# AUDIT QUALITY AND SEGMENTAL REPORTING QUALITY DETERMINE THE COST OF EQUITY

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## ABSTRACT

*In the present day, many corporation start to diversifed their business to increase their competititveness. For those companies who have operating segments, they need to publish information regarding operating segments for related party as additional information to give their judgment for company's performance. This information is important for investors so they can make the right invesments call. Therefore, the main objective for this research are to test and analyze the effect of audit quality on cost of equity, and also to test and analyze the effect of audit quality on cost of equity through segments disclosure quality. This research is designed with quantitative approach with hypothesis. Type of data gathered is quantitative data gathered from financial statements and stock price, all of which are secondary data. The research object consist of manufacturing corporations listed on Indonesia Stock Exchange during the period 2014-2018. Analysis data techniques utilized in this study simple linear regression and Sobel Test. The result of this research indicates that audit quality has a negative effect on cost of equity. And also segment disclosure quality doesn't mediate the relation between audit quality to cost of equity.*

## ABSTRAK

*Saat ini banyak perusahaan yang melakukan diversifikasi untuk meningkatkan daya saingnya. Bagi perusahaan yang memiliki segmen operasi, maka diperlukan adanya informasi segmen operasi bagi para pihak yang memiliki kepentingan di perusahaan sebagai informasi tambahan untuk menilai kinerja perusahaan. Hal ini penting bagi para investor sehingga mereka dapat mengambil keputusan investasi dengan tepat. Oleh karena itu tujuan dari penelitian ini adalah untuk menguji dan menganalisis pengaruh kualitas audit terhadap biaya ekuitas perusahaan, serta pengaruh kualitas audit terhadap biaya ekuitas perusahaan melalui kualitas pelaporan segmen perusahaan. Desain penelitian ini adalah penelitian kuantitatif dengan hipotesis. Jenis data yang digunakan adalah data kuantitatif sekunder yaitu laporan keuangan dan harga saham. Objek penelitian adalah perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia pada tahun 2014-2018. Teknik analisis data yang digunakan pada penelitian ini adalah regresi linear dan uji Sobel. Hasil penelitian menunjukkan bahwa kualitas audit berpengaruh negatif terhadap biaya ekuitas. Berikutnya untuk kualitas pengungkapan segmen tidak memediasi hubungan antara kualitas audit dengan biaya ekuitas perusahaan.*

## INTRODUCTION

Currently the business world has entered into the era of globalization and free markets, where this phenomenon makes competition between companies become more intensive. To survive, companies must carry out various strategies. One strategy commonly used by companies to be competitive is diversification. Diversification is an effort to develop diversity of products and locations that are later expected to increase cash inflows or in other words the benefits for the company. However, diversification itself is not an easy strategy to implement because it has a high business risk. The risk arises from the decision to diversify which causes the company to enter a new business environment. Research must be done first so that the company knows whether the product to be made can be well received or not by the market. With this diversification strategy, the financial statements that used to be sufficient for decision making are now lacking and must be supplemented by operating segment reports.

A segmented operations report is one of three financial data that a company has information value and is used in addition to the income statement and cash flow statement. Information about segment operating activities helps users of financial statements to conduct valuation and investment analysis, because in the report there is information for users of financial data, especially investors to understand in detail the performance of each operating segment in the business entity.

Operating segment according to the Indonesian Institute of Accountants (2015) in Statement of Financial Accounting Standards (PSAK) No. 5, is a component of an entity that: (1) engages in business activities to earn revenue and incur expenses, (2) The results of its operations are regularly reviewed by operational decision makers for resource allocation and performance evaluation, and (3) availability of information finances that can be separated. The company must report information separately for each operating segment that meets certain sales, asset and profit criteria in the segment reporting as part of the financial statements.

