Effect of Corporate Social Responsibility, Leverage, Firm Age and Size on Firm Value

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Abstract
This study aims to analyze the effect of corporate social responsibility, leverage, firm age, and size on firm value and its review from an Islamic point of view. This study was conducted at LQ 45 firms listed on the Indonesia Stock Exchange. This study uses secondary data for the period 2017-2021. The sample in this study was determined using purposive sampling so that 16 firms were obtained with a total of 80 LQ 45 Firm data. The method used is panel data analysis with the Eviews 12 application. The study results show that simultaneously, the ratio of corporate social responsibility, leverage, firm age, and firm size significantly influence the prediction of firm value. Furthermore, the corporate social responsibility ratio partially does not influence firm value. In contrast, the leverage ratio, firm age, and firm size negatively affect firm value. The variables of leverage, firm age, and firm size are very much a consideration for investors to choose a good firm or not; therefore, these variables significantly affect firm value.

Keywords: Firm Value, Corporate Social Responsibility, Leverage, Firm age, Firm size.

1. Introduction
The firm's primary goal is not only to profit in carrying out its business activities but also to increase the firm's value. Hence, shareholders' welfare grows continuously (Alfianita & Santosa, 2022). Firm value is the most important factor that makes investors decide to invest in the firm or not. The firm value achieved by a firm is an illustration of public trust in the firm after going through a process of activities for several years, namely since the firm was founded until now. Increasing firm value is an achievement that follows the wishes of stakeholders. Firm value is the investor's perception of the firm (Dzikir et al., 2020) (Budiantoro et al., 2022).
High firm value can attract investors to invest in the firm. The firm that goes public can increase prosperity through increasing the value of the firm, including through the stock price. It has resulted in many firms wanting to go public and trade their shares on the Indonesia Stock Exchange to provide profitable signals to investors. Firms that have gone public experience an increase in operational and financial performance, increasing share prices on the Indonesia Stock Exchange, thus increasing the firm's overall value (Putri & Budiyanto, 2018) (Santosa et al., 2020).

One of the indicators to assess the value of the firm has good prospects or not in the future is to look at the firm's ability to generate corporate profits as an indicator of a firm fulfilling obligations to its funders (Wahyuni, 2018). The firm's goal is to maximize the value of the firm, which is reflected in its share price. The following annual graph of sample firm data LQ 45 listed on the Indonesia Stock Exchange is shown below:

![Figure 1. Stock Price of LQ 45 Firms](image)

The most significant impact experienced by listed firms in this phenomenon is shareholder value. This is because shareholder value will decrease due to sharp stock price instability. If the firm cannot maintain shareholder value, the trust or interest in buying shares while making the firm's value in the eyes of the public will also decrease (Kalbuana et al., 2021)(Santosa, 2020).

The value of a firm cannot be described only by the firm's stock price, but various methods can be used to measure the high and low of a firm, and one of the measuring instruments that can be used is Tobin's Q (Mediyanti et al., 2021). In general, Tobin's Q is one of the ratios in measuring firm value; Tobin's Q is a ratio measurement tool that defines firm value as a form of value of tangible assets and intangible assets. Tobin's Q can also describe the effectiveness and efficiency of the firm in utilizing all resources in the form of assets owned by the firm (Albart et al., 2020)(Dzahabiyia et al., 2020).

The internal factors that affect firm value include Corporate Social Responsibility (CSR), Leverage, Firm age, and Firm size. Potential investors often use these factors to assess the firm's ability to increase firm value. Because in the firm's assessment, each factor relates to the firm's value (Santosa et al., 2022).

Based on the explanation above, this research problem can be formulated, namely whether the internal factors above can affect the firm's value in LQ 45 firms. This study also aims to know whether these internal factors affect the firm's value in LQ 45 firms.

2. Literature Review and Hypothesis

Several factors can affect firm value. The first factor, corporate social responsibility, is a form of corporate responsibility in repairing the social-environmental gap due to the firm's operational
activities (Ardimas et al., 2014). This shows that firms implementing CSR will respond positively as the firm adds value from market participants. According to Faisal et al. (2019), corporate social responsibility cannot be separated from Indonesia's increasing social problems and environmental damage, such as deforestation, air and water pollution, climate change, and labor welfare. The success parameter of a firm from the perspective of corporate social responsibility (CSR) is to prioritize moral and ethical principles, namely achieving the best results without harming other community groups (Astika et al., 2019).

