



**THE INFLUENCE OF CORPORATE GOVERNANCE MECHANISMS ON  
REAL EARNINGS MANAGEMENT IN INDONESIAN PUBLIC  
COMPANIES**

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**ABSTRACT****THE INFLUENCE OF CORPORATE GOVERNANCE MECHANISMS ON  
REAL EARNINGS MANAGEMENT IN INDONESIAN PUBLIC  
COMPANIES****By:****Baiq Siti Namira****Supervisor:****Drs. Imam Subekti, Ak., M.Si., Ph.D.**

The study aimed to examine the influence of corporate governance mechanisms on real earnings management. These corporate governance mechanisms are the number of independent commissioners, frequency of board commissioner meetings, frequency of audit committee meetings, and audit quality. Research samples were selected by purposive sampling method and result collected 33 public companies listed in Indonesian Stock Exchange. Multiple linear regression analysis was employed to test the hypothesis. The research result revealed that the number of independent commissioners negatively influence real earnings management. Otherwise, the frequency of board commissioner meeting, frequency of audit committee meeting, and audit quality did not influence real earnings management, which means the frequency of board commissioner meeting, frequency of audit committee meeting, and audit quality have not been able to detect the existence of real earnings management in Indonesian public companies.

**Keywords:** *the number of independent commissioners, frequency of board commissioner meeting, frequency of audit committee meeting, audit quality, real earnings management.*



**ABSTRAK****PENGARUH MEKANISME TATA KELOLA PERUSAHAAN TERHADAP  
MANAJEMEN LABA RIIL PADA PERUSAHAAN PUBLIK INDONESIA****Oleh:****Baiq Siti Namira****Dosen Pembimbing:****Drs. Imam Subekti, Ak., M.Si., Ph.D.**

Penelitian ini bertujuan untuk menguji pengaruh mekanisme tata kelola perusahaan seperti, jumlah komisaris independen, frekuensi rapat dewan komisaris, frekuensi rapat komite audit, dan kualitas audit terhadap manajemen laba riil. Sampel penelitian dipilih dengan metode *purposive sampling*. Data yang terpilih berjumlah 33 perusahaan publik Indonesia yang terdaftar di Bursa Efek Indonesia. Analisis linear berganda digunakan untuk menguji hipotesis pada penelitian ini. Hasil penelitian menunjukkan bahwa jumlah komisaris independen berpengaruh negatif terhadap manajemen laba riil. Sebaliknya, frekuensi rapat dewan komisaris, frekuensi rapat komite audit, dan kualitas audit tidak berpengaruh terhadap manajemen laba riil yang artinya rapat dewan komisaris, rapat komite audit, dan kualitas audit belum mampu mendeteksi keberadaan dari manajemen laba riil pada perusahaan.

**Kata Kunci:** *jumlah komisaris independen, frekuensi rapat dewan komisaris, frekuensi rapat komite audit, kualitas audit, manajemen laba riil.*





## CHAPTER I

### INTRODUCTION

#### 1.1 Research Background

The problem of earnings management is an agency problem that is often triggered by the separation of roles or differences in interests between owners (shareholders) and managers (management) of the company. Furthermore, management as a company manager has more information about the company than shareholders (information asymmetry) so that management conducts accounting practices with profit-oriented numbers, which can increase certain impressions (achievements)

Profits are important component monitored by users on financial statements. Therefore, the manager uses earnings management to avoid reporting losses and to meet profit expectation by the analyst, with the hope to avoid damaging the reputation of a strong negative share price reaction quickly following a failure to meet investor expectations (Scott, 2015:461). It can be concluded that the two main motivations in making profits are encouraging investors to buy shares of the company and increasing the market value of the company.

Earnings management can be conducted by manipulating artificial variables (accounting) through the selection of permissible accounting methods or real variables (transactional) by manipulating the company's revenue, expenses, or





abnormal activities. Earnings management through artificial variables, for example, is done by choosing the usual accounting techniques to increase or decrease current year earnings, for example: choosing depreciation methods, amortization years, inventory recording methods, recognition of gains and losses, and others. Earnings management uses real variables (transactional) by manipulating sales and costs, for example: accelerating or delaying year-end sales and recording costs (Primanita and Setiono, 2006).

This study is related to earnings management that occurred in many countries such as America, Europe, and in Asia such as Enron, WorldCom, Xerox, AHold, and Kimia Farma. However, some previous studies only focused on accrual-based earnings management. According to Roychowdhury (2006), accounting research on earnings management draws conclusions based on accrual arrangements only might become invalid. Current earnings management research must understand how companies conduct earnings management through manipulation of real activities other than accrual-based earnings management because it is based on research result (Cohen, Dey, and Lys, 2008). Managers have switched from accrual-based earnings management to real earnings management after the Sarbanes-Oxley Act (SOX) period to avoid detection from auditor and regulation. Subekti, Wijayanti, and Akhmad (2010) show that Indonesian public companies tend to practice earnings management based on the company's operation activities can be triggered by the conditions that allow it to





happen. Almost all public companies in Indonesia are a business group not a single business. This condition is very possible for managers to carry out earnings management practices through operational activities by conducting transactions with affiliated companies or their subsidiaries that are not normal in order to cover losses or achieve profit targets set. Earnings management practices like this will be relatively difficult to detect even by the auditor because everything has been planned and supported by valid transaction evidence. This condition encourages researcher to investigate in more detail related to earnings management practices that are based on real company transactions (real earnings management) in Indonesian public companies.

Actually, the use of managing earnings is considered legitimate because it does not violate the accounting standards that apply; besides, it is the manager's authority to choose the accounting method to be used while not misleading users of the financial statements. However, earnings management practices will be considered detrimental when managers are not aware of the long-term implications they have, which can ultimately harm shareholders.

To limit opportunistic behavior in the real earnings management, it is necessary to have internal controls to improve the quality of financial statements presented and avoid various elements of interest. To produce a high quality financial statement, the company must have good corporate governance. Good corporate governance reflects whether the company has healthy and transparent





management so that it is expected to reduce the activities of manipulation, which can cause financial statements that do not reflect the true value. Informing good corporate governance to limit the opportunistic behavior of management, researcher attempts to test some of corporate governance such as the number of the independent commissioner, the frequency of board of commissioner meeting, the frequency of audit committee meeting, and audit quality on real earnings management.

In order to form good corporate governance, companies can attempt various things such as forming independent commissioners. The results of previous study by Sasono (2011) concludes that the number of independent commissioners has a negative effect on earnings management. It means that the more independent members of the commissioner, the smaller the earnings management by the agent. However, the results of Cahyawati and Setiana's research (2016) concludes that the number of independent commissioners do not affect earnings management.

To avoid or prevent accounting irregularities in the financial statements, it is necessary to supervise management related to all company policies and problems. It can be conducted through the regular meetings held by the commissioner and the audit committee. The results of research conducted by Chen et al. (2006) prove that the high frequency of commissioners' meetings could limit earnings manipulation on financial statements; meanwhile, the results





of research conducted by Prastiti and Meiranto (2013), Ichsan and Husain (2018) find that the frequency of board commissioner meeting does not affect earnings management. The results of research conducted by Kusumaningtyas and Farida (2016) and Marsha and Ghozali (2017) prove that the high frequency of audit committee meeting could limit earnings manipulation on financial statements; meanwhile, the results of research conducted by Susanto and Pradipta (2016), Ulina et al. (2018) find that the frequency of audit committee meetings does not influence earnings management.

The quality of external audit is expected to be able to limit the opportunistic behavior of agents. Nabila and Daljono (2013) conclude that auditor quality has a negative effect on earnings management. However, it is contrary to Marsha and Ghozali (2017) which stated that auditor quality does not influence earnings management.

The results of previous research related to the influence of corporate governance mechanisms on earnings management turned out to provide inconsistent conclusions. Therefore, the researcher is interested in discussing the influence of corporate governance mechanisms to real earnings management.

This study uses manufacturing companies related to one of the proxy measures of earnings management, namely production costs. The manufacturing sector is the second largest number of companies in Indonesian Stock Exchange





(IDX), which reached 27.2%, companies with producing raw materials 10.2%, and service companies 62.6% (idx.co.id). At the same time, by choosing the 2016-2018 period this study aims to continue the previous period and to prove the consistency of previous research results regarding the role of corporate governance mechanisms. In addition, this study is expected to provide the latest facts related to the condition of the Indonesian economy.

## 1.2 Research Questions

Based on the research background, hence the research questions of this study are:

1. Does the number of independent commissioners influence real earnings management in Indonesian companies listed in IDX in 2016-2018?
2. Does the frequency of commissioner meetings influence real earnings management in Indonesian companies listed in IDX in 2016-2018?
3. Does the frequency of audit committee meetings influence real earnings management in Indonesian companies listed in IDX in 2016-2018?
4. Does the audit quality influence real earnings management in Indonesian companies listed in IDX in 2016-2018?

## 1.3 Research Objective

Associated with the research questions above, the objectives of this study are:

1. To provide the empirical evidence on the influence of the number of independent commissioners on real earnings management in Indonesian





companies listed in IDX in 2016-2018.

2. To provide the empirical evidence on the influence of frequency of board commissioner meetings on real earnings management in Indonesian companies listed in IDX in 2016-2018.

3. To provide the empirical evidence on the influence of frequency of audit committee meetings on real earnings management in Indonesian companies listed in IDX in 2016-2018.

4. To provide the empirical evidence on the influence of audit quality on real earnings management in Indonesian companies listed in IDX in 2016-2018.

#### 1.4 Research Contribution

The result of this study is expected to provide some of the following contributions:

1. Contribution Theory

The result of this study is contributed to agency theory. The theory discusses the conflict of interest between manager (agent) and shareholders (principal) which result real earnings management or manipulation based on real activities in Indonesian companies listed in IDX.

2. Contribution Practice

The result of this study is expected to show that corporate governance will be more effective to reduce real earnings management of shareholder of Indonesia.

Moreover, the result of this study also expects that the company including the





shareholders would be more aware in implementing good corporate governance mechanisms in their companies.





## CHAPTER II

### LITERATURE REVIEW

#### 2.1 Agency theory

Agency theory explains the relationship between company owners and company management. Management is an agent who is given duties and authority by the owner of the company or shareholders (principals) to manage the company. Agency theory arises when shareholders employ other parties to manage their companies. They separate authority between management and shareholders, which in turn creates agency problems because the amount of information received is different (information asymmetry) between management and shareholders. This condition will encourage management to conduct earnings management. Management will manipulate information presented to shareholders to achieve certain interests without considering the long-term impact on the company. Based on this theory, human characteristics will prioritize their interests, management (agent) does not always act in the interests of the owner (principal), so management will tend to manipulate earnings or earnings management (Jensen and Meckeling, 1976; Primanita and Setiono, 2006).

#### 2.2 Earnings Management

Earnings management, also known as earnings manipulation, is the action conducted by managers to manage earnings through accounting policies, which will have an impact on reported earnings in the financial statement (Scott, 2015:445). Setiawati and Na'im (2000) state that earnings management is management's





intervention in the financial reporting process in order to achieve a specific purpose.

Earnings management occurs when managers apply their judgment to financial reporting, and/or construction of transactions in order to change financial reports and mislead the investors or stakeholders on issues concerning the operational performance of companies or they may alter the contractual result based on accounting number (Chen and Tsai, 2010), in other words, earnings management can be performed by the manager through the accrual transaction or transactions of real enterprises (Subekti, 2013). The development of empirical research shows there are two kinds of earnings management, namely, earnings management based on accrual transaction and earnings management based on real transactions.

