and significantly.

Keywords: gender diversity, stock liquidity, board composition.

1 INTRODUCTION
Studies regarding gender diversity on the boards of commissar have gathered serious attention in recent years due to its potential to give signals to investors and guidance to firms regarding corporate governance. There are some recent studies on gender diversity on the boards of commissary like the ones that are written by Ahmed et al. (2017) and Loukil et al. (2019). Both studies imply that gender diversity on the boards of commissary has some impact on a firm’s stock liquidity. The existence of females in the boards of commissary imply a better monitoring function and more effective information management (Adams and Fereira 2009) due to the nature of females’ leadership style that puts trust and teamwork as their priorities, while male leaders mainly concern the end-results, sometimes without even bothering if the process was done correctly or not (Cohen et al., 1998). This leadership style requires an adequate flow of information between the board member and investors. Females on the boards of commissary also offer some new perspectives, thus resolving homogenous way of thinking in decision-making (Davies 2011). Good decision-making affects stock liquidity in a way that it leads to the increase of a firm’s performance, thus making it more
reliable to the investors/potential investors. The increase in the firm’s credibility might decrease the hesitation of investors/potential investors to make a transaction on the firm’s stock, thus leading to an increase of stock’s liquidity (Ahmed et al. 2017). Ahmed et al. (2017) studies the effect of a board’s gender diversity on a firm’s stock liquidity in Australia and reveals a significant effect of women’s existence on the board on stock liquidity during 2008 when the regulation of gender diversity of higher management was enforced in Australia. The study also shows that the existence of more than one female on the board affects stock liquidity significantly and positively. These findings are further supported by the critical mass theory in which stated that the more like-minded people working together for the same goal could lead to a better result, in this case, is increasing the monitoring function of the board. The study concludes that the bigger the number of females on board leads to a better monitoring function of the board, thus increasing the firm’s credibility in the eyes of investors/potential investors then increasing the firm’s stock liquidity.

On the other hand, Loukil’s (2019) study, which investigates the effect of gender diversity on the board to information asymmetry in the French Market, reveals that there is no significant impact of the existence of females on board to the bid-ask spread of the firm’s stock that reflected the stock liquidity of a firm. These findings imply that the French Market do not think females on board are determinant in keeping and improving the monitoring function of the board. This study also reveals that the existence of females in family-owned companies can potentially deter investors/potential investors from making a transaction on the firm’s stock, especially if the female member(s) of the board is/are also a family member of the company owners. This finding implies that the French Market sees it as a form of tokenism and as opportunistic behavior of said companies in a way that it is potentially misleading investors/future investors by giving a false impression of females’ forementioned credibility in keeping and improving the monitoring function of the board.

This study aims to examine the effect of gender diversity on the board of commissioner on stock liquidity of non-financial firms listed in LQ45 during the 2013-2017 period. The hypotheses to be tested are:

H1: Gender diversity has a negative effect on stock illiquidity;
H2: Gender diversity has a positive effect on stock turnover;
H3: Gender diversity has a positive effect on liquidity ratio;
H4: Independent director has a negative effect on stock illiquidity;
H5: Independent director has a positive effect on stock turnover;
H6: Independent director has a positive effect on liquidity ratio.

2 RESEARCH METHODS

The samples used for this study were gathered from LQ45, a list of 45 most liquid stocks in the Indonesia Stock Exchange. The nature of the data used in this study was secondary data in the form of daily stock trading data (trading volume and stock price), board’s composition (percentage of females, percentage of independent director, and board size), firm size of its market capitalization, and leverage. Data collection was done through web-search via google.com for the annual reports and finance.yahoo.com for the stock trading data.

This study used all non-financial firms listed on LQ45 of the Indonesia Stock Exchange in 2013-2017 for its’ population target. Some requirements need to be met for the sample to be eligible to be used in this study (1) having a complete annual report during 2013-2017, (2) Stock trading activity must start at least from January 2013, and
having data that can support the variables.

This study used ordinary least squares to assess the effect of its independent variables on its' dependent variables. The independent variables used in this study were Amihud Illiquidity Measure (ILLIQ), stock turnover (TO), and Liquidity Ratio (LR), the three of them are representative proxies of stock liquidity. Percentage of females on boards (PercOfWomen), independent director proportion (INDirector), and board size (BSIZE) are three proxies of board composition to measure gender diversity on the board. Lastly, firm size (FSIZE) and leverage (LEV) are used as the control variables.