This research used GRI Standards (Global Reporting Initiative), which aims to assist firms in preparing sustainability reports by presenting important information related to the most critical organizational issues using the content analysis method. The GRI Standards have undergone several adjustments in substance until the currently published ones contain 2 (two) aspects of general standards with 62 indicators and aspects of specific standards with 89 indicators. The specific standards contain CSR disclosure indicators that are divided into 3 (three) performance categories, namely Economic Performance (code-200), Environmental Performance (code-300), and Social Performance (code-400).

Another factor that affects firm value is leverage. Leverage is a description of using a firm's debt to finance the firm's operational activities. The level of corporate debt can also indicate whether the firm's finances are healthy; namely, excessive debt generally causes financial distress problems. Using debt in a reasonable and controlled ratio can increase business and firm value, making it a positive signal for investors (Suwardika and Mustanda, 2017).

Firm age is the next variable that can affect firm value. Dewi & Susanto (2022) argue that the firm's age is the time the firm was founded until an indefinite time. Firms with a longer age usually have excess information and experience in managing their firms compared to firms that are still a few years old. This is because the firm already has many working hours (Hamdani, 2020).

Firm size is the next variable that can affect firm value. Firm size describes the size of a firm, which can be seen based on the size of total capital that the firm uses, total assets that the firm has, and total sales that the firm gets (L. A. Dewi & Praptoyo, 2019). According to Subing (2017), large firms have accessibility, so the flexibility of large firms is also greater. Large firms also have many business units and good potential to increase the firm's long-term value.

Based on the explanation of the relationship between the variables mentioned above, referring to the theory and supported by previous research, corporate social responsibility (CSR), leverage, firm age, and firm size can affect firm value. Therefore, corporate social responsibility (CSR), leverage, firm age, and firm size affect firm value.

![Figure 2. Research Framework](image-url)
Based on the results of analysis and review in the conclusions and suggestions section of several previous researches, the following hypothesis can be formulated:

**The Effect of Corporate Social Responsibility (CSR) on Firm Value**
The results of research on the effect of corporate social responsibility (CSR) on firm value were conducted by Karina and Setiadi (2020). A better implementation of corporate social responsibility (CSR) by the firm will increase its value, so it is expected to increase firm awareness to carry out corporate social responsibility (CSR) activities and disclosure. So, in the long term, it can achieve good market performance. This is supported by Wahyuni (2018), with the results of research indicating that corporate social responsibility affects firm value. This proves that corporate social responsibility can increase the firm's awareness of carrying out corporate social responsibility activities to repair environmental damage due to firm activities, thereby increasing the firm's value.

**H1:** Corporate social responsibility (CSR) significantly affects firm value.

**The Effect of Leverage on Firm Value**
Kalbuana et al. (2021) state that leverage negatively influences firm value. Large excess debt will hurt firm value. According to Dewantari et al. (2020), this study used the Debt to Equity Ratio (DER) indicator to measure leverage. DER is the ratio between the firm's debt and capital used as business funding. The greater the leverage, the greater the risk that the firm will not be able to pay its obligations, thus affecting the decline in firm value.

The creditor in borrowing funds also looks at the capacity of the loan to the firm; this is seen from the management aspect (the ability to manage the firm), the production aspect (production capability), the marketing aspect (the ability to market its products), the personnel aspect (the ability in terms of quantity or quality of labor) and the financial aspect (financial statements and also the firm's financial ratios). If the firm wants to borrow a high amount of funds, it must also have a high capacity, at most, the productive assets owned. On the other hand, with high debt, if the investment made cannot produce profitable results, it will harm the firm because it bears high financial risk, and this will cause investors to no longer be interested in investing their capital. According to the description above, the hypothesis formulated is as follows:

**H2:** Leverage significant effect on firm value.

**The Effect of Firm Age on Firm Value**
Soleman et al. (2022) state that the age of the firm shows that the firm still exists, capable of competing and taking advantage of business opportunities in an economy. The firm's age can be measured from the date of its establishment. The firm's age in this study uses the date the firm was founded. This is because the condition of the firm will be seen from the age of the firm. The research on firm age on firm value conducted by Tunggal and Ngatno (2018) shows that firm age influences firm value. Firm age is one of the reasons for investors to invest because it is considered a description of the success of the firm's survival ability to face the flow of business competition and take advantage of available business opportunities.

**H3:** Firm age has a significant effect on firm value.

**The Effect of Firm Size on Firm Value**
Firm size is a scale where the firm's size can be classified in various ways, including total assets, log size, stock market value, etc. Firm size is considered capable of influencing firm value because the larger the size or scale of the firm, the easier it will be for the firm to obtain funding sources, both internal and external. These results are under signal theory, which states that the larger the firm's size, the more interested investors will be in buying its shares (Octaviani, 2017).