Earnings management based on accrual transactions, also known as discretionary accruals models that have been widely used in the literature and are often considered to be a proxy for earnings management. Jones (1991) defined the accrual models, but the explanatory power of the Jones model was low, after that Dechow et al. (1995) modified the Jones model, and the modification successfully increases the power of the Jones model. However, Jones still suffers, Kothari et al. (2005) attempt controlling for the normal level of accruals condition on ROA. But the use of discretionary accruals measures is still unable to provide plausible detection of earnings management due to a low level of discretionary accruals interpretation (Subekti et al., 2010).

Earnings management based on real enterprises is also known as real earnings





management based on real operating activities; these models have been recently used in the literature and are often considered to be a proxy to capture earnings management.

The development of empirical research showed that earnings management has shifted from earnings management based on accrual basis to real basis. Real earnings management is conducted during the period before the preparation of the financial statement. Roychowdhury (2006) develops empirical methods to detect or capture real activities manipulation in large samples, and there are three techniques described in real earnings management as follows:

1. Real earnings management – cash flow from operation

Real earnings management – cash flow from operation is conducted by increasing the income that comes from the sale of goods and services. Increasing sales is conducted by giving discounts on a large scale to increase the volume of income in the current period.

2. Real earnings management – production cost

Real earnings management – production cost is conducted by increasing the number of productions to reduce overhead costs. Lower overhead costs will reduce the price of the product per unit. Lower production costs will increase profits and reduce operating expenses.

3. Real earnings management – discretionary expenses

Real earnings management – discretionary expenses is conducted by reducing expenses from advertising expenses, research, and development expenses (R&D), and Selling General and Administrative expenses (SG&A).





### 2.3 Corporate Governance

According to the Financial Committee on Corporate Governance in Malaysia (Herwidayatmo, 2000), corporate governance is a process and structure used to direct and manage the company's business activities towards increasing business growth and corporate accountability. The ultimate goal is to increase shareholder prosperity in the long term while still taking into account the interests of other stakeholders.

Indonesia began implementing corporate governance for the first time in 1999 after a major economic crisis that caused the Indonesian economy to collapse in 1997-1999, realizing the importance of implementing corporate governance to support economic recovery and stable economic growth in the future. Therefore, in 1999 the government formed the National Committee for Corporate Governance Policy (KNKCG), which was developed based on the decision of the Coordinating Minister for the Economy Number: KEP/31/M.EKUIIN/08/1999. The crisis in Indonesia was caused by the inconsistency in the implementation of corporate governance in companies which ultimately needed changes in regulations in the field of audits and capital markets for the realization of good corporate governance, in the end, the government realizes that the need for good corporate governance to improve the quality of financial reports presented to investors and shareholders and can increase market confidence that can encourage investment flows to create sustainable economic growth in public sector companies in Indonesia.

To realize the implementation of Good Corporate Governance (GCG) in public companies in Indonesia, the government with the decision of the Coordinating Minister





of Economy Number: KEP/49/M. EKON/11/2004 has approved the establishment of a National Governance Policy Committee (KNKG) consisting of the Public Sub-Committee and Corporate Sub-Committee. With the establishment of the KNKG, the decision of the Coordinating Minister of Economy Number is realized by KEP.31/M.EKUI/06/2000 and the KEP.10/M.EKUI/08/1999 regarding the establishment of the KNKCG declared no longer valid. In 2006, the National Committee on Governance Policy issued a general guideline for good corporate governance in Indonesia to achieve business sustainability (sustainability) of the company by looking at the stakeholders (stakeholders). In the guidelines, KNKG explains the principles of Good Corporate Governance (GCG) as follows:

#### 1. Transparency

To maintain objectivity in conducting business, companies must provide material and relevant information in a way that is easily accessible and understood by stakeholders. The company must take the initiative to disclose not only the problems required by legislation but also the things that are important for decision making by shareholders, creditors, and other stakeholders.

#### 2. Accountability

The company must be able to account for its performance transparently and reasonably. Therefore, the company must be properly managed, measured according to the interests of the company by still taking into account the interests of shareholders and other stakeholders. Accountability is a prerequisite required to achieve continuous performance.





### 3. Responsibility

The company must comply with statutory regulations and carry out responsibilities to the community and the environment so that it can maintain long term business continuity and receive recognition as a good corporate citizen.

### 4. Independence

To facilitate the implementation of GCG principles, companies must be independently managed so that each organ of the company does not dominate each other and cannot be intervened by other parties.

### 5. Fairness

In carrying out its activities, the company must always pay attention to the interests of shareholders and other stakeholders based on fairness and equality principles.

It is expected that companies that have been listed on the Indonesia Stock Exchange (IDX) can consistently implement good corporate governance to improve the company's information quality in front of investors and reduce the incidence of fraud. IDX as a facilitator and regulator of capital markets in Indonesia commits to be a healthy IDX, and that has global competitiveness, in other words, a place that can guarantee the security of the stockholders and stakeholders ([idx.co.id](http://idx.co.id)). To create good corporate governance, companies can take several actions such as forming an independent board of commissioner with an appropriate proportion, forming an audit committee to assist the duties of the board of commissioners to increase the accountability, and selecting professional auditor with the objective that the financial statements presented describe the actual financial condition.





## **2.4 The Number of Independent commissioners**

According to Herwidayatmo (2000), the independent board of commissioners is formed to make good corporate governance. The role of an independent board of commissioners is responsible and have the authority to supervise the policies and activities undertaken by the board of directors in order to provide advice when necessary for the benefit of the company, stockholders, and stakeholders. The number of the independent board of commissioners should be proportional to the number of shares owned by non-controlling shareholders with the provisions of the number of independent commissioners at least 30% of the total number of commissioners. The requirements to become an independent commissioner are as follows: no affiliation with the controlling shareholder of the company concerned, in other words, the member must be independent, no affiliation with the company's directors and commissioners, Not working as a director in other companies affiliated with the company concerned, understanding the laws and regulations in the field of the capital market, the selection of the independent board of commissioners member conducted by non-controlling shareholders in the General Meeting of Shareholders (GMS).

## **2.5 Frequency of the Board Commissioners meeting**

The board of commissioners is an organ of a securities company in charge of general or special supervision in accordance with the articles of association and advice the board of directors. The board of commissioner is required to be active in carrying out it is functioning as a supervisor of any directors' decision, this is due to the passive





attitude that supports every policy taken by the board of directors, which will ultimately be detrimental to the interest of stockholders and stakeholders (Herwidayatmo, 2000).

The effectiveness of the board of commissioners can be measured through the frequency of meetings, according to the regulation of the Financial Services Authority (OJK), number 57 of 2017 concerning the establishment of securities company governance that conducts business activities as securities underwriters and brokers, the board of commissioners must hold a meeting at least once in three months. Board of Commissioners meeting is required because it can minimize the chance of irregularities in the management of the company that can harm stockholders and stakeholders.

## **2.6 Frequency of the audit committee meeting**

The audit committee is expected to perform its duties in supervising the board commissioners in order to minimize the occurrence of irregularities in the management of the company so that the resulting financial statements have good quality and value-added to the company in front of their shareholders. The effectiveness of audit committee can be measured through the frequency of meetings, so that the duties and functions of the audit committee in assisting the board of commissioners can run effectively. According to the Financial Services Authority (OJK) number 55 year 2015 concerning the establishment and implementation of the audit committee work guidelines, the audit committee members are required to hold a meeting at least once in 3 (three) months. It can be concluded that the higher the frequency of meetings conducted by the audit committee then the more effective the audit committee of a





company. If the audit committee of a company is effective, then the audit committee can minimize the occurrence of irregularities in management.

## 2.7 Audit Quality

The financial statement is essentially the result of an accounting process that can be used as a tool to communicate financial data or company activities to interested parties. In other words, financial report serves as an information tool that connects the company with interested parties, which shows the financial condition of the company's performance (Hery, 2016:2), this statement shows the importance of financial statements as a consideration of shareholders and stakeholders in decision making. To produce high quality financial reports that are free from agency problems, the auditing process is required by an independent auditor to match the information with the available evidence and provide a statement or opinion that the company has followed the correct accounting method (Tandiontong, 2013).

Audit quality is determined by the size of the accounting firm, DeFond and Jiambalvo (1993) tested the SEC's assumptions about opportunistic managerial behavior with disagreements between managers and auditors in accounting practices that are not consistent with GAAP (Generally Accepted Accounting Principles). In this study DeFond and Jiambalvo (1993) assume that large accounting firms were more independent than others, they found that disagreements between managers and accounting firms regarding accounting practices that were inconsistent with GAAP were greater in subsamples audited by the big eight accounting firms compared to those





audited by small accounting firms. This difference is what finally became justification by Behn, Choi, and Kang (2008), for example, as the basis for making the size of the accounting firm as a proxy for audit quality. Behn et al. (2008) find that large accounting firms such as big 5 or now known as big 4 have higher audit quality compared to smaller accounting firms or non big 4 accounting firms. Regarding the significance of auditor size, DeAngelo (1981) and Datar et al. (1991) claim that large and more prestigious public accounting firms concern about protecting their investment in reputation capital and have more incentive than other auditors to supply a high-quality audit. Further, Craswell et al. (1995) note that although all public accounting firms must comply with minimum professional standards, the Big 5 firms voluntarily invest in higher levels of expertise and have incentives to provide higher quality audits to protect their reputations.





## 2.8 Conceptual Framework

To facilitate conceptual understanding in this study, the conceptual framework is made as follows:

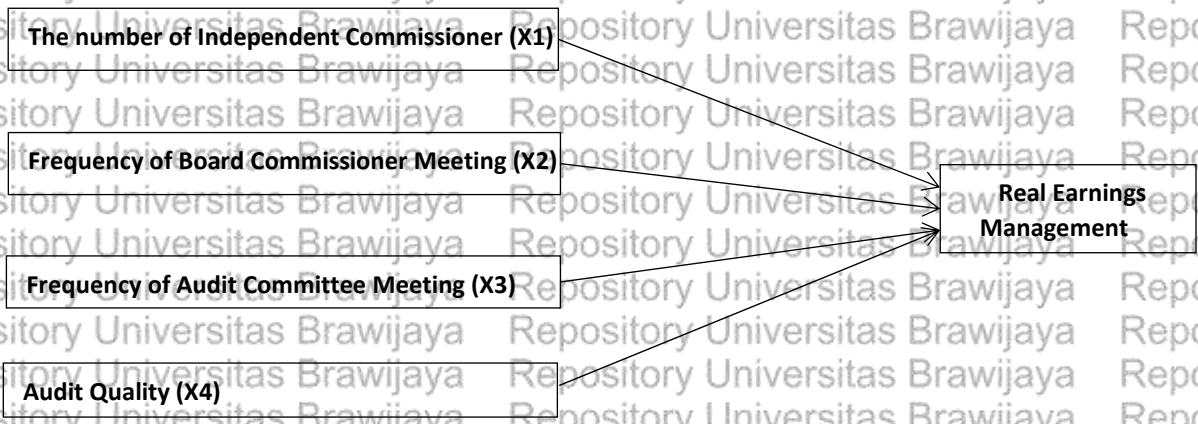


Figure 2.1

### Conceptual Framework

## 2.9 Review of Past Research and Hypotheses Development

This study examine the influence of corporate governance mechanism to real earnings management. Corporate governance of the number of independent commissioners, frequency of board commissioner meeting, frequency of audit committee meeting, and audit quality. Real earnings management proxied by abnormal cash flow from operating, abnormal production costs, and abnormal discretionary expenses by using a model developed by Roychowdhury (2006).