The formula for measuring illiquidity is:

\[
ILLIQ_{iy} = \frac{1}{D_{iy}} \sum_{d=1}^{D_{iy}} \left| R_{idy} \right|
\]

where:
- \( ILLIQ_{iy} \) = Illiquidity of stock i year y
- \( D_{iy} \) = trading days of stock i year y
- \( R_{idy} \) = Absolute stock return of stock i day d year y
- \( VOL_{idy} \) = trading volume of stock i day d year y

The formula for measuring stock turnover is:

\[
TO_{iy} = \frac{VOL_{iy}}{N_{iy}}
\]

where:
- \( TO_{iy} \) = turnover of stock i year y
- \( VOL_{iy} \) = trading volume of stock i year y
- \( N_{iy} \) = number of shares i year y

The formula for measuring liquidity ratio is:

\[
LR_{iy} = \frac{\sum_{d=1}^{D_{iy}} (VOL)_{idy}}{\sum_{d=1}^{D_{iy}} |R_{idy}|}
\]

where:
- \( LR_{iy} \) = liquidity ratio of stock i year y
- \( VOL_{idy} \) = trading volume of stock i year y

Since there are three different proxies used to measure stock liquidity, this study has three equations:

1. \( ILLIQ = \beta_0 + \beta_1 \text{PercOfWomen} + \beta_2 \text{INDirector} + \beta_3 \text{BSIZE} + \beta_4 \text{FSIZE} + \beta_5 \text{LEV} + \varepsilon \) (1)

Where \( ILLIQ \) represents Amihud Illiquidity Measure, \( \beta_0 \) is constant value, \( \beta_1, \beta_2, \beta_3, \beta_4, \) and \( \beta_5 \) are regression coefficient, \( \text{PercOfWomen} \) represents the percentage of females on the board of commissary, \( \text{INDirector} \) is the percentage of independent director on the board, \( \text{BSIZE} \) is board size, \( \text{LEV} \) represents leverage, and \( \varepsilon \) represents error term.

2. \( TO = \beta_0 + \beta_1 \text{PercOfWomen} + \beta_2 \text{INDirector} + \beta_3 \text{BSIZE} + \beta_4 \text{FSIZE} + \beta_5 \text{LEV} + \varepsilon \) (2)

Where \( TO \) represents stock turnover, \( \beta_0 \) is constant value, \( \beta_1, \beta_2, \beta_3, \beta_4, \) and \( \beta_5 \) are regression coefficient, \( \text{PercOfWomen} \) represents the percentage of females on the board of commissary, \( \text{INDirector} \) is the percentage of independent director on the board, \( \text{BSIZE} \) is board size, \( \text{LEV} \) represents leverage, and \( \varepsilon \) represents error term.

3. \( LR = \beta_0 + \beta_1 \text{PercOfWomen} + \beta_2 \text{INDirector} + \beta_3 \text{BSIZE} + \beta_4 \text{FSIZE} + \beta_5 \text{LEV} + \varepsilon \) (3)

Where \( LR \) represents liquidity ratio, \( \beta_0 \) is constant value, \( \beta_1, \beta_2, \beta_3, \beta_4, \) and \( \beta_5 \) are regression coefficient, \( \text{PercOfWomen} \) represents the percentage of females on the
board of commissary, \textit{INDirector} is the percentage of independent director on the board, \textit{BSize} is board size, \textit{LEV} represents leverage, and \( \varepsilon \) represents error term.

3 RESULTS AND DISCUSSION

After all the data needed for this research has been collected and tabulated, the next step was to process the descriptive statistics. Following the population characteristics required for this research, there were 48 companies listed in LQ45 that fit the requirements. With five years of research period started from 2013 to 2017, the data studied were 240. Table 1 shows the results of the descriptive data processing for the variables used in this study.

Table 1. Descriptive Data of Companies Listed in LQ45 over the 2013-2017 period

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A. Dependent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>ILLIQ</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>0.000</td>
<td>3.642</td>
<td>17.7</td>
<td>17.7</td>
</tr>
<tr>
<td>2</td>
<td>TO</td>
<td>0.6</td>
<td>0.3</td>
<td>0.004</td>
<td>0.004</td>
<td>0.958</td>
<td>3.337</td>
<td>17.0</td>
</tr>
<tr>
<td>3</td>
<td>LR</td>
<td>0.1</td>
<td>0.0</td>
<td>1.744</td>
<td>0.000</td>
<td>4.275</td>
<td>28.1</td>
<td></td>
</tr>
<tr>
<td><strong>Panel B. Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PercofWomen</td>
<td>0.0</td>
<td>0</td>
<td>0.67</td>
<td>0.139</td>
<td>1.970</td>
<td>7.25</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>INDtor</td>
<td>0.3</td>
<td>0.3</td>
<td>0.833</td>
<td>0.142</td>
<td>1.019</td>
<td>7.71</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BSize</td>
<td>5.7</td>
<td>6</td>
<td>12</td>
<td>2</td>
<td>1.672</td>
<td>0.835</td>
<td>5.07</td>
</tr>
<tr>
<td><strong>Panel C. Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>FSize</td>
<td>30.30</td>
<td>30.30</td>
<td>33.32</td>
<td>28.42</td>
<td>0.823</td>
<td>0.247</td>
<td>3.55</td>
</tr>
<tr>
<td>8</td>
<td>LEV</td>
<td>0.4</td>
<td>0.5</td>
<td>1.963</td>
<td>0.018</td>
<td>0.207</td>
<td>1.207</td>
<td>12.2</td>
</tr>
</tbody>
</table>