To regulate the disclosure of operating segments, the International Accounting Standard Board forms a standard namely International Financial Reporting Standards (IFRS) 8 Operating Segments. This standard was later adopted by IAI in the formation of the 2009 revised PSAK 5, which was adjusted to 2014 PSAK 5 adjustments. Because IFRS standards are principle-based, PSAK 5 is the same. The result of this is that there is an option in providing segment information that is required in the standard. For example, a company can disclose the liabilities of each segment reported, but if the amount is provided regularly to operational decision makers (IAI, 2015). Research by Muhammad and Siregar (2013) shows that the average level of disclosure of operating segments in companies on the Indonesia Stock Exchange in 2010 and 2011 was 65%. Therefore, PSAK 5 is not the only factor underlying the disclosure of operating segments in the company but there are still other factors. Some of these factors include company size, audit quality, company age, public ownership, profitability, leverage, the company's growth rate, agency costs, ownership costs, and business diversification. In this study the factor to be investigated is audit quality.

Audit is a process that has the objective to reduce the information asymmetry between the agent and the principal. In addition, the audit is also a process to validate the company's financial statements. In a study conducted by Susanto and Siregar (2010), audit quality has no effect on the company's equity costs. This is because investors are indicated to still not see the effect of KAP size on information risk which is a determinant of the required rate of return. The results of this study differ from studies conducted by Houqe, Ahmed, and Zijl (2015). In their working paper, audit quality has a negative influence on the cost of equity. They found that using auditors from KAP Big 4 as a mechanism to monitor corporate governance can reduce earnings management, and reduce equity costs.

For research on the effect of segment disclosure quality, this study uses research from Muhammad and Siregar (2013) and Abbas, Habbe, and Pontoh (2015) as a reference. In the research of Muhammad and Siregar, audit quality has a positive influence on the quality of segment reporting because KAP Big 4 has many clients so that they are able to ask their clients to disclose information more widely and completely. Then in their research, the quality of segment disclosure has no effect on the cost of equity. According to their research results, these results could be due to companies still not disclosing information in full and in full. The company feels the cost to present more comprehensive segment information is greater than the benefits gained. In contrast to the results of Muhammad and Siregar's research, Abbas, et al (2015) found that audit quality has no effect on the quality of segment reporting because disclosures made by companies audited by Big 4 KAP are not different from companies audited by KAP Non Big 4. The cause is segment disclosure is mandatory disclosure. Then for the quality of segment reporting has a negative influence on the cost of equity. As the quality of segment reporting increases, companies can provide more complete information. This reflects a decrease in information asymmetry that makes the cost of equity capital will be reduced.

## THEORETICAL FRAMEWORK

### Agency Theory

Jensen and Meckling (1976), in Abbas, et al (2015) state that information asymmetry theory is an implication of agency theory that explains the relationship between principals and agents, where principals as owners of capital or funding sources, while agents manage the use and control of these resources. The agent will manage the company on behalf of the principal. However, the relationship between agents and principals can lead to conflicts of interest due to differences in the goals and interests of the principal and agent.

Conflicts of interest between principals and agents cause information asymmetry. Information asymmetry is a condition where the company's stakeholders do not have the same information about the company. The agent has more information than the principal because the agent acts as the manager of the company. To reduce information asymmetry, financial reports are needed as a tool for principals to find out how the real condition of the company is. The financial statements can be used to assess the performance of agents in managing principals' resources (IAI, 2015). However, for companies that use a diversification strategy in their business, financial statements in general are not enough for the principal to assess the performance of agents in the company. Operational segment reporting is needed to disclose the information available in each segment so that the principal's evaluation can be more comprehensive.

### Operating segment

The main principle of PSAK 5 is that entities disclose information that enables users of financial statements to evaluate the nature and financial impact of the business activities in which the entity is involved and the economic environment in which the entity operates (IAI, 2018). PSAK 5 is applied to the entity's financial statements and the consolidated financial statements of the business groups with the parent entity: (1) Whose debt instruments or equity instruments are traded on the public market (domestic or foreign capital markets or over-the-counter, including local and regional capital markets), or (2) Who has submitted a registration statement, or is in the process of filing a registration statement, with the capital market regulator or other regulators for the purpose of publishing all classes of instruments on the public market.

In PSAK 5 concerning Operating Segments, it is explained that the operating segment is a part of a business entity that is (1) Engage in business activities to earn income and incur expenses, (2) The results of operations are regularly reviewed by operational decision makers to allocate resources and assess performance, and (3) Separate financial information is available. The entity will report information separately about each operating segment that: (1) has been identified as meeting the segment criteria or the results of aggregation of two or more segments, (2) Exceeding the quantitative threshold.