According to Graham et al., (2005) and Cohen et al., (2008) found that the companies shifted from using accrual-based to real earnings management methods after Sarbanes-Oxley Act (SOX) in 2002. It means management prefers to manage earnings





through real activities (for example, reducing discretionary expenses) rather than using accrual policy in earnings management. Earnings management through real activities is more difficult to be detected because it cannot be distinguished from optimal business decisions.

In order to reduce conflict between manager (agent) and shareholders (principal), there should be internal control to monitor or observe manager's behavior related to earnings manipulation that can be detrimental to shareholders. In order to reduce manager opportunistic behavior, the company should implement good corporate governance mechanisms such as (the number of independent commissioners, frequency of board commissioner meeting, frequency of audit committee meeting, and audit quality), which is expected to reduce real earnings management practice conducted by manager.

### **2.9.1 The Relationship between the Number of Independent Commissioners and Real Earnings Management**

Independent commissioner is part of the board of commissioners, which is formed by the General Meeting of Shareholders (GSM) by non-controlling shareholders.

Independent commissioner is not affiliated with the company (directors, other members of the board commissioners, management of the company, and controlling shareholders). Members of independent commissioners are not allowed to have shares in related companies so that independent commissioners can be separated from various interests that can influence their ability to act independently (Herwidayatmo, 2000).





According to previous research by Sasono (2011), it proves that the number of independent commissioners influences the practice of earnings management by the manager. Sasono (2011) states that the number of independent boards of commissioners could detect and reduce the level of earnings management activities in companies. This research is supported by other studies such as Nabila and Daljono (2013), which state that the more independent parties in the commissioner, the more appropriate quality of supervision process is conducted along with the many independent demands for transparency, thereby affecting the possibility of fraud in presenting financial statements by managers. Thus the hypothesis proposed is:

H1: the number of independent board of commissioners negatively influence the real earnings management.

### **2.9.2 The Relationship between Frequency of the Board Commissioner Meeting and Real Earnings Management**

The board of commissioners is required to be active in conducting their duties. The activity of the board of commissioners can be measured by the number of meetings. The high frequency of meetings can improve the supervision of the board of commissioners on the directors' policies in managing the company. The activity of the board of commissioners can be measured by the number of meetings. The high frequency of meetings can increase the supervision of the board of commissioners on the directors' policies in managing the company. With a high level of supervision, director policies can reduce the risk of financial reporting irregularities due to





accounting irregularities. The board of commissioners aims to carry out their duties and functions in assisting and supervising directors to run effectively, therefore members of the board of commissioners must hold meetings at least once in 3 months (Herwidayatmo, 2000). The meeting is a communication and coordination media used by members of the board of commissioners to oversee all directors' policies in managing the company, a high level meeting can improve the quality of the board of commissioners of a company in carrying out its duties in enhancing the quality of financial statements that will be presented to shareholders and stakeholders. Chen et al. (2006) find that high levels of meetings conducted by board members can reduce the possibility of fraud because regular meetings enable the board to identify and resolve potential problems, especially those related to the quality of financial statements. Thus the hypothesis proposed is:

H2: The frequency of the board commissioner meetings negatively influences the real earnings management.

### **2.9.3 The Relationship between Frequency of Audit Committee Meeting and Real Earnings Management**

The audit committee is required to be active in carrying out their duties. The activity of the audit committee can be measured by the number of meetings. A high frequency of meetings can improve the quality of earnings information on the company's financial statements because a high frequency of meetings can increase supervision to avoid financial irregularities or reduce the tendency of fraud in the company. The audit committee aims to carry out their duties and functions in assisting





the board of commissioners to run effectively, therefore members of the audit committee must hold meetings at least once in 3 months (Herwidayatmo, 2000).

Companies that have audit committees with a small frequency of meetings would tend to produce financial reports with poor quality. It can be concluded that the high frequency of audit committee meetings can minimize the occurrence of earnings management. Kusumaningtyas and Farida (2016) prove that companies with a high frequency of meetings would increase the effectiveness of the audit committee in suppressing the tendency for opportunistic management behavior to optimize their interests. Thus the hypothesis proposed is:

H3: The frequency of the audit committee meetings negatively influences the real earnings management.

#### **2.9.4 The Relationship between Audit Quality and Real Earnings Management**

To produce high quality earnings information on the financial statements, the company needs high quality audits as well. Auditors are required to be independent and objective in carrying out their duties. Independence is a mental attitude that must be owned by every auditor so that the opinions given are independent and objective, opinions that are independent of various elements of interest, and describe the actual condition of the company (Herwidayatmo, 2000).

Audit quality can be measured through the size of the accounting office. DeFond and Jiambalvo (1993) assume that large accounting firms are more independent. They found that disagreements between managers and accounting firms regarding accounting practices that are not consistent with Generally Accepted Accounting





Principles (GAAP), which greater in the subsample audited by the big 8 accounting firms compared to audited by small accounting firms, indicate that big 8 auditors are more competent and critical in detecting accounting irregularities compared to non big 8 accounting firms. Research conducted by Behn et al. (2008) finds that large accounting firms such as big 5 or now known as big 4 have higher audit quality compared to smaller accounting firms or non big 4 accounting firms. Companies with good audit quality will be better at detecting manipulation earnings and earnings management on financial statements (Antonia, 2008). Thus the hypothesis proposed is: H4: The audit quality negatively influences the real earnings management.





## CHAPTER III RESEARCH METHOD

### 3.1 Type of Research

This study uses quantitative method; quantitative method is a research method that is based on the philosophy of positivism and is used to study a particular population or sample. Data analysis is quantitative in order to test the hypothesis that has been set (Sugiyono, 2013:14). This study examined the influence of Corporate Governance (CG) to real earnings management. This type of research tested hypotheses to predict a phenomenon related to the quantitative method used in this study.

### 3.2 Population and Sample

The population in this study is public companies listed in Indonesia Stock Exchange (IDX) from 2016-2018. The sample of this study is the manufacturing industrial sector selected by the purposive sampling method. The researcher determined the manufacturing industrial sector as a sample in this study due to requirements in calculating production cost as a proxy of earnings management based on real operating activity. This study uses annual data based on Roychowdhury (2006) which stated that annual losses, on the other hand, are likely to be viewed more seriously by the numerous stakeholders of firms, such as lenders and suppliers, particularly because they are audited and considered more reliable. Thus, managers are likely to have greater incentives to avoid reporting losses. These sample procedures are conducted in order to avoid bias in data analysis.





1. Manufacturing companies listed on Indonesia Stock Exchange (IDX) from 2016 to 2018. According to production cost data, it only exists in manufacturing companies.

2. The company uses Rupiah currency in annual financial statements in order to avoid bias due to changes in other currencies.

3. The company did not experience losses during the period 2016 to 2018 in accordance with real earnings management used in this study. Real earnings management tends to be used in order to obtain profits not to generate losses for the company.

4. Companies whose accounting periods do not end December 31.

5. Complete data disclosure to support data analysis. Such as corporate governance and real earnings management.

### 3.3 Type and Source of data

Data used in this study is secondary data obtained from indirect information.

Secondary data used can be in the form of documentary data, taken from intermediate media resources. The data of the number of independent commissioners, frequency of board commissioner meeting, frequency of audit committee meeting, audit quality are obtained from company's annual report. While to obtain real earnings management, the data needed is as follows: cash flow from operating, total asset, sales, cost of good sold, inventory, research and development expenses, advertising expenses, selling expenses, and general & administration expenses are obtained from company's annual report listed in Indonesian Stock Exchange (IDX) website in 2016-2018.





### 3.4 Research Variables and Measurement

Variables used in this study involve independent variables and dependent variable.

The independent variable used in this study is corporate governance (the number of independent commissioners, frequency of meeting of board commissioner, frequency of meeting of audit committee, and audit quality) while dependent variable used in this study is real earnings management the combination of all components of real earnings management (abnormal cash flow, abnormal production cost, and abnormal discretionary expenses) (Cohen et al., 2008). The purpose of this study is to prove that corporate governance can reduce real earnings management action conducted by management who has the aim to fulfill their own interest.

#### 3.4.1 Dependent Variable

The dependent variable is the variable that is considered important because as the variables that will be affected by some other variable or variables are independent. Real earnings management variables in this study is used as an indicator of the dependent variable. Real earnings management is earnings management which is done through the manipulation of the company's real activities. Managers are more likely to choose earnings management by manipulating the real activities of real operations considered to be able to capture real effects better than just operating accruals. Real earnings management practices was detected using estimation models by Roychowdhury (2006) which has been developed empirically to detect real activities manipulation.

Roychowdhury explains that there are three measures of real earnings management that





can be conducted by managers, as follows: abnormal cash flow from operating (ACFO), abnormal production costs (APROD), and abnormal discretionary costs (ADISEXP).

The measurement of each size is presented as follows.

#### A. Abnormal Cash Flow from Operating (ACFO)

The steps to calculate abnormal cash flow from operating are as follows (Roychowdhury, 2006).

1. Calculate the coefficient of the estimated normal cash flow from operating by using the following regression equation.

$$CFOt/At-1 = \alpha_0 + \alpha_1 (1/At-1) + \beta_1 (St/At-1) + \beta_2 (\Delta St / At-1) + \epsilon_t$$
 The coefficient obtained is entered back into the regression equation above to calculate the estimated cash flows from normal operating activities (CFO).

2. Calculating abnormal cash flow from operating (ACFO) by subtracting the value of actual cash flow from operating with the estimated value of expected operating cash flow, for more details, it can be seen in the following equation.

$$ACFO = CFOt/At-1 - (\alpha_1 (1/At-1) + \beta_1 (St/At-1) + \beta_2 (\Delta St / At-1))$$

The interpretation of abnormal cash flow from operating is the lower the abnormal operating cash flow, the higher the real earnings management behavior of the manager.

#### B. Abnormal Production Costs (APROD)

The steps to calculate abnormal production costs are as follows (Roychowdhury, 2006).





1. Production costs are defined as the cost of goods sold plus inventory changes ( $\Delta$  inventory). Calculating the coefficient from the estimated normal production costs by using the following regression equation.

$$\text{PRODt}/\text{At}-1 = \alpha_0 + \alpha_1(1/\text{At}-1) + \beta_1(\text{St}/\text{At}-1) + \beta_2(\Delta\text{St}/\text{At}-1) + \beta_3(\Delta\text{St}-1/\text{At}-1)$$

+  $\epsilon_t$ . The coefficient obtained is entered back into the regression equation above to calculate the estimated normal production costs (PROD).

2. Calculating abnormal production costs (APROD) by subtracting actual production costs with the estimated normal production costs, as in the following equation.

$$\text{APROD} = \text{PRODt}/\text{At}-1 - (\alpha_1(1/\text{At}-1) + \beta_1(\text{St}/\text{At}-1) + \beta_2(\Delta\text{St}/\text{At}-1) + \beta_3(\Delta\text{St}-1/\text{At}-1))$$

The interpretation of abnormal production costs is the higher the abnormal production costs, the higher the real earnings management conducted by the manager.

### C. Abnormal Discretionary Expenses (ADISEXP)

The steps to calculate abnormal discretionary expenses are as follows (Roychowdhury, 2006).

1. Calculate the coefficient of a normal discretionary expenses estimates by using the following regression equation.

$$\text{DISEXPt}/\text{At}-1 = \alpha_0 + \alpha_1(1/\text{At}-1) + \beta(\text{St}/\text{At}-1) + \epsilon_t$$





The coefficient obtained is entered back into the regression equation above to calculate the estimated normal discretionary expenses (DISEXP).

