The effect of audit tenure on information asymmetry: Investigating the role of auditors in achieving a more transparent organization (Target 16.6 SDGs)

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Abstract. One of the SDGs targets is the achievement of transparency of the organization. Information asymmetry is a condition in which management's information is not in balance with shareholders/stakeholders. This study also investigates whether specialist auditors can reduce information asymmetry. Regression analysis using 274 observations of financial data from firms listed on the Indonesia Stock Exchange, this research finds that the audit tenure relationship and information asymmetry are u-shaped (a quadratic relationship) with a minimum point at eight years. These results indicate that, in the early years of the audit engagement, the longer a public accounting firm audits a company (tenure), the information asymmetry will decrease. These results indicate that after eight years, the bonding between auditors and clients is getting more robust so that auditors find it difficult to maintain their independence. After eight years, it is necessary to change (rotate) the public accounting firm that audits a company because its independence begins to decline. These results indicate that public accountants have played a significant role in achieving a more transparent and accountable organization, as one of the SDGs' goals.

1. Introduction
A professional accountant's most significant role is to convey SDGs element messages on financial statements prepared or financial reports reviewed. It is because accounting contributes to the achievement of SDGs through financial statements prepared. So, accountants must perform with high professionalism to give their role to the world agreement concerning the SDGs' achievement.

Public accountants have a role in auditing the financial report prepared by management and then give an opinion on the financial statements' fairness. Thus, after a public accountant audits the financial report, it is hoped that asymmetric information will not occur between management (the internal party who makes the financial statements) and the shareholders (the external parties who use the financial statements).

Asymmetric information is a condition where managers (as an agent) have access to the company's information not owned by outsiders (shareholders and stakeholders in general). Asymmetric information can cause potential losses for shareholders [1]. All shareholders have the right to company information. This encourages companies to increase the quality and transparency of the information disclosed in the company's financial statements, thereby providing the information needed by investors and other interested parties in the decision-making process. To ensure that the financial statements are reasonable,
it is necessary to have an independent and competent party that can assure the financial statements [2]. This party is an independent public accounting firm.

However, several financial reporting scandals involving companies and auditors, such as the financial report scandal that led to Enron's bankruptcy and the dissolution of the Anderson Public Accounting Firm, caused low public trust in the public accounting profession. To restore public image and trust, Public Accountants need to improve their competence and independence.

To increase public trust, several countries have implemented regulations that oblige public accounting firms to perform rotations. However, there are pros and cons to the rotation regulation. Those who agree with the rotation rules argue that the longer the tenure, the closer the relationship between the auditor and the client will be so that the auditor's independence decreases. Therefore, after an auditor has audited a company for a particular year (for example after 5 or 7 years), there needs to be a rotation rule. However, those who disagree with this rotation rule say that the longer the tenure, the better the audit quality. The audit quality at the beginning of the engagement year is still low due to the lack of knowledge of the auditors about the company being audited [3]. This will increase the risk of failure to carry out the audit. The understanding of client audit characteristics is accumulative and can increase with increasing audit tenure [4].

Regarding whether the rotation rule is necessary or not, this study will examine the relationship between tenure and information asymmetry. Whether the more extended the tenure, the information asymmetry will increase or decrease. There will be a turning point whether the relationship is positive, negative, or quadratic.

Previous research has found a quadratic (U-shaped) relationship between audit tenure and asymmetric information [5]. This is due to the market view that asymmetric information will be relatively high in the first year of the audit engagement, then it will decrease as the tenure increases. The reason for this is that the auditor will increasingly understand the client's business. However, at a certain optimum point, the asymmetric information will again increase. This is due to market concerns that auditors will lose their independence and objectivity in conducting audits, especially after the financial scandal committed by Enron and Anderson. In Indonesia, research by [2] also found a quadratic (u-shaped) relationship between audit tenure and audit quality. This study includes the TEN_SQ (tenure square) variable, which investigates whether there is a quadratic (U-shaped) relationship between audit tenure and asymmetric information.