A large firm's size signals investors that it has a more stable financial condition and is easier to obtain funding sources, making it more attractive for investors to buy its shares. It will encourage an increase in firm value. Firm size significantly influences performance and value directly and
indirectly because it impacts firm characteristics, image, and goodwill (Putra, 2018; Santosa, 2020). So from the description above, the hypothesis made is as follows:

**H4:** Firm size has a significant effect on firm value.

**The Effect of Corporate Social Responsibility, Leverage, Firm age, and Firm size on Firm Value**

Based on the explanation of the relationship between the variables mentioned above, referring to the theory and supported by previous research, Corporate Social Responsibility (CSR), Leverage, Firm age, and Firm size can affect firm value. Therefore, the hypothesis is made as follows:

**H5:** Corporate Social Responsibility (CSR), Leverage, Firm age, and Firm size affect Firm Value.

**3. Data and Method**

Based on the analysis approach, this research uses quantitative research. Quantitative research explains the relationship between variables by analyzing numerical data (numbers) using statistical methods through hypothesis testing. The data in the form of numbers is collected, then analyzed and described to get the correct conclusion (Utami & Pardanawati, 2017).

According to Sugiyono (2017), population is a generalization area consisting of objects or subjects with certain qualities and characteristics set by researchers to study and then draw conclusions. According to (Pongoh, 2019), a sample is a subset of population units. This study's samples comprised 16 LQ 45 firms listed on the IDX. Using purposive sampling technique. Purposive sampling is a non-random sampling technique where the researcher first determines the specific characteristics that follow the research objectives so that it is expected to be able to answer the problems in the study.

The data source used in this study is secondary data from the financial statements of LQ 45 firms listed on the Indonesia Stock Exchange through the website www.idx.co.id for 2017-2021. The type of data used in this study is quantitative data. This study uses data collection as a documentation method by collecting, recording, and reviewing secondary data on the financial statements of LQ 45 firms from each firm's official website.

This research was conducted at LQ 45 firms listed on the Indonesia Stock Exchange. The data for this study were obtained through the website www.idx.co.id. This study uses the last five years, namely 2017-2021, because that year is the latest and easy to collect data. Data analysis using the Normality Test, Classical Assumption Test, Multicollinearity Test, Heteroscedasticity Test, Autocorrelation Test, and Hypothesis Test using t-test, F test, and Coefficient of Determination (R2).

The analysis technique used to determine the effect of Corporate Social Responsibility (CSR), Leverage, Firm age, and Firm size on Firm Value is to use panel data estimation with the econometric analysis model used as follows:

\[ Q = \beta_0 + \beta_1\text{CSRDi}_{it} + \beta_2\text{DER}_{it} + \beta_3\text{AGE}_{it} + \beta_4\text{SIZE}_{it} + \varepsilon_{it} \]  

(1)

**Keterangan:**

- **Q** = Firm Value
- **\( \beta_0 \)** = Constant
- **\( \beta_1, \beta_2, \beta_3, \beta_4 \)** = Coefficient of Regression
- **CSRDi** = Corporate Social Responsibility (CSR)
- **DER** = Leverage
- **AGE** = Firm age
- **Size** = Firm size
- **\( \varepsilon \)** = Error Term
- **i** = Research Entity
- **t** = Research Period
4. Results and Discussion

The descriptive statistical analysis in this research provides information about the independent variables in this study, such as Corporate Social Responsibility, Leverage, Firm age, and Firm size. This study includes 80 observations from the total number of panels or samples of 16 firms multiplied by the five-year research period from 2017 to 2021. The descriptive statistics are in the following table:

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Max</th>
<th>Min</th>
<th>Std.Dev</th>
<th>Kv</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOBINS Q</td>
<td>80</td>
<td>0.424654</td>
<td>1.595621</td>
<td>-0.253797</td>
<td>0.399114</td>
<td>93,91</td>
</tr>
<tr>
<td>CSR</td>
<td>80</td>
<td>0.195002</td>
<td>0.064539</td>
<td>-0.433322</td>
<td>0.116370</td>
<td>59,68</td>
</tr>
<tr>
<td>DER</td>
<td>80</td>
<td>4.383869</td>
<td>5.803164</td>
<td>2.864474</td>
<td>0.777258</td>
<td>17,73</td>
</tr>
<tr>
<td>AGE</td>
<td>80</td>
<td>3.854045</td>
<td>4.682131</td>
<td>2.564949</td>
<td>0.451225</td>
<td>11,71</td>
</tr>
<tr>
<td>SIZE</td>
<td>80</td>
<td>3.433892</td>
<td>3.661268</td>
<td>3.183246</td>
<td>0.084808</td>
<td>2,47</td>
</tr>
</tbody>
</table>

Source: Data processing, 2023

The maximum value of the dependent variable (Y), namely the firm value proxied by Tobin's Q, is 1,595,621, and the minimum value is -0.253,797. Then, the dependent variable (Y) firm value has an average value (mean) of 0.424,654 and a standard deviation value of 0.399,114. The independent variable (X) is corporate social responsibility (CSR), with a maximum value of -0.064,539 and a minimum of -0.433,322. In addition, corporate social responsibility (CSR) shows an average value (mean) of 0.195,002 with a standard deviation value of 0.116,370.