2. Calculating abnormal discretionary expenses (ADISEXP) by subtracting actual discretionary expenses with the estimated normal discretionary expenses, for more details, it can be seen in the following equation.

$$ADISEXP = DISEXP_t / A_{t-1} - (\alpha_1 (1/A_{t-1}) + \beta (St/A_{t-1}))$$

The interpretation of abnormal discretionary expenses is the lower the abnormal discretionary expenses, the higher the real earnings management behavior of the manager.

#### D. Combined Real Earnings Management

Cohen et al. (2008) calculate real earnings management by summing the three variables of real earnings management as follows: ACFO, APROD, and ADISEXP.

Real earnings management model is estimated using the following model:

$$REM = ACFO + APROD + ADISEXP$$

Explanation:

CFO<sub>t</sub> : Operating cash flow of the company i in the year of t

PRODT : Production costs of the company i in the year of t

DISEXP<sub>t</sub> : Discretionary expenses of the company i in the year of t

ACFO : Abnormal cash flow from operation

APROD : Abnormal production costs

ADISEXP : Abnormal discretionary expenses





REM : A combination of all components of real earnings management

At-1 : Total assets of the company i in the year of t-1 (previous year)

St : total sales of the company in the year of t

$\Delta St$  : Changes in sales in the year of t

$\Delta St-1$  : Changes in sales in the year of t-1

$\epsilon_t$  : Error

### 3.4.2 Independent Variable

Independent variable is variable that is assumed to have a direct effect on the dependent variable. Independent variables used in this study are the number of independent commissioners (INDCOM), frequency of board commissioner meeting (FMBOC), frequency of audit committee meeting (FMAUC), and audit quality (AQ).

The definition and measurement of each variables are explained below.

#### 3.4.2.1 The number of independent commissioners (INDCOM)

The number of independent commissioners is a member of the board of commissioners who has no affiliation with management, directors or other members of the board of directors, and majority shareholders so that they cannot intervene or influence the independent board of commissioners in performing obligations for the benefit of the company and shareholders especially for minority shareholders (Herwidayatmo, 2000). The number of independent commissioners is measured by using the percentage of the number of independent commissioners to the total number





of commissioners in the composition of the board of commissioners.

$$\text{INDCOM} = \frac{\text{the number of independent commissioners}}{\text{The total number of commissioners}} \times 100\%$$

The total number of commissioners

#### 3.4.2.2 Frequency of meeting of board commissioner (FMBOM)

According to Regulation of financial services authority number 57/POJK.04/2017 concerning the application of securities company governance that conducts business

activities as a securities emission guarantee and securities intermediary, the board of commissioners must hold meetings at least four times a year. The frequency of the board commissioner meeting is measured by

$$\text{FMBOM} = \frac{\text{Total number of meeting held by board commissioner in a year.}}{\text{Total number of board commissioner in a year.}}$$

#### 3.4.2.3 Frequency of meeting of audit committee (FMAUC)

Based on the Financial Services Authority (OJK) number 55/POJK.04/2015 concerning the establishment and guidelines for the performance of the audit committee, the audit committee must hold regular meetings at least four times a year.

The frequency of audit committee meeting is measured by

$$\text{FMAUC} = \frac{\text{Total number of meeting held by audit committee in a year.}}{\text{Total number of audit committee in a year.}}$$

#### 3.4.2.4 Audit quality

DeAngelo (1981) and Datar et al. (1991) claim that large and more prestigious public accounting firms concerned about protecting their investment in reputation capital have more incentive than other auditors to supply a high-quality audit. Further, Craswell et al. (1995) note that although all public accounting firms must comply with





minimum professional standards, the Big 5 firms voluntarily invest in higher levels of expertise and have incentives to provide higher quality audits to protect their reputations. According to previous research, audit quality can be measured by using a dummy variable with a value of 1 for the big four (Deloitte Touche Tohmatsu, Ernst & Young, KPMG, PricewaterhouseCooper) and a value of 0 for non-big four KAP (Behn et al., 2008; Sasono, 2011).

### **3.5 Data Analysis Method**

In analyzing data, this study uses SPSS 16 software. The analysis consists of descriptive statistics, multiple regression analysis, classic assumption test, and hypothesis testing.

#### **3.5.1 Descriptive Statistic**

This study conducted a descriptive statistical analysis to obtain a description data in the form of numbers. This study variables include the minimum value, maximum value, average value, and standard deviation. Variables analyzed include corporate governance proxied by the number of independent commissioners, frequency of meeting of board commissioner, frequency of meeting of audit committee, and audit quality while earnings management proxied by the combination of real earnings management.

#### **3.5.2 Multiple Regression Analysis**

Regression analysis is a set of statistical processes for estimating the relationship





between a dependent variable and one or more independent variables. This study uses multiple regression, which is an extension of simple linear regression. In this analysis, a regression equation will be tested in order to prove the hypothesis is significant or not. Thus, through multiple regression analysis, the researcher will be able to measure the relationship between corporate governance mechanisms and real earnings management, the equation of regression analysis is described below:

$$REM_{it} = \alpha + \beta_1 INDCOM_{it} + \beta_2 FMBOC_{it} + \beta_3 FMAUC_{it} + \beta_4 AQ_{it} + \epsilon_{it}$$

**Note:**

REM : Real Earnings Management

$\alpha$  : Constanta

$\beta$  : Regression coefficient

$\epsilon$  : Residual error

INDCOM : Independent Commissioner

FMBOC : Frequency of board commissioner's meeting

FMAUC : Frequency of audit committee's meeting

AQ : Audit Quality

### 3.5.2.1 Coefficient of Determination

The coefficient of determination (R squared) is used to measure how much proportion or percentage influence is given simultaneously by the independent variables to explain the dependent variable. R squared ( $R^2$ ) is located between 0 and 1 ( $0 \leq R^2 \leq 1$ ). It means that if adjusted  $R^2$  close to 1 indicates that the independent variables





have high explanatory information data on the dependent variable, and if adjusted  $R^2$  is close to 0 indicates that the independent variables have weak explanatory information data on the dependent variable.

### 3.5.2.2 F-Test

The F-test is used to determine whether the independent variables are appropriate to predict the dependent variable. The decision criteria includes comparing the F-value to the table (F-table) or comparing significant value obtained to the significant level of this study (0.05). If the F-value is greater than F-table or significant value obtained less than a significant level of this study, it means at least there is one of the independent variables which can predict the score of the dependent variable.

### 3.5.3 Classic Assumption

Classical assumption is used to ensure that the regression model tested is feasible or valid to be used as a basis for hypothesis decision making. Therefore, the regression model must meet the classical assumption's condition in which there are no symptoms of normality, multicollinearity, heteroscedasticity, and autocorrelation.

#### 3.5.3.1 Normality Test

Normality test in the regression model used to test whether the residual values generated from the regression are normally distributed or not. A good regression model is one that has a normally distributed residual value. This assumption uses a histogram and normal probability plot to determine residual normality from the regression model.

#### 3.5.3.2 Multicollinearity Test

The purpose of the multicollinearity test in this study is to test whether there is a





correlation (strong relationship) among independent variables. In a good regression model, independent variables should not correlate with each other. In order to detect multicollinearity symptoms in the regression model can be seen from the value of tolerance and variance inflating factor (VIF). If the tolerance value is  $> 0.10$  and VIF is  $< 10$ , so it can be concluded that there is no multicollinearity in the regression model, while if the tolerance value is  $< 0.10$  and VIF is  $> 10$ , which means there is multicollinearity in the regression model.

### 3.5.3.3 Heteroscedasticity Test

Heteroscedasticity test aims to test whether in the regression model variants of residual is unequal with the observation. Residues should have a constant variant (homoscedasticity). A good regression model is free from heteroscedasticity, if the variance of the residue increases or decreases with a certain pattern, it means there is heteroscedasticity. Otherwise, if there is no clear pattern and the points spread above and below the number 0 on the Y axis, it can be concluded that there is no heteroscedasticity.

### 3.5.3.4 Autocorrelation Test

This study uses time series data (data obtained within a certain period), it is necessary to do an autocorrelation test on the regression model to determine that there is no autocorrelation between  $t$  time and previous time data ( $t-1$ ). A good regression model is a regression that is free of autocorrelation symptoms. This study uses Durbin-Watson to detect autocorrelation symptoms in the regression model.





### 3.5.4 Hypotheses Testing

The purpose of hypothesis testing is to answer the hypothesis that have been constructed in Chapter 2. These can be checked through a statistical measurement called t-test. The level of confidence is the conventionally accepted level for most business research, most commonly expressed by denoting the significance level as  $p \leq 0.05$ . in other words, at least 95 times out of 100 the estimation will reflect the true population characteristic (Sekaran and Bougie, 2013:262).

#### 3.5.4.1 T-test

To test the hypothesis in this study, researchers used a one-tailed t test because the type of hypothesis used included directed hypotheses, so that the level of error or significant level ( $\alpha$ ) will be placed in one location (left tail or right tail only). Because the hypothesis in this study is negative then a significant level will be placed on the left tail only (Sugiyono, 2013:232). The assessment is as follows:

- a. If t-value is  $> t$ -table or if sig.t is  $< \alpha$ ; it means that the independent variables significantly influence the dependent variable, and  $H_0$  is accepted.
- b. If t-value is  $< t$ -table or if sig. t is  $< \alpha$ ; it means that the independent variable has no significant effect on the dependent variable, and  $H_0$  is rejected.





## CHAPTER IV

### RESULTS AND DISCUSSION

#### 4.1 Description of Population and Sample

Population in this study are manufacturing public companies listed in Indonesian Stock Exchange in 2016-2018. Sample is determined using purposive sampling method. The selection process of purposive sampling based on the criteria are implemented, the selection process of sample can be seen in table 4.1 below.

**Table 4.1**  
**Purposive Sampling Result**

No	Description	Total
1	Total manufacturing company listed in IDX	189
2	Manufacturing companies are inconsistently listed in IDX in 2016-2018	-64
3	Companies did not use rupiah as currency in their financial statements	-24
4	Companies have experienced loss	-25
5	Companies whose accounting periods do not end December 31	-5
6	Companies are missing some information related to independent and dependent variables	-38
	<b>Total observations</b>	<b>33</b>
	<b>Total observations in three years</b>	<b>99</b>

See appendix I





## 4.2 Descriptive Statistic

This section provides the result of descriptive statistics analysis. The analysis using descriptive statistics was conducted on 99 data that have met the criteria for further data processing in appendix 6. The purpose of conducting descriptive analysis is to obtain an overview or description of all variables used in this study consisting the number of independent commissioner, board commissioner meeting frequency, audit committee meeting frequency, and audit quality. Descriptive statistics include average, standard deviation, maximum, and minimum. Because the variable of audit quality is a categorical type (nominal or ordinal), the researcher used descriptive frequencies in order to facilitate the description of data. The data of the descriptive statistics is demonstrated and summarized in Table 4.2 below.

**Table 4.2**  
**Descriptive Statistics**

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Independent Commissioner (INDCOM)	99	0.17	0.80	0.42	0.12
Frequency of Board Commissioner meeting (FMBOC)	99	1.00	24.00	8.60	4.33





Frequency of Audit committee meeting (FMAUC)	99	1.00	38.00	7.67	6.39
Real Earnings Management (REM)	99	- 0.68	0.77	0.00	0.23

Variable	N	Category	Frequency	Percent	Cum. Percent
Audit Quality (AQ)	99	big 4	47	47.5	47.5
		non big 4	52	52.5	100

See appendix 7

Standard deviation is used to measure variations or distribution of samples from population data. If the standard deviation is higher than the mean value, it means the sample used is more varied (heterogeneous), or there is a possibility of errors in the generalization of data. Otherwise, if standard deviation is lower than the mean value, it means the sample used is less varied (homogeneous), or the possibility of an error in generalizing data is minimal. It can be concluded that the smaller the value of standard deviation, the more reliable the data of sample in presenting the population. Based on Table 4.2, the standard deviation of INDCOM, FMBOC, and FMAUC are lower than the mean or the mean gap is low. Most of the data show that the mean is larger than standard deviation except REM. It is not a problem because the number of data is quite large (more than 30 data), and most of the type of data used is ratio data, which is the data with the highest level of measurement among other types of data. So, it does not cause econometric problems. Based on table 4.2, the frequency of AQ are 47 (or 47.5%)





for the big 4 and 52 (or 52.5%) for the non-big 4. It means there are 47 sample companies using big 4 as their audit service and 52 others use non-big 4 as their audit service.