Another factor examined in this research is the influence of specialist auditors in minimizing asymmetric information. The measurement of specialist auditors in this study follows the measurement in research conducted by [6], where specialist auditors are identified by looking at the market share based on the company's total assets being audited by an audit firm in a particular industry. An audit firm with the highest percentage of total asset market share in an industry is determined to be specialists in that industry. This is the first difference of this study from previous research [5].

The second difference of this research is the measurement of the audit tenure variable, in which this study follows [2] using continuous real audit tenure (TENURE) and quadratic tenure (TEN_SQ) measurements. It is intended to test the effect of audit tenure continuously and determine whether there is a quadratic relationship between audit tenure and asymmetric information in Indonesia, particularly in the manufacturing industry.

Based on the background that has been described above, the research objectives are as follows: 1) Is there any quadratic relationship (U-Shaped) between tenure audit and asymmetric information? Moreover, 2) Does the specialist auditor affect minimizing the occurrence of asymmetric information?

1.1. Theoretical background

1.1.1. Asymmetric information and bid-ask spread. The level of asymmetric information measured using bid-ask spreads. Bid-ask spreads are the difference between the highest buying price (bid) from investors and the selling price (ask) proposed by the securities issuer or seller. The bid-ask spread includes three components, ordering processing costs, inventory holding costs, and adverse selection
The adverse selection component is also called the cost of asymmetric information due to differences in ownership and access to information in the market, where one party has sufficient information. In contrast, the other party lacks adequate information. There are two groups of traders, uninformed traders and informed traders [8]. Generally, investors will experience losses when transacting with informed traders but will profit if they transact with uninformed traders. Therefore, investors will try to determine the spread that gives them maximum profit, which is the potential difference from transacting with uninformed traders and potential losses if trading with informed traders. One of the ways that can be done to reduce the problem of adverse selection by companies is by making full disclosure [8], and hiring an external auditor to verify the truth of the information in financial statements[9].

1.1.2. Signaling Theory and Information Asymmetry. Signaling theory refers to the assumption that each party gets different information. Therefore, managers must disseminate the information required by various interested parties through the publication of financial reports. Signaling theory is relevant to be used as a reference in this study because the signals from the information may influence investors' actions. Investor reactions are reflected in the volatility of stock returns and stock trading turnover around the release of this information.

1.1.3. Audit and information asymmetry. In order to minimize the occurrence of agency problems and information asymmetry in a company is an audit. Auditing is the process of collecting and evaluating evidence to judge the reasonableness of information [1]. A competent and independent party must carry out the audit. Auditors have two significant roles in the capital markets: an information role and an insurance role. Audit quality dramatically affects the credibility of the information contained in financial reports [9]. Therefore, we can conclude that auditing is a form of monitoring costs incurred by company owners to minimize agency problems between owners (shareholders) and managers.

1.1.4. Audit role in minimizing information asymmetry. The segregation of duties between owner and management creates agency problems caused by the management tendency to seek opportunities. This phenomenon creates a market for public accountants to assess the performance of management on the capital entrusted by the investors. The external auditor is obliged to perform attestation services against accounting fairness and carry out audit procedures.

The audit firm plays a role as a Reputational Agent, meaning that the public, especially the shareholders highly trust the auditors' audit opinion. The professional attitude of public accountants is reflected in their competence, independence, and moral integrity. Therefore, public accountants must show that the audit they provide has good quality and trustworthy because this profession has an essential role in providing reliable information.

1.1.5. Audit quality and information asymmetry. The relationship between information asymmetry and audit quality can be seen from the definition of audit quality [4]. An increase in audit quality will increase the likelihood of auditors finding material errors in the company [7]. The better the audit quality, the better the chance that the financial statements have been presented accurately. All relevant information will be disclosed, thereby reducing information asymmetry between management and investors [11].