### Hypothesis Development

#### The effect of audit quality on the cost of company equity

According to De Angelo (1981, in Alim et al., 2007) audit quality is the probability that an auditor can find a violation by a client and be able to report the violation. In the study of Dang et al (2018) found that audit quality can reduce the cost of equity because the auditor is considered to be a mechanism to detect information distortion, improve information quality, and ultimately reduce investment risk and optimize decision making.

This study uses the Big 4 audit firm as a determinant of audit quality because the Big 4 audit firm is considered to be able to provide better audit quality because they have the pressure to better protect their brand or reputation than the Non Big 4 Firm. As mentioned earlier, the Big 4 Firm general has advantages over Non Big 4 Public Accounting Firms that make them considered more capable in producing better audit quality, namely having a large and diverse number of clients, having a variety of services offered, covering a wide area, and having a large number of auditors. With a good audit quality, the quality of information will also be more guaranteed for users of financial statements, in relation to the cost of equity means investors. Based on the description above it can be concluded that:
H1: Audit quality has a negative effect on the cost of company equity.

#### The effect of audit quality on company equity costs through segment reporting quality

The quality of segment disclosure is the content of information conveyed by companies as measured by earnings variability in Return on Assets (Abbas et al, 2015). Benefits for the entity arise when disclosure of information creates a low cost of equity. Through disclosure, the company can provide investors and creditors with an understanding of the company's operations and the risks they contain.

In the research of Muhammad and Siregar (2014) and Fakhfakh, Shabou, and Pige (2018) who found that audit quality has a positive effect on the quality of segment disclosures because the reports audited by Big 4 KAP will be more reliable and in accordance with standards. This is caused by the capability, knowledge, and independence of the Big 4 firm better. The auditing provided by the Big 4 firm can improve the quality of segment reporting and ultimately the quality of the financial statements themselves.

High audit quality will improve the quality of segment disclosures. This will later be reflected in the cost of the company's equity. With Big 4 firm which is considered capable of providing good audit quality and improving the quality of segment reporting, it is expected that the information asymmetry between companies and users of financial statements will also be reduced. The decline in information asymmetry causes investment risk is also reduced, so the return on investment or in other words the cost of equity will decrease.
H2: Audit quality has a negative effect on the cost of corporate equity through the reporting quality of corporate segments

## RESEARCH METHOD

*Identification, Definition and Operationalization of Variables*

*Audit Quality (AQ)*

Audit quality (AQ) is the possibility that an auditor can find a violation committed by a client, whether intentional or not, and is able to report these findings (De Angelo, 1981). Dopuch and Simunic (1980, in Abbas et al., 2015) stated that audit quality is closely related to the audit company's reputation. This study measures audit quality with dummy variables. If the company is audited by Big 4 Firm it will be given a value of 1 while if the company is audited by Non Big 4 firm it will be given a value of 0. Big 4 firm here is (1) KPMG, (2) Deloitte, (3) PriceWaterhouseCoopers (PWC), (4) Ernst & Young (EY).

*Segment Disclosure Quality (SDQ)*

This study uses mediating variables in the form of segment disclosure quality (SDQ). The quality of segment disclosure is the information content delivered by the company as measured by earnings variability in Return on Assets (Abbas et al, 2015). The formula of earnings variability between segments is as follows.

$$ROA_s = \frac{Laba\ Operasi_s}{Aset_s}$$

$$AdjROA_s = (ROA_s - ROA\ Industri_s) \times \frac{Aset_s}{Total\ Aset}$$

$$SDQ = \ln(2 + max\ AdjROA_s - minAdjROA_s)$$

Where s is an indicator with a range of 1 to k, with k as the number of segments owned by the company.