#### 4.3 Regression for Each Real Earnings Management

This section provides the result of regression for each real earnings management, which was entered into the formula to obtain or to find abnormal value in this study.

The result of regression for each real earnings management is demonstrated and summarized in Table 4.3 below.

**Table 4.3**  
**Regression Parameters for Each Real Earnings Management**

	CFO/ $A_{t-1}$	PROD/ $A_{t-1}$	DISCR/ $A_{t-1}$
Intercept	0.018	0.134**	-0.070*
$1/A_{t-1}$	-20838377613**	30149163276*	-21042109062**
$St/A_{t-1}$	0,125**	-0.645**	
$\Delta St/A_{t-1}$	-0.221*	-0.121	
$\Delta St-1/A_{t-1}$		-0.191	
$St-1/A_{t-1}$			-0.103**
F-value	8.759**	80.559**	13.787**
Adjusted R <sup>2</sup>	0.217	0.774	0.223

\*Significant at 0.05. \*\*significant at 0.01. See appendix 2, 3, 4.





The results of the analysis related to the estimation model for each proxy for real earnings management are presented in Table 4.3 above. Table 4.3 explains the regression coefficients used to estimate the transaction value of operational activities (cash flow, production cost, and discretionary expense). The table shows that almost all the coefficients of the variables used to estimate the activity are significant. It means that the regression model is accurate. The highest explanatory power is shown by the model for production cost activities, which is 77.4%. Otherwise, the lowest explanatory power is shown by the model for cash flow from the operation, which is 21.7%. The explanatory power for the model of discretionary expenses activity is 22.3%. The estimation results of each real earnings management proxy for finding abnormal values in each operational activity will be combined to find the combined value of the company's abnormal activities (abnormal CFO, Abnormal PROD, and Abnormal DISCR) see appendix 5.

#### **4.4 Multiple Regression Analysis**

The regression analysis is used to examine the relationship between corporate governance on real earnings management. The result of the multiple regression analysis is shown in Table 4.4 below.





**Table 4.4**  
**Result of multiple regression**

Variable	Coefficients	t-value	F	R <sup>2</sup>
Constant	0.441*	5.437	9.498*	0.288
Independent commissioner (INDCOM)	-0.852*	-4.950		
Frequency of board commissioner meeting (FMBOC)	0.000	-0.084		
Frequency of audit committee meeting (FMAUC)	-0.005	-1.687		
Quality audit (QA)	-0.071	-1.730		

\*significant at 0.01. See appendix 8

The coefficient of determination is used to measure how much the independent variables (INDCOM, FMBOC, FMAUC, and AQ) influence the dependent variable, which is real earnings management (REM). Based on Table 4.4, the coefficient of determination (R<sup>2</sup>) is 0.288, in which means that 28.8% of the dependent variable (REM) is influenced by the independent variables (INDCOM, FMBOC, FMAUC, and AQ). Meanwhile, the rest of 71.2% of the dependent variable (REM) is influenced by other independent variables, which is not discussed in this study.

Based on table 4.4, the result of F-value is 9.498 with significant at 0.01 level.

While the F-table is 2.470. Since F-value is > F-table, which is 9.498 > 2.470, or the value of sig-F (0.000) is < α (0.050). Thus it can be concluded that independent





commissioner (INDCOM) is successfully proven as the proxy of corporate governance that can reduce real earnings management. The variable of independent commissioner resulted in significance value is lower than 0.05, which concludes the  $H_a$  is accepted and supported by hypothesis and theory used.

#### 4.5 Classic Assumption

The result of multiple regression is suitable to the model because there is no violations of classical assumptions required, such as normality of error, multicollinearity, heteroscedasticity, and autocorrelation. Thus, the regression model is feasible for being used to test the research hypothesis.

##### 4.5.1 Normality Test

The normality test is used to test if the residual or error in the regression model is normally distributed. Typically, it is used to test the assumption using the histogram and normal probability plot. Based on Appendix 8, it can be concluded that the residual or error has been distributed normally in the histogram and normal probability plot. Thus, the normality assumption is fulfilled and fits the model.

##### 4.5.2 Multicollinearity Test

The multicollinearity test is conducted in order to find out that the regression model has no correlation or perfect linear relation among independent variables. The measurement to identify multicollinearity is the tolerance value and the variance inflation factor (VIF). If the tolerance value  $> 0.10$  and  $VIF < 10$ , thus it can be concluded that there is no multicollinearity among the independent variables in the regression model and vice versa. Multicollinearity test can be seen in Table 4.5 below.





**Table 4.5**  
**The Result of Multicollinearity Test**

Variable	Collinearity Statistics	
	Tolerance	VIF
INDCOM	0.921	1.086
FMBOC	0.949	1.054
FMAUC	0.958	1.044
AQ	0.913	1.096

See appendix 8

Based on Table 4.5 above, it can be concluded that the result of tolerance value for all the independent variables are  $> 0.10$ . Moreover, the VIF value for all the independent variables are  $< 10$ , which means there are no correlation or perfect linear relation among independent variables in the regression model. In other words, the regression model is free from multicollinearity.

#### 4.5.3 Heteroscedasticity Test

Heteroscedasticity is conducted in order to find out that the residuals should have constant variance (homoscedasticity). A good regression model is a model that is free from heteroscedasticity. Heteroscedasticity test is done using the graphic plot test by checking whether there is a particular pattern in the scatterplot graph between variance X and Y or not. According to Appendix 8, the scatterplot diagram shows the dots randomly spread and does not form a particular pattern. Thus, it can be concluded that the regression model is free from heteroscedasticity.

#### 4.5.4 Autocorrelation Test

Autocorrelation test is used in time-series regression; the multiple linear regression





model assumes that there is no autocorrelation between spam error in period  $t$  with residue error in the previous period ( $t-1$ ). A good regression model is a model which is free from autocorrelation. It can be proven by using Durbin-Watson test (DW) by comparing durbin value ( $d$ ) with  $d_U$  (durbin Upper) and  $d_L$  (durbin Lower) in the table of Durbin Watson. If  $d > d_U$  or  $d > (4-d_L)$ , that means there is autocorrelation of the residual. Otherwise, if  $d_U < d < (4-d_U)$ , that means there is no autocorrelation of the residual in the regression model. The autocorrelation test can be seen in Table 4.6 below.

**Table 4.6**  
**The result of the autocorrelation test**

Model	Durbin-Watson
1	1.847

See appendix 8

Based on Table 4.6 above, the result shows that the Durbin-Watson (DW) value is 1.847, which is located between 1.757 and 2.243 ( $1.757 > 1.847 < 2.243$ ), it can be concluded that in the assumption there is no autocorrelation which has been fulfilled or the multiple regression model used in this study is feasible and appropriate to test the hypothesis.

#### 4.6 Hypothesis Testing

The purpose of hypothesis testing is to answer the hypothesis that has been constructed in Chapter 2. These can be checked through a statistical measurement called t-test. If  $t\text{-value} > t\text{-table}$ , then the results are significant, which means  $H_0$  is





rejected, and  $H_1$  is accepted. However, if  $t\text{-value} < t\text{-table}$ , then the results are not significant, which means  $H_0$  is accepted, and  $H_1$  is rejected. Because this study has a negative hypothesis direction, this study will use a one-tailed test with alpha levels or significance levels of 5%. A one-tailed test has the entire 5% of the alpha level in one tail (in either the left, or the right tail). Based on the hypothesis proposed, the location of the alpha level is located on the left tail (Sugiyono, 2013: 232). The t-test can be seen in Table 4.7 below.

**Table 4.7**  
**The result of t-test**

Variable	T	Sig.
Constant	5.437	.000
INDCOM	-4.950	.000
FMBOC	-0.084	.933
FMAUC	-1.687	.095
AQ	-1.730	.087

See appendix 8

Based on table 4.7, the t-value of INDCOM is 4.950 while t-table is 1.661. Since t-value is  $> t\text{-table}$ , which is  $4.950 > 1.661$  or p value is 0.000 from sig.  $t$   $0.000 < \alpha = 0.05$ , it means that the influence of INDCOM on REM is significant. The t-value of FMBOC is 0.084 while t-table is 1.661. Since t-value is  $< t\text{-table}$ , which is  $0.084 < 1.661$  or p value is 0.933 from sig.  $t$   $0.933 > \alpha = 0.05$ , it means that the influence of FMBOC on REM is not significant. The t-value of FMAUC is 1.687 while t-table is 1.661. Since t-value is  $> t\text{-table}$ , which is  $1.687 > 1.661$  or p value is 0.095 from sig.  $t$   $0.095 > \alpha = 0.05$ , it means that the influence of FMAUC on REM is not significant. The





t-value of AQ is 1.730 while t-table is 1.661. Since t-value is  $>$  t-table, which is  $1.730 > 1.661$  or p value is 0.087 from sig. t  $0.087 > \alpha = 0.05$ , it means that the influence of AQ on REM is not significant.

From the result above, it can be concluded that hypotheses 1 which states that the number of independent commissioner negatively influences real earnings management are supported by empirical evidence in this study. Meanwhile, hypothesis 2, 3, 4 which states that frequency of board commissioner meeting, frequency of audit committee meeting, and audit quality have no influence to real earnings management.

#### 4.7 Discussion

This section further discusses the result of the hypothesis test regarding the number of independent commissioner, frequency of board commissioner meeting, frequency of audit committee meeting, and audit quality to real earnings management.

##### 4.7.1 The influence of the number of independent commissioners to real earnings management

Based on the result of hypothesis test, this study shows significant cause relationship between the number of independent commissioner (INDCOM) and real earnings management (REM). Therefore, the first hypothesis stated that the number of independent commissioners has negative influence to real earning management is accepted. It means that corporate governance has been effective in reducing earnings management practices in Indonesian public companies.

This study has empirically proven that non-controlling shareholders (minority





shareholders) who are authorized by the financial services authority (OJK) to elect independent commissioners have proven effective in reducing earnings management practices that can be conducted by management. It can be concluded that the existence of an independent commissioner is proven to be able to overcome the agency problem related to accounting irregularities that can be committed by management or internal party which can harm shareholders.

This study result is in line with Sasono (2011) and Nabila and Daljono (2013) who stated that the more independent commissioners, the better the quality of supervision conducted by the increasing number of independent parties in the company demanding transparency in financial statement. So that it can reduce the possibility of accounting irregularities committed by management who can concurrently become company management.

#### **4.7.2 The influence of frequency board commissioner meeting to real earnings management**

Based on the result of the hypothesis test, this study shows an insignificant cause relationship between the frequency of board commissioner meeting (FMBOC) and real earnings management (REM). Therefore, the second hypothesis stated that the frequency of board commissioner meeting has negative influence on real earning management is rejected. It means that corporate governance has not been effective in reducing earnings management practices in Indonesian public companies.