1.1.6. Relationship between audit tenure and information asymmetry. There are some controversies and conflicting findings regarding the effects of audit tenure on audit quality. Those who support mandatory rotation at audit firms argue that the longer the tenure will reduce auditor independence and decrease auditor objectivity. On the contrary, some stated that the audit quality would increase with the increase in audit tenure. This is because auditors will gain more experience and understanding of their client's business operations and related issues [2].

Audit tenure and information asymmetry have a quadratic relationship, where market players realize that the longer the tenure will make the auditor getting more expert in auditing the company and therefore is expected to minimize the occurrence of information asymmetry, which is indicated by the
declining of the bid-ask spread as the audit tenure increases [5]. However, at some point, the bid-ask spread will increase back. This is due to market perceptions that auditors will lose their independence and objectivity as they become more familiar with the client. This research is also trying to prove a quadratic (u-shaped) relationship between audit tenure and information asymmetry. Therefore, this study sets a hypothesis as follows:

**H1: There is a quadratic relationship (U-shaped) between tenure and information asymmetry.**

2.6.2 The Influence of Specialist Auditors on Information Asymmetry.

A previous study shows a positive correlation between the specialist auditor and audit quality. Managers and senior audit specialists will be better at detecting errors if they are assigned an audit task according to their specialization [12]. The chances of having private information (information asymmetry) will be lower in companies audited by specialist auditors, because the disclosure given to companies that are audited by specialist auditors is usually higher and the audit quality is also better. The low bid-ask spread value indicates this in companies audited by specialist auditors. Therefore, this study sets a hypothesis as follows:

**H2: Specialist auditors have a negative relationship to information asymmetry.**

2. Method

The criteria of the sample are companies in the manufacturing industry that are listed on the Indonesia Stock Exchange and available data on the daily closing bid price, daily closing ask price, the daily trading volume of shares, daily returns, number of shares outstanding (outstanding), and daily closing price. Samples were taken from 2009 to 2011. About 274 samples were obtained. The data then regressed using panel data regression. The research process is:

1. Take stock price data
2. calculate the bid-ask spread value according to the formula in the sub-chapter, operationalizing the variable
3. calculate the tenure variable by counting the number of years a public accountant has audited a company
4. calculate the specialization variable according to the formula in the sub-chapter, operationalize the variable
5. calculate control variables
6. perform regression
7. Analyze the results

2.1. Research model

\[
BAS_{it} = \alpha_0 + \beta_1 TRENURE_{it} + \beta_2 TREN_{SQ}i + \beta_3 SPEC_{it} + \beta_4 TURNOVER_{it} + \beta_5 VOLATILITY_{it} + \beta_6 MKTVAL_{it} + \beta_7 AGE_{it} + \beta_8 BIG4_{it} + \varepsilon_{it}
\]  

(1)

where:

- **BAS**
  
  : Median daily bid-ask spread during the study period
- **SPEC**
  
  : Dummy variable for industry specialization auditors, value 1 for companies audited by specialist auditors and 0 if vice versa. SPEC is measured by SPEC 10% and SPEC 20%.
- **TENURE**
  
  : Period of providing continuous audit services by an Audit Firm to a company i in year t
- **TEN_SQ**
  
  : Quadratic tenure
- **TURNOVER**
  
  : Median volume over daily trading volume divided by daily number of shares outstanding
- **VOLATILITY**
  
  : Standard deviation of daily returns during the study period
2.2. Operationalization of variable

2.2.1. Information asymmetry. Information asymmetry in this study was measured using the bid-ask spread method [5]. The bid-ask spread is the difference between the highest bid price (the price at which investors are willing to pay for the securities from the issuer) and the highest ask price (the highest price at which the issuer is willing to sell the security to investors).

\[
\text{SPREAD} = \frac{\text{Bid}_it - \text{Ask}_it}{\frac{\text{Bid}_it + \text{Ask}_it}{2}}
\]

Bid is the highest bid price for shares of the company i on day t, while Ask is the highest ask price of shares of company i on day t. The amount of information asymmetry is determined by the amount of "spread" from each company measured by the median of the daily spread during the time interval.