In this research, the fixed-effect model weighted white cross-section method is used for illiquidity (\textit{ILLIQ}), while stock turnover (\textit{TO}) and liquidity ratio (\textit{LR}) use the random effect model white cross-section method. The results are as shown in Table 2.

Table 2. The Results of Regression Analysis

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Coeff.</th>
<th>t-Statistic</th>
<th>Coeff.</th>
<th>t-Statistic</th>
<th>Coeff.</th>
<th>t-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PERCOFWomen</td>
<td>0.00</td>
<td>2.4</td>
<td>0.02</td>
<td>2.4</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>INDirecTor</td>
<td>0.00</td>
<td>3.3</td>
<td>0.01</td>
<td>3.3</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BSIZE</td>
<td>0.00</td>
<td>2.1</td>
<td>0.04</td>
<td>2.1</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>LEV</td>
<td>0.00</td>
<td>2.1</td>
<td>0.04</td>
<td>2.1</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>FSIZE</td>
<td>0.00</td>
<td>4.3</td>
<td>0.04</td>
<td>4.3</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>C</td>
<td>0.01</td>
<td>4.4</td>
<td>0.04</td>
<td>4.4</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>

The regression shows that \textit{PercofWomen} has a significant positive effect on \textit{ILLIQ}, which means that the higher the gender diversity, the higher the stock illiquidity of a company. These results imply that there might be tokenism happening in which females are used only to fulfill the status quo without accounting for their competency in monitoring function as a board of commissioners. The lack of competency in monitoring function might cause the asymmetry of information, thus
making the investors reluctant to make transactions on the stock and increase the stock's illiquidity (Zelechowski & Bilimoria 2004). Gender diversity can also heighten the potential of discrimination (Alexander et al. 1995, Blau 1977), increase the probability of conflicts (Richard et al. 2004), and decrease cohesion, satisfaction, also commitment in the company (Jackson et al. 2003, Pfeffer 1983) in which might decrease the effectiveness of the monitoring function in the board of commissioner. The effect of PercofWomen on TO and LR are found to be insignificant, which means that gender diversity does not matter to the stock liquidity of a company. As human capital theory stated, management behaviors are affected by social values, psychological characteristics, and the country's demography where the company resides. CSRI (Credit Suisse Research Institute) found that in 2015 the percentage of females on the boards of the companies in Indonesia is only 11.5% and decreased to 10.9% in 2016. There are some reasons behind the lack of appreciation of females in higher management positions, one of them being Indonesian is still holding on to a hierarchical and patriarchal mindset that puts males forward and foremost as a leader in an organization. This kind of mindset also makes females reluctant to advance their careers further because there is a perception that it will ruin the work-life balance and put their family at risk of abandonment (Khidhir, 2019).

Another implication from these results is that local investors do not account for gender diversity in the board of comissionary as a part of their signaling tools for their investment decisions, thus making its' effect insignificant to the stock liquidity.

As seen in Table 2, INDirector has a significant negative effect on illiquidity, which means the more independent director in a board of commissioner, the less their stock illiquidity. Board member independence tends to decrease agency problems by giving a better flow of information (Foo & Zain, 2010), thus making investors more eager to do the transaction on the stock. Another implication is that independent board members tend to give a more comprehensive financial report, thus decreasing information asymmetry between the company and investors, making the stock liquidity increase. These implications can also be applied to the effect of INDirector on stock turnover.

4 CONCLUSION

Based on the research results and discussions that have been stated, it can be concluded that gender diversity does not have a significant effect on stock liquidity. However, it potentially negatively affects stock liquidity since Indonesian still sees higher position females as a negative thing. These findings are contrary to the hypotheses that have been formulated. Independent board's member has a significant positive effect on stock liquidity which align with the hypotheses that have been formulated. This is because independent board members tend to give more comprehensive information and a better flow of information, thus decreasing agency problems, making investors more eager to do transactions in said stocks.
REFERENCES