This study empirically proven that regulations of financial services authority (OJK) regarding the frequency of board commissioner meeting are still not effective in





detecting accounting irregularities that can cause agency problem. Through this meeting, the board of commissioners is expected to be able to control and reduce the chance of irregularities in the management of the company with the aim of producing a high quality financial statement which does not contain information that could mislead and harm shareholders.

This study is in line with Prastiti and Meiranto (2013) and Ichsany and Husain (2018), which stated that no matter how often the board commissioner holds the meeting, it does not have any effect on the company's earnings management. In other word, the frequency of board commissioner meeting is still ineffective in conducting it is role as corporate governance in order to detect or reduce earnings management practice in Indonesian public companies.

#### **4.7.3 The influence of frequency audit committee meeting to real earnings management**

Based on the result of the hypothesis test, this study shows an insignificant relationship between the frequency of audit committee meeting (FMAUC) and real earnings management (REM). Therefore, the third hypothesis stated that the frequency of audit committee meeting has negative influence on real earning management is rejected. It means that corporate governance has been ineffective in reducing earnings management practices in Indonesian public companies.

This study has empirically proven that the frequency of audit committee meeting, which is regulated by financial services authority (OJK), is unable to detect or reduce earnings management activity through how often audit committee conduct the meeting.





In other words, the frequency of audit committee meeting is still not effective in detecting accounting irregularities that can cause agency problem. Through this meeting, the board of commissioners is expected to be able to control and reduce the chance of irregularities in the management of the company with the aim of producing a high quality financial statement which does not contain information that could mislead and harm shareholders.

This study is in line with Susanto and Pradipta (2016) which found that an ineffective audit committee cannot improve the quality or reliability of a financial statement as a communication bridge between the company and the public. In other words, the frequency of audit committee meeting does not make any influence to prevent real earnings management practices.

#### **4.7.4 The influence of audit quality to real earnings management**

Based on the result of the hypothesis test, this study shows an insignificant relationship between the audit quality (AQ) and real earnings management (REM).

Therefore, the fourth hypothesis stated that the audit quality has negative influence on real earning management is rejected. It means that corporate governance has been ineffective in reducing earnings management practices in Indonesian public companies.

This study has empirically proven that audit quality cannot reduce earnings management activities on financial statements. In order to produce high quality of earnings information on the financial statements, the company needs high quality audit as well. Financial statements with high quality earnings information are more reliable than financial statements with low quality earnings information. It is because high





quality financial statements can better describe the financial condition and management performance related to shareholder considerations in investment decision making.

This study is in line with Marsha and Ghozali (2017) who found that large accounting firms such as Big 4 have no influence to earnings management, it means there is no difference between accounting firms such as big 4 and non-big 4 related which are more competent and critical in detecting accounting irregularities in the financial statements.





## CHAPTER V

### CONCLUSION, LIMITATION, AND SUGGESTION

#### 5.1 Conclusion

This study aims to provide empirical evidence regarding the influence of number of independent commissioners, frequency of board commissioner meeting, frequency of audit committee meeting, audit quality on real earnings management. The data obtained from public companies listed in Indonesian Stock Exchange from 2016-2018 proved that almost all independent variables (have no influence to real earnings management, except for the number of independent commissioners, which has negative and a significant influence to real earnings management. Based on the results of the t test, it was found that the number of independent commissioner variable has the highest t value. It means that the number of independent commissioner variable becomes the most significant and dominant variable among others in this study.

This result indicates that the regulation of corporate governance mechanisms in Indonesia is still not effective in detecting real earnings management practices. This condition is related to the ownership structure of companies in Indonesia which are still highly concentrated, or in other words, controlled by one family or group. So that there is cooperation between affiliated companies related to earnings management practices through operational activities that make auditors difficult to detect because everything has been planned and supported by valid transaction evidence (Herwidayatmo, 2000; Subekti et al., 2010).





## 5.2 Research Limitations

There is a limitation in this study, this study only used sample data of manufacturing companies in 2016-2018, which is a relatively short observation time.

There is the number of unused samples which did not fulfill the selection criteria such as, company with unavailability of annual report (64 companies), company with experienced loss (25 companies), company whose accounting period do not end

December 31 (5 companies), company with incomplete data (38 companies). These unused samples might have influence in the statistical analysis.

## 5.3 Suggestion for Future Research

Based on limitation above, future researchers are expected to use a longer period of time observation, more than three years observation in order to obtain the insight of real conditions associated with the corporate governance mechanisms and real earnings management in Indonesia.





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## APPENDICES

### Appendix 1 – Sample Data

No	Stock Code	Name of Company
1	AGLI	Aneka Gas Industri Tbk.
2	AKPI	Argha Karya Prima Industry Tbk
3	AMFG	Asahimas Flat Glass Tbk.
4	ARNA	Arwana Citramulia Tbk.
5	CPIN	Charoen Pokphand Indonesia Tbk
6	FASW	Fajar Surya Wisesa Tbk.
7	MAIN	Malindo Feedmill Tbk.
8	PICO	Pelangi Indah Canindo Tbk
9	SPMA	Suparma Tbk.
10	WSBP	Waskita Beton Precast Tbk.
11	WTON	Wijaya Karya Beton Tbk.
12	ADES	Akasha Wira International Tbk.
13	CEKA	Wilmar Cahaya Indonesia Tbk.
14	CINT	Chitose Internasional Tbk.
15	DLTA	Delta Djakarta Tbk.
16	DVLA	Darya-Varia Laboratoria Tbk.
17	HMSP	H.M. Sampoerna Tbk.
18	ICBP	Indofood CBP Sukses Makmur Tbk
19	INDF	Indofood Sukses Makmur Tbk.
20	KINO	Kino Indonesia Tbk.
21	KLBF	Kalbe Farma Tbk.





22	MLBI	Multi Bintang Indonesia Tbk.
23	SIDO	Industri Jamu dan Farmasi Sido
24	TCID	Mandom Indonesia Tbk.
25	UNVR	Unilever Indonesia Tbk.
26	WIIM	Wismilak Inti Makmur Tbk.
27	BELL	Trisula Textile Industries Tbk.
28	BIMA	Primarindo Asia Infrastructure
29	INDS	Indospring Tbk.
30	SMSM	Selamat Sempurna Tbk.
31	STAR	Buana Artha Anugerah Tbk.
32	TRIS	Trisula International Tbk.
33	VOKS	Voksel Electric Tbk.





## Appendix 2 - Regression for Each Earnings Management Proxy (CFO)

### A. Coefficient of Cash Flow from Operation (CFO)

Variables Entered/Removed <sup>b</sup>			
Model	Variables Entered	Variables Removed	Method
1	$\Delta St/At-1$ $St/At-1$ $1/At-1$		Enter
a. All requested variables entered.			
b. Dependent Variable: CFOt/At-1			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.465 <sup>a</sup>	.217	.192	.1409039
a. Predictors: (Constant), $\Delta St/At-1$ , $St/At-1$ , $1/At-1$				

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.522	3	.174	8.759	.000 <sup>a</sup>
	Residual	1.886	95	.020		
	Total	2.408	98			
a. Predictors: (Constant), $\Delta St/At-1$ , $St/At-1$ , $1/At-1$						





ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.522	3	.174	8.759	.000 <sup>a</sup>
	Residual	1.886	95	.020		
	Total	2.408	98			
b. Dependent Variable: CFOt/At-1						

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.018	.034		.525	.601
	1/At-1	-20838377612.767	8671934364.1	-.247	-2.403	.018
	St/At-1	.125	.026	.451	4.843	.000
	ΔSt/At-1	-.221	.104	-.220	-2.128	.036
a. Dependent Variable: CFOt/At-1						



## B. Data entered into the estimation formula in order to find abnormal cash flow.

Code	Year	CFOt/At-1	1/At-1	St/At-1	$\Delta St/At-1$
AGII	2016	0,026064657	2,01879E-13	0,33333044	0,045361305
	2017	0,036548591	1,71007E-13	0,314381737	0,032026317
	2018	0,04859919	1,56164E-13	0,323767327	0,036673604
AKPI	2016	0,133403368	3,46844E-13	0,710064865	0,010319338
	2017	0,055670183	3,82276E-13	0,789346072	0,006742973
	2018	-0,006149811	3,64255E-13	0,869630849	0,117495122
AMFG	2016	0,077990762	2,34177E-13	0,872092547	0,013602403
	2017	0,054330059	1,81657E-13	0,705879863	0,02937679
	2018	0,034592273	1,59545E-13	0,708901155	0,088941826
ARNA	2016	0,066829562	6,9892E-13	1,056751507	0,153798672
	2017	0,159147618	6,47997E-13	1,122969841	0,143211937
	2018	0,222790568	6,24474E-13	1,231137667	0,148932601
CPIN	2016	0,168407993	4,05106E-14	1,549807119	0,330125909
	2017	0,073026087	4,13138E-14	2,039553738	0,459018044
	2018	0,205359768	4,07787E-14	2,200322127	0,187183223
FASW	2016	0,315564683	1,42987E-13	0,84001319	0,13079696
	2017	0,129721275	1,16506E-13	0,854828591	0,170383545





		2018	0,184980152	1,06725E-13	1,060664406	0,277604653
	MAIN	2016	0,063503511	2,52393E-13	1,321961426	0,116779008
		2017	0,067833976	2,55117E-13	1,388194582	0,051966052
		2018	0,090344289	2,45565E-13	1,646730968	0,310515883
	PICO	2016	0,010886727	1,65074E-12	1,164979074	0,010597936
		2017	-0,067262706	1,56601E-12	1,169908563	0,06472936
		2018	0,105122841	1,38843E-12	1,077483292	0,040237647
	SPMA	2016	0,121902513	4,57569E-13	0,884221728	0,142266673
		2017	0,061037841	4,63209E-13	0,969560443	0,074439005
		2018	0,103088372	4,5963E-13	1,098180766	0,136110827
	WSBP	2016	-0,700512209	2,30818E-13	1,088805341	0,478447457
		2017	-0,175750085	7,28106E-14	0,517257867	0,173799428
		2018	0,121860478	6,70262E-14	0,536219265	0,060054868
	WTON	2016	-0,017784067	2,24412E-13	0,781340961	0,186061765
		2017	0,119254118	2,14451E-13	1,149940634	0,403281181
		2018	0,10376077	1,41483E-13	0,980567586	0,22189733
	ADES	2016	0,182412159	1,53087E-12	1,358895264	0,333634404
		2017	0,113617441	1,30297E-12	1,061253793	-0,095342022
		2018	0,174460509	1,19014E-12	0,957233444	-0,012125165





14	CEKA	2016	0,118511382	6,73026E-13	2,769867521	0,423877252
		2017	0,146463014	7,0128E-13	2,985866426	0,099719706
		2018	0,206270407	7,18062E-13	2,60608402	-0,451238301
15	CINT	2016	0,103867311	2,61228E-12	0,855328464	0,031860025
		2017	0,083188267	2,50415E-12	0,936442658	0,116517501
		2018	-0,020509502	2,09829E-12	0,777188329	-0,007480658
16	DLTA	2016	0,250261024	9,63092E-13	0,746366089	0,072676352
		2017	0,285693006	8,34866E-13	0,648948491	0,001953637
		2018	0,255431554	7,458E-13	0,66600378	0,086287539
17	DVLA	2016	0,136219213	7,26597E-13	1,054551791	0,10554446
		2017	0,150674796	6,53012E-13	1,028916512	0,081163265
		2018	0,016228078	6,09427E-13	1,035816713	0,075575011
18	HMSP	2016	0,370331778	2,63084E-14	2,511571655	0,168303845
		2017	0,3617252	2,35248E-14	2,331110339	0,08527344
		2018	0,46808033	2,31798E-14	2,474252686	0,177334689
19	ICBP	2016	0,172622601	3,76497E-14	1,294217937	0,099174703
		2017	0,179031808	3,45997E-14	1,231979	0,042604637
		2018	0,147167822	3,1626E-14	1,214863929	0,088768411
20	INDF	2016	0,078138776	1,08895E-14	0,725888885	0,028285896