*Cost of equity (PEG)*

The cost of equity is the rate of return desired by investors if they invest their assets in the company, related to the risk that must be borne by investors (Abbas et al., 2015). This study uses the PEG ratio to measure the cost of equity. Kitagawa and Gotoh (2011), in Abbas, et al. (2015) states that the PEG ratio is superior compared to other equity cost measurements because the PEG ratio as a valuation model of abnormal earnings growth is able to provide an appropriate risk assessment and projection.

$$PEG = \ln\left[\sqrt{\frac{eps_{t+2} - eps_{t+1}}{P_t}}\right]$$

Where:
PEG = estimated cost of equity
$eps_{t+2}$ = earnings per year t + 2
$eps_{t+1}$ = earnings per share in year t + 1
$P_t$ = year stock price t

*Sampling Technique*

The population of this study is manufacturing companies listed on the Stock Exchange in the period 2014 - 2018. Based on purposive sampling criteria, the number of samples used in this study amounted to 50 samples during the study period with the following criteria: (1) There are 20 manufacturing companies that do not publish annual reports in a row, (2) There are 42 companies that do not have businesses multi segment, (3) There are 49 companies that do not have complete data related to what is needed in this study, such as: segment assets and segment operating profit, (4) There are 4 companies that do not present financial statements in rupiah and end on December 31, (5) There are a total of 7 companies that have a negative PEG ratio in 2014, 14 companies in 2015, and 9 companies in 2016. Apart from the results of purposive sampling, there are 4 data detected as outlier data and not used so that the regression model feasible to use.

**Table 1. Sampling Technique Result**

| Description | 2014 | 2015 | 2016 |
|---|---|---|---|
| Population: Manufacturing companies listed on IDX | 143 | 143 | 143 |
| Does not meet criteria: | | | |
| 1. Manufacturing companies that were not registered continuously on the IDX during the 2014-2018 pe- | (20) | (20) | (20) |
| 2. The companies are not multi segment business. | (42) | (42) | (42) |
| 3. Companies do not have complete data related to what is needed in this study, such as: segment assets and operating income | (49) | (49) | (49) |
| 4. The financial statements are not presented in rupiah and end December 31 | (4) | (4) | (4) |
| 5. PEG ratio is negative | (7) | (14) | (9) |
| Sample per year | 21 | 14 | 19 |
| Total sample | 54 | | |
| Outlier | (4) | | |
| Final sample | 50 | | |

## DATA ANALYSIS AND DISCUSSION

*Descriptive Statistics*

The results from the descriptive statistics of segment disclosure quality (SDQ) and cost of equity (PEG) are as follows.

**Table 2. Descriptive Statistics**

| Variable | N | Min. | Max. | Average | Std. Dev. |
|---|---|---|---|---|---|
| PEG | 50 | -1,95 | 0,15 | -0,8837 | 0,50320 |
| SDQ | 50 | -0,16 | -0,07 | -0,1322 | 0,01669 |

Table 3 shows result of frequency test for audit quality (AQ).

**Table3. Frequency Test**

| Description | Frequency | Percentage |
|---|---|---|
| 0.0 | 28 | 56,0 |
| 1.0 | 22 | 44,0 |
| Total | 50 | 100,0 |

*Goodness of Fit Test*

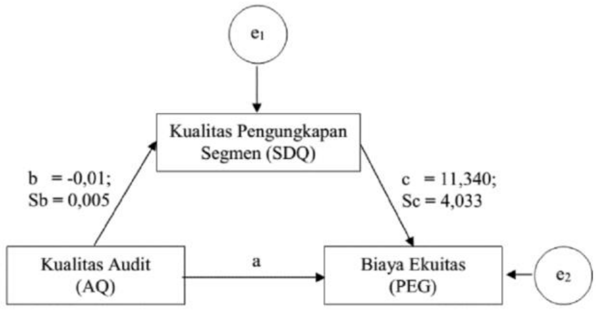
F statistical test is used to determine the goodness of fit regression model. If the significance value <0.05, it can be interpreted that the regression model is feasible to be used in research (Ghozali, 2016: 96). In table 4 shows all models meet the criteria for goodness of fit test.

**Table 4. Goodness of Fit Test**

| Equa- | $R^2$ | Adj. $R^2$ | F-stat. | Sig. |
|---|---|---|---|---|
| 1 | 0,113 | 0,095 | 6,125 | 0,017 |
| 2 | 0,082 | 0,063 | 4,311 | 0,043 |
| 3 | 0,141 | 0,124 | 7,905 | 0,007 |

*Data Analysis*

Figure 1 shows results of path analysis.




Hypothesis testing using mediation variables can be done by a procedure developed by Sobel, known as the Sobel Test. The Sobel test is used to test the strength of the causal relationship indirectly between the independent variables, namely audit quality, to the dependent variable, namely the cost of equity through the quality of segment disclosures as mediating variables.