The time interval in this research is a replication of [5] which is measured at a time interval of 7 (seven) days after the audited annual financial report is released and submitted to the IDX, up to 7 (seven) days before the quarterly financial report is released, namely the date the quarterly financial statements (unaudited) are submitted to the IDX [2]. The choice of time intervals based on the research of [5] aims to avoid the possibility that the number of information events will differ in companies and result in "noisy" or imprecise measurements of different levels of information asymmetry in audited financial reports [5].

2.2.2. Audit tenure. This study uses real audit tenure (the name of a foreign audit firm affiliate, not the name of the local audit firm) and quadratic tenure testing uses the TEN_SQ variable as was done in a study conducted by [2]. This is done to find a quadratic (u-shaped) relationship in audit tenure. The TEN_SQ variable is done by squaring the TENURE variable which is measured in real terms.

2.2.3. Auditor specialization. The value of specialist auditors is calculated using a dummy variable. A number 1 will be assigned to specialist auditors and a number 0 for non-specialist auditors. In this study, specialist auditors are measured by taking into account the total assets owned by the client. This measurement method assumes that specialist auditors are the result of experience in auditing large business volumes in industry [6].

\[
\text{SPECC} = \frac{\text{Number of audit firm client in industry}}{\text{Number of emitters in industry}} \times \frac{\text{Average of audit firm clients' assets in industry}}{\text{Average of emitters' asset in industry}}
\]

Auditors are said to have industry specialties if the score is more than 10% in the industry [20]. This industry specialty is given the SPEC code 10. While the second measurement, SPEC 30, is given to audit firms with a score of more than 30% [13]. This industry specialty is coded SPEC30.

2.2.4. Control variable. Return volatility. The existence of a large potential return for informed traders is an incentive that makes investors seek private information on stocks that have high volatility. However, the profit for informed traders is an expense for other investors. This is what encourages uninformed traders to protect themselves from losses experienced due to the volatility of stock returns by increasing the bid-ask spread. This study measures stock returns' volatility using a standard deviation of daily security returns [5].
Share Turnover. Share turnover measures the level of liquidity of the securities, which describes investors' willingness to hold shares, sell shares, or buy shares of a company. The willingness to transact will be inversely proportional to the information level in a company [19]. The higher the turnover, may be an indication that the company has high activity in stock trading, so the availability of information in the market is needed. This study expects a negative relationship between share turnover and information asymmetry [5].

Market value. An enormous market value illustrates the size of a large company where large companies generally release information more often than small companies. This is because large companies will have large investors compared to small companies. This will reduce the possibility of private information between investors and management [15]. This study predicts a negative relationship between market value and information asymmetry [5].

Company age. The longer the company has been established, the more stable it will be, indicated by the lack of problems regarding information asymmetry and an increase in the company's ERC [17]. Therefore, company age is expected to have a negative relationship with the level of information asymmetry. The company's age in this study is measured from the number of years since the company was founded.

Audit firm size. The size of the audit firm is measured according to an affiliation with The Big Four. Audit firms affiliated with The Big Four are assumed to have useful competence and quality to minimize information asymmetry by providing higher quality audit services [9]. Audit firms affiliated with The Big Four are coded 0 (zero) while other audit firms are coded 1 (one).

3. Results and discussion

3.1. Descriptive statistics
Based on Table 1, it can be seen that the average occurrence of information asymmetry, which is measured using the spread of the bid and ask prices for the manufacturing industry from 2009 to 2011 is 0.036. This means that the gap between investors and issuers is relatively small. The range of values between the maximum and minimum spread is quite far. Namely the minimum value is close to 0% and the maximum value is 27.8%. The TENURE variable describes the length of the audit services provided by the same audit firm for a company. The average audit tenure was 7.00365 with a standard deviation of 5.651994. This proves that the manufacturing industry's average company has exceeded the audit rotation year limit stipulated in the Minister of Finance Regulation No. 17/PMK/.01/2008 which is six years.