		2017	0,078692076	1,2092E-14	0,848693202	0,042649934
		2018	0,067146721	1,13121E-14	0,830248867	0,036290477
20	KINO	2016	0,00369558	3,11407E-13	1,087752573	-0,03450973
		2017	0,073165467	3,0446E-13	0,962287414	-0,101199892
		2018	0,032352309	3,08871E-13	1,115548367	0,139318463
21	KLBF	2016	0,157693302	7,30118E-14	1,414547353	0,108551506
		2017	0,131900389	6,56771E-14	1,325502953	0,053059814
		2018	0,166751085	6,01821E-14	1,268295771	0,053693618
22	MLBI	2016	0,594267662	4,75997E-13	1,553326673	0,269887041
		2017	0,58531374	4,39553E-13	1,489968959	0,0555705
		2018	0,562737493	3,98394E-13	1,453984697	0,103534233
23	SIDO	2016	0,165464104	3,5764E-13	0,916203255	0,122766943
		2017	0,214450394	3,34715E-13	0,861503528	0,004027963
		2018	0,267997447	3,16636E-13	0,874958441	0,059987373
24	TCID	2016	0,126888553	4,80285E-13	1,21357283	0,101765828
		2017	0,16644925	4,57645E-13	1,238567371	0,082201546
		2018	0,081872659	4,23405E-13	1,121494742	-0,024405254
25	UNVR	2016	0,424935942	6,3573E-14	2,54633643	0,226936712
		2017	0,421592654	5,97168E-14	2,460603158	0,068720826





		2018	0,41861653	5,28921E-14	2,210999675	0,031606366
26	WIIM	2016	0,101812661	7,44768E-13	1,255526531	-0,114414269
		2017	0,143760551	7,38752E-13	1,090713551	-0,154671366
		2018	0,115017279	8,15852E-13	1,146585859	-0,057960542
27	BELL	2016	0,038500874	2,43443E-12	1,013116508	-0,320650474
		2017	0,045892756	2,57744E-12	1,149872163	0,077237691
		2018	0,106411224	2,14608E-12	1,204754585	0,247324818
28	BIMA	2016	0,171791205	1,00444E-11	1,728732834	-0,504768733
		2017	0,105059186	1,08647E-11	1,670053779	-0,199866719
		2018	-0,009909977	1,11948E-11	1,635989335	-0,08480407
29	INDS	2016	0,075740687	3,91554E-13	0,640987752	-0,00879776
		2017	0,129276083	4,0367E-13	0,794415189	0,133592938
		2018	0,054930104	4,10742E-13	0,985806759	0,177473198
	SMSM	2016	0,26252912	4,50429E-13	1,297178335	0,034661377
		2017	0,197819704	4,4351E-13	1,481307823	0,204053682
		2018	0,222092209	4,09276E-13	1,609825644	0,242859675
31	STAR	2016	0,049917271	1,3717E-12	0,177609001	-0,177617376
		2017	0,114148336	1,44888E-12	0,165891419	-0,021710702
		2018	0,05000229	1,6268E-12	0,214465845	0,028203894





	TRIS	2016	0,022930223	1,74111E-12	1,570323131	0,073415649
		2017	0,069383434	1,56323E-12	1,209638186	-0,200253712
		2018	0,038614064	1,83497E-12	1,579325475	0,15941366
33	VOKS	2016	0,126446802	6,50938E-13	1,316424631	0,276397264
		2017	0,041177378	5,99445E-13	1,353736448	0,141448929
		2018	0,032109539	4,73896E-13	1,272136242	0,201928364





**Appendix 3 - Regression for Each Earnings Management Proxy (PROD)**

**A. Coefficient of Production Cost (PROD)**

Variables Entered/Removed <sup>b</sup>			
Model	Variables Entered	Variables Removed	Method
1	$\Delta St-1/At-1$ $St/At-1$ $\Delta St/At-1$ $1/At-1$		Enter
a. All requested variables entered.			
b. Dependent Variable: $PRODt/At-1$			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880 <sup>a</sup>	.774	.765	.20854
a. Predictors: (Constant), $\Delta St-1/At-1$ , $St/At-1$ , $\Delta St/At-1$ , $1/At-1$				





ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.014	4	3.503	80.559	.000 <sup>a</sup>
	Residual	4.088	94	.043		
	Total	18.102	98			
a. Predictors: (Constant), $\Delta St-1/At-1$ , $St/At-1$ , $\Delta St/At-1$ , $1/At-1$						
b. Dependent Variable: $PRODt/At-1$						

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.134	.051		2.645	.010
	$1/At-1$	30149163275.966	14896730528.53	.130	2.024	.046
	$St/At-1$	-.645	.039	-.847	-16.358	.000
	$\Delta St/At-1$	-.121	.154	-.044	-.787	.433
	$\Delta St-1/At-1$	-.191	.152	-.076	-1.261	.210
a. Dependent Variable: $PRODt/At-1$						



Data entered into the estimation formula to find abnormal production cost

No	Code	Year	PRODt/At-1	1/At-1	St/At-1	$\Delta St/At-1$	$\Delta St-1/At-1$
1	AGII	2016	-0,119491038	2,01879E-13	0,33333044	0,045361305	0,06612279
		2017	-0,104692733	1,71007E-13	0,314381737	0,032026317	0,038424364
		2018	-0,105843749	1,56164E-13	0,323767327	0,036673604	0,029246466
AKPI	2016	-0,529462774	3,46844E-13	0,710064865	0,010319338	0,0250017	
	2017	-0,577188487	3,82276E-13	0,789346072	0,006742973	0,011373532	
	2018	-0,622242797	3,64255E-13	0,869630849	0,117495122	0,006425104	
AMFG	2016	-0,464168233	2,34177E-13	0,872092547	0,013602403	-0,001451195	
	2017	-0,391240697	1,81657E-13	0,705879863	0,02937679	0,010551709	
	2018	-0,39678159	1,59545E-13	0,708901155	0,088941826	0,025801013	
ARNA	2016	-0,709142532	6,9892E-13	1,056751507	0,153798672	-0,22213926	
	2017	-0,7633324	6,47997E-13	1,122969841	0,143211937	0,142593091	
	2018	-0,859183047	6,24474E-13	1,231137667	0,148932601	0,13801322	
CPIN	2016	-1,078938412	4,05106E-14	1,549807119	0,330125909	0,038786927	
	2017	-1,545940933	4,13138E-14	2,039553738	0,459018044	0,336671432	
	2018	-1,576799525	4,07787E-14	2,200322127	0,187183223	0,453073172	
FASW	2016	-0,561615417	1,42987E-13	0,84001319	0,13079696	-0,071055616	
	2017	-0,562734037	1,16506E-13	0,854828591	0,170383545	0,106573721	





		2018	-0,61885056	1,06725E-13	1,060664406	0,277604653	0,156078655
	MAIN	2016	-0,941196265	2,52393E-13	1,321961426	0,116779008	0,06888742
		2017	-1,063670373	2,55117E-13	1,388194582	0,051966052	0,118039331
		2018	-1,218632492	2,45565E-13	1,646730968	0,310515883	0,050020238
	PICO	2016	-0,619744208	1,65074E-12	1,164979074	0,010597936	0,008217909
		2017	-0,626670217	1,56601E-12	1,169908563	0,06472936	0,01005393
		2018	-0,597938111	1,38843E-12	1,077483292	0,040237647	0,057389311
	SPMA	2016	-0,555473425	4,57569E-13	0,884221728	0,142266673	0,032352867
		2017	-0,599696154	4,63209E-13	0,969560443	0,074439005	0,144020379
		2018	-0,704707242	4,5963E-13	1,098180766	0,136110827	0,073863914
	WSBP	2016	-0,753849576	2,30818E-13	1,088805341	0,478447457	0,462188413
		2017	-0,312886975	7,28106E-14	0,517257867	0,173799428	0,150923963
		2018	-0,263129644	6,70262E-14	0,536219265	0,060054868	0,15999196
	WTON	2016	-0,512294816	2,24412E-13	0,781340961	0,186061765	-0,140161411
		2017	-0,785199579	2,14451E-13	1,149940634	0,403281181	0,177803011
		2018	-0,685076152	1,41483E-13	0,980567586	0,22189733	0,26606368
	ADES	2016	-0,508790247	1,53087E-12	1,358895264	0,333634404	0,139218706
		2017	-0,348633643	1,30297E-12	1,061253793	-0,095342022	0,283966076
		2018	-0,364272657	1,19014E-12	0,957233444	-0,012125165	-0,087086247





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CEKA	2016	-2,102552944	6,73026E-13	2,769867521	0,423877252	-0,145464495
	2017	-2,495287434	7,0128E-13	2,985866426	0,099719706	0,441671644
	2018	-2,170144015	7,18062E-13	2,60608402	-0,451238301	0,102106136
CINT	2016	-0,399091835	2,61228E-12	0,855328464	0,031860025	0,075137201
	2017	-0,392581164	2,50415E-12	0,936442658	0,116517501	0,030541291
	2018	-0,450377172	2,09829E-12	0,777188329	-0,007480658	0,097632961
DLTA	2016	-0,048364375	9,63092E-13	0,746366089	0,072676352	-0,173112559
	2017	-0,020181264	8,34866E-13	0,648948491	0,001953637	0,063000217
	2018	-0,027091188	7,458E-13	0,66600378	0,086287539	0,001745216
DVLA	2016	-0,47207689	7,26597E-13	1,054551791	0,10554446	0,14697345
	2017	-0,445019169	6,53012E-13	1,028916512	0,081163265	0,094855564
	2018	-0,471676176	6,09427E-13	1,035816713	0,075575011	0,07574604
HMSP	2016	-1,372506296	2,63084E-14	2,511571655	0,168303845	0,220442184
	2017	-1,337443153	2,35248E-14	2,331110339	0,08527344	0,150496596
	2018	-1,531438922	2,31798E-14	2,474252686	0,177334689	0,084022663
ICBP	2016	-0,771700206	3,76497E-14	1,294217937	0,099174703	0,064705972
	2017	-0,736494371	3,45997E-14	1,231979	0,042604637	0,091140639
	2018	-0,700408615	3,1626E-14	1,214863929	0,088768411	0,038942945
INDF	2016	-0,420897917	1,08895E-14	0,725888885	0,028285896	0,00509079





		2017	-0,490030313	1,2092E-14	0,848693202	0,042649934	0,031409292
		2018	-0,46988863	1,13121E-14	0,830248867	0,036290477	0,03989931
20	KINO	2016	-0,522688967	3,11407E-13	1,087752573	-0,03450973	0,082354963
		2017	-0,440094959	3,0446E-13	0,962287414	-0,101199892	-0,033739897
		2018	-0,44762732	3,08871E-13	1,115548367	0,139318463	-0,102666167
	KLBF	2016	-0,477632823	7,30118E-14	1,414547353	0,108551506	0,037888132
		2017	-0,447414681	6,56771E-14	1,325502953	0,053059814	0,097646515
		2018	-0,466519106	6,01821E-14	1,268295771	0,053693618	0,04862046
22	MLBI	2016	-0,465253875	4,75997E-13	1,553326673	0,269887041	-0,13907827
		2017	-0,415998326	4,39553E-13	1,489968959	0,0555705	0,249223529
		2018	-0,4042468	3,98394E-13	1,453984697	0,103534233	0,050366961
	SIDO	2016	-0,420963259	3,5764E-13	0,916203255	0,122766943	0,007377747
		2017	-0,382902878	3,34715E-13	0,861503528	0,004027963	0,114897708
		2018	-0,325409616	3,16636E-13	0,874958441	0,059987373	0,003810401
	TCID	2016	-0,523374126	4,80285E-13	1,21357283	0,101765828	0,003211331
		2017	-0,584317151	4,57645E-13	1,238567371	0,082201546	0,096968656
		2018	-0,484088981	4,23405E-13	1,121494742	-0,024405254	0,076051375
	UNVR	2016	-1,098319543	6,3573E-14	2,54633643	0,226936712	0,125397514
		2017	-1,050493037	5,97168E-14	2,460603158	0,068720826	0,213171326