The Leverage variable with the Debt to Equity Ratio (DER) proxy has a maximum value of 5,803,164 and a minimum of 2,864,474. In addition, DER shows the average value (mean) is 4,383,869 with a standard deviation value of 0.777,258. The Firm age variable with the AGE proxy has a maximum value of 4,682,131 and a minimum of 2,564,949. In addition, AGE shows the average value (mean) is 3,854,045 with a standard deviation value of 0.451,225.

Furthermore, the firm size variable with the SIZE proxy has a maximum value of 3,661,268 and a minimum of 3,183,246. In addition, SIZE shows an average value (mean) of 3,433,892 with a standard deviation value of 0.084,808. Thus, the firm size variable has data with a good distribution. It indicates that the dependent and independent variables have a small data distribution because the standard deviation value is smaller than the average value (mean). Thus, the dependent and independent variable data is good data distribution.

The FEM model approach is conducted to be compared with the CEM model through the Chow Test (Likelihood Test). This approach assumes differences in intercepts, but intercepts that vary only concerning individuals concerning time are constant.

The output of data processing for the FEM approach in this research is shown in Table 2 below:

<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>12.42599</td>
<td>2.200459</td>
<td>5.647000</td>
<td>0.0000</td>
</tr>
<tr>
<td>CSR</td>
<td>-1.170399</td>
<td>1.095924</td>
<td>-1.067956</td>
<td>0.2898</td>
</tr>
<tr>
<td>DER</td>
<td>-0.0132380</td>
<td>0.061286</td>
<td>-2.160032</td>
<td>0.0348</td>
</tr>
<tr>
<td>AGE</td>
<td>-2.344406</td>
<td>0.443666</td>
<td>-5.284166</td>
<td>0.0000</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.761174</td>
<td>0.256123</td>
<td>-2.971909</td>
<td>0.0043</td>
</tr>
</tbody>
</table>

R-squared: 0.950271
Adjusted R-squared: 0.934524
Source: Data processed, 2023

Based on Table 2, the R-squared value in the FEM model estimation results is 0.950271 or 95.02%, meaning that the independent variable corporate social responsibility (CSR), leverage, firm age, and firm size has an effect of 95.02% on firm value. The Adjusted R-squared value is 0.934524 or...
93.45%, meaning that the independent variable affects 93.45% of the dependent variable by considering the standard error.

The independent variable, corporate social responsibility (CSR), shows a significant level above 0.05 and a negative coefficient value, which means that this variable does not affect firm value. In comparison, the variables of leverage, firm age, and firm size show a significant level below 0.05 and a negative coefficient value, which means these variables have a negative and significant effect on firm value.

Furthermore, the Random Effect Model approach uses residuals that may be interconnected between time and individual firms. The REM approach method is processed for comparison with the FEM method in the Hausman test. The Random Effect Model approach of this study can be seen in Table 3 below:

<table>
<thead>
<tr>
<th>Table 3. Random Effect Model Estimation Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>CSR</td>
</tr>
<tr>
<td>DER</td>
</tr>
<tr>
<td>AGE</td>
</tr>
<tr>
<td>SIZE</td>
</tr>
<tr>
<td>R-squared 0.196839</td>
</tr>
<tr>
<td>Adjusted R-squared 0.154003</td>
</tr>
</tbody>
</table>

Based on Table 3, the R-squared value of 0.196839 or 19.58% and the Adjust R-squared of 0.154003 or 15.40% in the Random Effect Model are smaller than the fixed effect model previously obtained. So what is obtained for the Chow test, Hausman test, and Lagrange multiplier test is as follows:

<table>
<thead>
<tr>
<th>Table 4. Result of Optimal Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chow test</td>
</tr>
<tr>
<td>Hausman test</td>
</tr>
<tr>
<td>Lagrange Multiplier</td>
</tr>
</tbody>
</table>

After conducting the Chow test, Hausman test, and Lagrange multiplier test, the results are the same from the Chow test and Hausman test and different from the Lagrange multiplier test. To determine which model is more suitable to be applied in this study is to see the most selected model, namely FEM. So it can be concluded that the Fixed Effect Model (FEM) is the most appropriate approach for the t-test because FEM has a value below 0.05.