Table 1. Descriptive Statistics.

| Variable   | Mean  | Std. Dev. | Median | Max  | Min  |
|------------|-------|-----------|--------|------|------|
| BAS        | 0.0363| 0.0543    | 0.0157 | 0.2780 | 0.0018 |
| SPEC_10    | 0.3321| 0.4718    | 0      | 1    | 0    |
| SPEC_30    | 0.4014| 0.4910    | 0      | 1    | 0    |
| TENURE     | 7.0036| 5.6519    | 6      | 23   | 1    |
| TEN_SQ     | 80.7518| 112.852  | 36     | 529  | 1    |
| VOLATILITY | 0.0283| 0.0218    | 0.0221 | 0.1217| 0    |
| TURNOVER   | 0.0009| 0.0017    | 0.0003 | 0.0106| 0    |
| MKTVAL     | 27.726| 2.0186    | 27.4641| 33.319| 23.779|
| BIG_4      | 0.5036| 0.5009    | 1      | 1    | 0    |
| AGE        | 36.45 | 19.24     | 32     | 109  | 11   |

N: 274

The average score for specialist auditors based on the SPEC_10 is 0.3321. Meanwhile, the average score for specialist auditors based on the SPEC_30 criteria is 0.4014. This indicates that many manufacturing companies in Indonesia have used specialist auditors.
The turnover variable has an average of 0.10% or 0.0009 for the years 2009 to 2011. This indicates that Indonesia's stock trading for the manufacturing industry during the study period 2009-2011 was not very active. Meanwhile, the volatility variable has an average of 0.0283 or 2.84%. This shows that the fluctuation in the return of a security is not too large. When viewed from the average value, the volatility in the manufacturing industry in Indonesia is not too large. For the variable market value or stock market price that describes the company's size, the highest value is PT Astra Internasional Tbk. In contrast, the lowest value was PT Multi Prima Sejahtera Tbk. Different market values can affect market perceptions of information asymmetry that occurs in a company. The average age of the sample firms was 36 years. The oldest company is PT Keramika Indonesia Association Tbk (109 years) and the youngest is PT Myoh Technology Tbk (11 years old).

The T-Test between specialist auditors and non-specialist auditors

Table 2 shows the T-Test between the auditor specialist, the bid-ask spread and tenure. Table 2 shows that companies audited by specialist auditors tend to have less information asymmetry problems (marked by a smaller bid-ask spread) compared to companies audited by non-specialists. Besides, it can be seen that specialist auditors tend to have a longer tenure, compared to non-specialist auditors, which is eight years, before finally the asymmetry of information increases again (which is indicated by the increase in the value of the bid-ask spread). This is possible because specialist auditors have better competence than non-specialist auditors, resulting in better audit quality [5].

### Table 2. T-Test for specialist and non-specialist auditor.

|       | SPEcialIST | NON-SPECIALIST | DIFFERENT |    |
|-------|------------|----------------|-----------|----|
| BAS   | 0.02988    | 0.04066        | -0.01079  | *  |
| TENURE| 8.24545    | 6.17073        | 2.07472   | ** |