Table 5 shows the components used for Sobel Test. The calculated t value obtained is -1.575 where the t-test is smaller than the t-table of 2.012. These results indicate that segment disclosure quality (SDQ) cannot mediate the relationship between audit quality (AQ) and cost of equity (PEG)

**Table 5. Sobel Test**

| Independent variable | Dependent Variable | B | Std. Error |
|---|---|---|---|
| AQ | SDQ | -0,01 | 0,005 |
| SDQ | PEG | 11,340 | 4,033 |

$$S_{bc} = \sqrt{c^2 s_b^2 + b^2 s_c^2 + s_b^2 s_c^2}$$

$$S_{bc} = \sqrt{(11,340)^2(0,005)^2 + (-0,01)^2(4,033)^2 + (0,005)^2(4,033)^2}$$

$$S_{bc} = 0,072$$

$$t = \frac{(-0,01)(11,340)}{0,072}$$

$$t = -1,575$$

*Discussion*

*Effect of Audit Quality on Equity Costs*

The results of testing the hypothesis of the effect of audit quality on equity costs indicate that audit quality has a significant negative effect on equity costs so that the first hypothesis in this study is accepted. The results of this study support research conducted by Houqe, et al (2015) who also found that audit quality has a negative effect on equity costs. However, the results of this study differ from studies conducted by Susanto and Siregar (2010) where their research found that audit quality has no effect on equity costs.

Based on the theory of information asymmetry by Jensen and Meckling (1976), conflicts of interest between principals and agents occur because of differences in the goals and interests of principals and agents. The conflict caused information asymmetry between the principal and the agent, where the agent had more information than the principal because the agent was the manager of the company. The existence of information asymmetry results in the need for financial statements as a tool for principals to find out how the actual condition of the company, from which the report can be used to assess the performance of agents on the management of resources entrusted by the principal (IAI, 2015). High information asymmetry will also lead to high equity costs. One way to reduce information asymmetry to reduce equity costs is to audit financial statements.

Audit quality itself is a possibility where an auditor can find a violation committed by a client, intentional or not, and is able to report the findings. (De Angelo 1981; in Deis, Jr. and Giroux., 1992). The financial statements audited by qualified and internationally recognized audit firms, in this case Big 4 firm, give signals to investors about the quality of the company's performance, thereby increasing their confidence (Hoque, etc., 2015). Moreover, companies with a good reputation will voluntarily use Big-4 to show their performance. Therefore, these factors reduce the risk associated with information asymmetry so that the cost of equity will decrease.

*Effect of Audit Quality on Company Equity Costs through Quality of Company Segment Reporting*

The results of testing the effect of audit quality on the cost of corporate equity through the reporting quality of corporate segments indicate that there is no significant effect. This is indicated by the sobel test results which indicate the quality of segment reporting cannot mediate the relationship between audit quality and equity costs.

The results of this study support research conducted by Muhammad and Siregar (2014) where the quality of segment disclosures has no effect on the company's equity costs. According to Muhammad and Siregar, this was caused by the company still not disclosing segment information in accordance with reporting standards. Muhammad and Siregar (2014) said that there might be a lot of segment information that has not been disclosed, even though it has actually been determined by reporting standards.

When the report from segment disclosure itself does not include information needed by users of financial statements, then the quality of segment disclosures will automatically decrease. Without a quality segment report, users of financial statements will analyze from other factors or ignore the segment report from the company. This makes the quality of segment reporting considered not to be a mediation between audit quality and cost of equity.

## CONCLUSION

Based on the results of testing this research hypothesis, two conclusions can be obtained. Audit quality negatively affects the cost of equity so that the first hypothesis is accepted. This is because the existence of an audit of the financial statements by auditors from Big-4 gives investor confidence that the risks associated with information asymmetry have been minimized so that the cost of the company's equity is reduced.

The quality of segment disclosures cannot mediate the relationship between audit quality and equity costs so the second hypothesis is rejected. This is because there are still companies that have not yet disclosed all information determined by the reporting standards.

There is a limitation for segment disclosure quality as a mediating variable. Therefore, future research must find other mediating variable, such as the quality of accounting information.

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