**t-Test**

1. Corporate Social Responsibility

Based on Table 2, the results show that the Corporate Social Responsibility variable has a coefficient of -1.170399, T-count -1.067956 < T-table of 1.992. With a significance level of 0.2898 > 0.05. This result illustrates that the independent variable Corporate Social Responsibility **does not affect** firm value. Thus, the first hypothesis, which states that corporate social responsibility affects firm value, cannot be accepted (rejected).

2. Leverage

Based on Table 2, the results show that the independent variable Leverage denoted by DER has a coefficient value of -0.132380, T-count -2.160032 < T-table of 1.992. With a significant level value of 0.0348 <0.05. From these results, leverage affects firm value. Thus, the second hypothesis, which states that leverage affects firm value, can be **accepted**.
3. Firm Age
Based on Table 2, the firm's age has a coefficient value of -2.344406, T-count -5.284166 < T-table 1.992. With a significance level value of 0.0000 < 0.05. From these results, firm age affects firm value. Thus, the third hypothesis, which states that firm age affects firm value, can be accepted.

4. Firm Size
Based on Table 2, firm size has a coefficient value of -0.761174, T-count -2.971909 < T-table of 1.992. With a significance level value of 0.0043 < 0.05. From these results, firm size affects firm value. Thus, the fourth hypothesis, which states that firm size affects firm value, can be accepted.

F-Test
Based on Table 2, the probability value (F-statistic) is 0.000000, which is smaller than the determined significance level (\(\alpha = 0.05\)). So it can be concluded that the hypothesis accepts Ha, that is, simultaneously, corporate social responsibility, leverage, firm age, and firm size significantly affect the prediction of Firm Value.

Determination Coefficient Test (R2)
Based on Table 2, the results of the Coefficient of Determination (R2) test are obtained in the form of an Adjusted R2 value of 0.934524, which illustrates that the independent variables corporate social responsibility, leverage, firm age, and firm size can explain the variation in the dependent variable firm value by 93.45%. The remaining 6.55% represents that firm value can be influenced by other factors not contained in the model. There is a strong influence between corporate social responsibility, leverage, firm age, and firm size on firm value.

Results of Panel Data Regression Analysis:

\[
Tobins'Q_{it} = 12.4259 - 1.17039 \text{CSRDi}_{it} - 0.1323 \text{DER}_{it} - 2.3444 \text{AGE}_{it} - 0.7611 \text{SIZE}_{it} \quad (2)
\]

Description:
1. The constant value is 12.42599, meaning that if the CSRDi, DER, AGE, and SIZE variables are worth (0), then the firm value (Tobin's Q) will be 12.42599.
2. The coefficient value of CSRDi is -1.170399, meaning that it has an inversely proportional or unidirectional relationship, namely if every increase in CSRDi 1 unit will reduce the firm's value (Tobin's Q) by 1.170399 with the assumption that other variables are constant.
3. The DER coefficient value is -0.132380, which means it has an inversely proportional or unidirectional relationship, namely, if every increase in DER 1 unit will reduce the Firm Value by 0.132380, assuming other variables are constant.
4. The AGE coefficient value is -2.344406, which means that it has an inversely proportional or unidirectional relationship, namely if every increase in AGE 1 unit will reduce the Firm value (Tobin's Q) by 2.344406 assuming other variables are constant.
5. The SIZE coefficient value is -0.761174, which means that it has an inversely proportional or unidirectional relationship, namely if every increase in SIZE 1 unit will reduce the Firm value (Tobin's Q) by 0.761174, assuming other variables are constant.

Recommendation
1. It is hoped that further research can add other variables such as liquidity, profitability, and solvency, while in this study, corporate social responsibility, leverage, firm age, and firm size.
2. In future research, it is better to add the number of samples with a longer time range because this study only used 16 samples, and the length of the study was 5 years.
3. In further research, it is better to use other, more widespread firms so that they are not only fixated on LQ 45 firms.
Limitations and avenue for future research

1. This research is only limited to the independent variables of the level of corporate social responsibility, leverage, firm age, and firm size, and the dependent variable is only limited to firm value.

2. This research is only limited to observations for five years, from 2017 to 2021, sourced from the IDX, so it must be tested again for validity for the following years.

3. The object of this research is limited to LQ 45 firms listed on the Indonesia Stock Exchange.

References