** significance level of α 5%, * significance level of α 10%

3.2. Regression analysis

### Table 3. The Regression results

| Variable | Expected Sign | Model 1 (SPEC 10) | Model 2 (SPEC 30) |
|----------|---------------|-------------------|-------------------|
| C        |               | Coefficient | Prob          | Coefficient | Prob          |
|          |               | 0.162295     | 0              | 0.162295    | 0              |
| TENURE   | (-)           | -0.003967    | 0.00675        | **           | -0.003991    | 0.01835 **    |
| TEN_SQ   | (+)           | 0.000251     | 0.00095        | ***          | 0.000248     | 0.00425 ***    |
| SPEC     | (-)           | -0.007078    | 0.1663         | -0.014134   | 0.0133 **     |
| TURNOVER | (-)           | -8.435203    | 0              | ***          | -9.925002    | 0       **     |
| VOLATILITY | (+)       | 0.504377     | 0.00025        | ***          | 0.514629     | 0.00885 ***    |
| MKTVAL   | (-)           | -0.007442    | 0.0001         | ***          | -0.007413    | 0       ***     |
| BIG_4    | (-)           | -0.024675    | 0.00065        | ***          | -0.026629    | 0.00075 ***    |
| AGE      | (-)           | -0.0000253   | 0.2213         | -4.26E-05   | 0.3669       |
| Adj R2   |               | 0.2599       | 0.2770         |            |               |
The results of hypothesis 1 regarding the effect of tenure on information asymmetry (as measured by the bid-ask spread) can be seen in tables three. Both models show a negative coefficient on the TENURE variable and a positive coefficient on the TEN_SQ variable. The results showed that the tenure had a quadratic (U-Shape) effect on information asymmetry. This means that at the beginning of the engagement period, until to a certain optimal point, the level of information asymmetry (bid-ask spread) will decrease, then after reaching a certain optimal point, the asymmetric information will increase (which is indicated by an increase in the bid-ask spread). The optimum point is at eight years.

This result is following the research findings of [5] which say that the longer the audit tenure (the period to audit an auditor at a company), the more familiar the auditor with the client, the auditor is getting more expert (expert) in auditing the company, hence minimizing the occurrence of information asymmetry, which is indicated by the decline in the bid-ask spread. However, after eight-year, the bid-ask spread will increase again. This is due to the market perception that the longer the auditor's tenure is, the more familiar the auditor will be with the client (the more robust the bonding). This can lead to a decrease in auditor independence and objectivity. Calculations of minimum points are shown at table 4.

**Table 4. Optimal Point Calculations**

| Variable | Model 1          |       |       | Model 2          |       |       |
|----------|------------------|-------|-------|------------------|-------|-------|
|          | TENURE           | b     | -0.003976 | TENURE           | b     | -0.003991 |
|          | TEN_SQ           | a     | 0.000251  | TEN_SQ           | a     | 0.000248  |
|          | Optimal point    | (-b/2a)| 7.9 = 8 tahun | Optimal point    | (-b/2a)| 8.04 = 8 tahun |

The specialist auditor variable shows a negative coefficient which indicates that specialist auditors harm information asymmetry. The probability is 0.1663 or 16.63% for model 1, SPEC 10, while the probability is 0.0133 or 1.33% for model 2, SPEC 30. This indicates that specialist auditors calculated by the SPEC30 method have a significant effect on information asymmetry.

Thus, we can conclude that specialist auditors harm information asymmetry using the SPEC 30 measurement method. This indicates that companies audited by specialist auditors have a low level of information asymmetry than companies audited by non-specialists. This result is in line with research that argues that specialist auditors' audit competence is better than non-specialist auditors [5][18]. This is consistent with [18] which states that companies audited by specialist auditors have a low level of information asymmetry, as indicated by a low bid-ask spread, compared to companies audited by non-specialists. This also indicates that specialist auditors have superior knowledge of an industry than non-specialists and can better detect material misstatements in financial statements and improve audit quality [19].

### 3.2.1. The Effect of Control Variables on Information Asymmetry

**Effect of return volatility on Information Asymmetry.** Table 3 model 1 shows that the value of the volatility variable coefficient is 0.504377 with a probability of 0.00025. This indicates that volatility has a significant adverse effect on information asymmetry at the 99% confidence level. This is because the volatility of returns increases the potential for large returns for informed traders, which is an incentive that makes investors look for private information on stocks that have high volatility. However, the profit for informed traders is an expense for other investors. This is what encourages uninformed traders to protect themselves from
losses experienced due to the volatility of stock returns by increasing the bid-ask spread. This study's results are also consistent with [5] who concluded that return volatility has a positive effect on the bid-ask spread.

**Effect of Turnover on Information Asymmetry.** Table 3 model 1 shows that the coefficient value of the turnover variable is (-8.435203) with a probability of 0.00000. This indicates that turnover has a significant adverse effect on information asymmetry at the 99% confidence level. This is because the level of willingness of investors in holding shares, selling shares or buying shares of a company is inversely proportional to the level of information in a company [19]. These results are also consistent with [5] study which proved that turnover has a significant adverse effect on the bid-ask spread [2].

**The Effect of Market Value on Information Asymmetry.** Table 3 model 1 shows that the coefficient of the market value variable is (-0.007442) with a probability of 0.0001. This indicates that market value has a significant adverse effect on information asymmetry at the 99% confidence level. Therefore, it can be concluded that the market value variable has a significant negative effect on information asymmetry (bid-ask spread). This is because companies with enormous market value will often release information to their investors. This will reduce the possibility of private information between investors and management [18]. This study's results are also in line with the study that concluded that the market value variable has a significant adverse effect on the bid-ask spread [5].

**Effect of Audit Firm Size on Information Asymmetry.** Furthermore, in Table 3, it can be concluded that the audit firm size has a significant negative effect on Information Asymmetry. This is because the competence and audit quality provided by the big-four is better than the non-big four. This study's outcomes are consistent with [9], which concluded that the audit firm size has a significant adverse effect on the bid-ask spread.

**Effect of Company Age on Information Asymmetry.** The results of the study for the company age variable are not following [5]. Not having a significant effect is presumably because companies that are getting older do not necessarily implement good corporate governance.

**4. Conclusion**

This study aims to prove the effect of audit tenure on information asymmetry empirically. The value of the bid-ask spread measures of information asymmetry. The more significant the difference (spread) between the bid price and the asking price, the greater the information asymmetry. This study found a quadratic (u-shaped) relationship between audit tenure and information asymmetry, with a minimum point at eight years. This result shows that in the early years of the audit engagement, as the audit tenure increases, information asymmetry will decrease since the longer the audit tenure, the auditor is getting more expert in auditing the company, hence minimizing the information asymmetry. However, after year 8, the information asymmetry will increase again. As the audit tenure increases, the auditor is more familiar with the client, the independence and objectivity of auditors could decrease. This condition causes the asymmetry of information will increase again. So, regulation about rotation is needed after eight years. Hence the auditors can increase the transparency of financial statements.

Meanwhile, the specialist auditor variable only has a significant effect on the SPEC 30 method. This indicates that SPEC 30 for specialist auditors is more representative than the SPEC 10 measurement.

Here are some limitations and research suggestions:

1. This study only uses companies in the manufacturing industry for the period 2009 to 2011. It is expected in further research to use companies in all industries, both financial and non-financial. The aim is that the research can reveal the determinants of information asymmetry and see the consistency of the research.

2. The specialist level determination is based on the client’s total assets. Auditors can dominate an industry, even though the number of clients is small, but with large total assets. Suggestions for
further research to include the number of clients in the auditor industry specialty measurement. Researchers also assume that future studies can be done with more descriptive proxies such as audit fees or primary data to describe specialist auditors better.

3. Determining the level of specialist auditors is only based on the percentage of the client's total assets, but does not include the number of years the audit firm provides audit services to clients. Therefore, there is a possibility that audit firms with large clients become specialist auditors even though the audit firm has not audited clients in the industry for a long time. Therefore, the suggestion for further research is to measure specialist auditors by combining the percentage of total client assets and the length of time that an audit firm audits these clients.

4. This study only examines the relationship between specialist auditors and audit tenure on information asymmetry (measured by the bid-ask spread). Further research can develop testing by including internal corporate governance elements such as the audit committee and the board of commissioners' role. Thus, a broader understanding can be obtained about the variables from outside the company and from within the company.

Research Implications:

1. For Public Companies
   This study found a difference in the value of the bid-ask spread that occurs when specialist auditors audit the company. So, this research suggests that companies engage with audit firms which is a specialist in their field. This study also finds empirical evidence that specialist auditors can help minimize information that happens in a company by providing high-quality audit services. This study provides an overview of the factors that can influence and minimize information asymmetry in a company. It is expected to provide the right information for investors in making the right decisions about their investments.

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