		2018	-0,954793858	5,28921E-14	2,210999675	0,031606366	0,060867072
26	WIIM	2016	-0,296558536	7,44768E-13	1,255526531	-0,114414269	0,132484076
		2017	-0,277384748	7,38752E-13	1,090713551	-0,154671366	-0,113490079
		2018	-0,253928919	8,15852E-13	1,146585859	-0,057960542	-0,170813718
27	BELL	2016	-0,424109857	2,43443E-12	1,013116508	-0,320650474	0,422524603
		2017	-0,469005077	2,57744E-12	1,149872163	0,077237691	-0,339487857
		2018	-0,537386882	2,14608E-12	1,204754585	0,247324818	0,064311205
28	BIMA	2016	-0,65789672	1,00444E-11	1,728732834	-0,504768733	-0,646095828
		2017	-0,582627723	1,08647E-11	1,670053779	-0,199866719	-0,545993795
		2018	-0,275167711	1,11948E-11	1,635989335	-0,08480407	-0,205939076
29	INDS	2016	-0,375522966	3,91554E-13	0,640987752	-0,00879776	-0,081236273
		2017	-0,495772294	4,0367E-13	0,794415189	0,133592938	-0,009069995
		2018	-0,689298846	4,10742E-13	0,985806759	0,177473198	0,135933523
30	SMSM	2016	-0,626273136	4,50429E-13	1,297178335	0,034661377	0,076601679
		2017	-0,743230705	4,4351E-13	1,481307823	0,204053682	0,03412899
		2018	-0,811099638	4,09276E-13	1,609825644	0,242859675	0,18830282
31	STAR	2016	-0,06778002	1,3717E-12	0,177609001	-0,177617376	0,041624755
		2017	-0,093129066	1,44888E-12	0,165891419	-0,021710702	-0,187610969
		2018	-0,131333817	1,6268E-12	0,214465845	0,028203894	-0,024376654





TRIS	2016	-0,868432593	1,74111E-12	1,570323131	0,073415649	0,19659659
	2017	-0,629317534	1,56323E-12	1,209638186	-0,200253712	0,065915178
	2018	-0,777534016	1,83497E-12	1,579325475	0,15941366	-0,235064183
VOKS	2016	-0,719726418	6,50938E-13	1,316424631	0,276397264	-0,264031534
	2017	-0,678548807	5,99445E-13	1,353736448	0,141448929	0,254532577
	2018	-0,79658155	4,73896E-13	1,272136242	0,201928364	0,111823656



**Appendix 4 - Regression for Each Earnings Management Proxy (DIEXP)**

**A. DISCRETIONARY EXPENSE (DIEXP)**

Variables Entered/Removed <sup>b</sup>			
Model	Variables Entered	Variables Removed	Method
1	St-1/At-1 1/At-1		Enter
a. All requested variables entered.			
b. Dependent Variable: DIEXPt/At-1			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.472 <sup>a</sup>	.223	.207	.14729
a. Predictors: (Constant), St-1/At-1, 1/At-1				







Data entered into the estimation formula to find abnormal discretionary expense

Code	Year	DIEXPt/At-1	1/At-1	St-1/At-1
1	2016	-0,085214328	2,01879E-13	0,33333044
	2017	-0,079515408	1,71007E-13	0,314381737
	2018	-0,086397015	1,56164E-13	0,323767327
2	2016	-0,046408261	3,46844E-13	0,699745527
	2017	-0,043198493	3,82276E-13	0,782603099
	2018	-0,04077289	3,64255E-13	0,752135728
3	2016	-0,095487293	2,34177E-13	0,858490144
	2017	-0,083258158	1,81657E-13	0,676503073
	2018	-0,079765424	1,59545E-13	0,619959329
4	2016	-0,1360952	6,9892E-13	0,902952836
	2017	-0,143592842	6,47997E-13	0,979757904
	2018	-0,158098685	6,24474E-13	1,082205066
5	2016	-0,083246306	4,05106E-14	1,21968121
	2017	-0,106015643	4,13138E-14	1,580535694
	2018	-0,111758777	4,07787E-14	2,013138904
6	2016	-0,030025283	1,42987E-13	0,70921623





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		2017	-0,029744746	1,16506E-13	0,684445046
		2018	-0,049516596	1,06725E-13	0,783059753
7	MAIN	2016	-0,105409516	2,52393E-13	1,205182419
		2017	-0,106653782	2,55117E-13	1,33622853
		2018	-0,130754022	2,45565E-13	1,336215085
8	PICO	2016	-0,072420627	2,6046E-12	1,764178859
		2017	-0,075777547	2,27549E-12	1,803997179
		2018	-0,065122494	1,94923E-12	1,485172319
9	SPMA	2016	-0,271383815	1,94923E-12	1,485172319
		2017	-0,277159544	1,94923E-12	1,485172319
		2018	-0,316899721	1,94923E-12	1,485172319
10	WSBP	2016	-0,024556956	2,30818E-13	0,610357885
		2017	-0,03018104	7,28106E-14	0,343458439
		2018	-0,013169247	6,70262E-14	0,476164397
	WTON	2016	-0,021582667	2,24412E-13	0,595279196
		2017	-0,029225469	2,14451E-13	0,746659453
		2018	-0,021204941	1,41483E-13	0,758670257
12	ADES	2016	-0,586693079	1,53087E-12	1,02526086

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13	CEKA	2017	-0,484219112	1,30297E-12	1,156595816
		2018	-0,363494304	1,19014E-12	0,969358609
		2016	-0,077469354	6,73026E-13	2,345990269
14	CINT	2017	-0,087079431	7,0128E-13	2,88614672
		2018	-0,100942067	7,18062E-13	3,057322321
		2016	-0,188117976	2,61228E-12	0,823468439
15	DLTA	2017	-0,222010179	2,50415E-12	0,819925158
		2018	-0,193655025	2,09829E-12	0,784668987
		2016	-0,237752765	9,63092E-13	0,673689737
16	DVLA	2017	-0,202594443	8,34866E-13	0,646994853
		2018	-0,189949918	7,458E-13	0,579716241
		2016	-0,434857947	7,26597E-13	0,949007331
17	HMSP	2017	-0,446473567	6,53012E-13	0,947753247
		2018	-0,412862763	6,09427E-13	0,960241703
		2016	-0,206108255	2,63084E-14	2,34326781
18	ICBP	2017	-0,190656916	2,35248E-14	2,245836899
		2018	-0,199551481	2,31798E-14	2,296917997
		2016	-0,219585428	3,76497E-14	1,195043234





19	INDF	2017	-0,196567373	3,45997E-14	1,189374363
		2018	-0,205372954	3,1626E-14	1,126095518
		2016	-0,120504412	1,08895E-14	0,697602989
20	KINO	2017	-0,136726976	1,2092E-14	0,806043267
		2018	-0,138954764	1,13121E-14	0,79395839
		2016	-0,362892183	3,11407E-13	1,122262303
21	KLBF	2017	-0,348207856	3,0446E-13	1,063487306
		2018	-0,434641657	3,08871E-13	0,976229904
		2016	-0,469562194	7,30118E-14	1,305995847
22	MLBI	2017	-0,433373023	6,56771E-14	1,272443139
		2018	-0,393237925	6,01821E-14	1,214602153
		2016	-0,368998688	4,75997E-13	1,283439631
23	SIDO	2017	-0,307948702	4,39553E-13	1,434398458
		2018	-0,322485994	3,98394E-13	1,350450464
		2016	-0,181759952	3,5764E-13	0,793436312
24	TCID	2017	-0,187093446	3,34715E-13	0,857475564
		2018	-0,195287313	3,16636E-13	0,814971069
		2016	-0,359054129	4,80285E-13	1,111807001





25	UNVR	2017	-0,357721008	4,57645E-13	1,156365825
		2018	-0,329340871	4,23405E-13	1,145899996
		2016	-0,747134589	6,3573E-14	2,319399718
26	WIIM	2017	-0,699568337	5,97168E-14	2,391882332
		2018	-0,615466244	5,28921E-14	2,17939331
		2016	-0,279226951	7,44768E-13	1,3699408
27	BELL	2017	-0,287093687	7,38752E-13	1,245384916
		2018	-0,317649055	8,15852E-13	1,204546401
		2016	-0,164484931	2,43443E-12	1,333766982
28	BIMA	2017	-0,187477558	2,57744E-12	1,072634472
		2018	-0,219996728	2,14608E-12	0,957429767
		2016	-0,508767416	1,00444E-11	2,233501567
29	INDS	2017	-0,535222503	1,08647E-11	1,869920498
		2018	-0,535221562	1,11948E-11	1,720793405
		2016	-0,064647017	3,91554E-13	0,649785512
30	SMSM	2017	-0,085063893	4,0367E-13	0,66082225
		2018	-0,099109784	4,10742E-13	0,808333561
		2016	-0,137441061	4,50429E-13	1,262516959









### Appendix 5- Calculate the abnormal combination of real earnings management (REM)

NO	Code	Year	Abnormal cash flow	Abnormal production cost	abnormal discretionary expense	Combination of Real Earnings Management
1	AGII	2016	-0,01937	-0,02651	0,02394	-0,02194
		2017	-0,0101	-0,0299	0,02703	-0,01297
		2018	0,00149	-0,02574	0,02081	-0,00344
2	AKPI	2016	0,03609	-0,21011	0,10364	-0,07038
		2017	-0,05161	-0,21084	0,11616	-0,14629
		2018	-0,09941	-0,19115	0,11506	-0,1755
3	AMFG	2016	-0,04122	-0,04164	0,06859	-0,01427
		2017	-0,04169	-0,07006	0,06092	-0,05083
		2018	-0,04912	-0,06287	0,0581	-0,05389
4	ARNA	2016	-0,03487	-0,2068	0,04235	-0,19932
		2017	0,04576	-0,14836	0,04172	-0,06088
		2018	0,09664	-0,17396	0,0373	-0,04002
5	CPIN	2016	-0,03019	-0,16774	0,11406	-0,02349
		2017	-0,09803	-0,24657	0,12858	-0,21602
		2018	-0,04583	-0,18444	0,16751	-0,06276
6	FASW	2016	-0,22433	-0,15613	0,11671	0,18491
		2017	-0,04482	-0,10817	0,11388	0,05053
		2018	-0,09778	-0,00888	0,10409	0,19299
7	MAIN	2016	-0,08887	-0,20332	0,09486	-0,19733
		2017	-0,10708	-0,28163	0,10721	-0,2815
		2018	-0,06006	-0,25137	0,08291	-0,22852
8	PICO	2016	-0,11613	-0,04965	0,23509	0,06931
		2017	-0,18472	-0,04394	0,22892	0,00026
		2018	-0,00987	-0,06335	0,19977	0,12655
9	SPMA	2016	0,03423	-0,10983	-0,00649	-0,08209
		2017	-0,05218	-0,08609	-0,01226	-0,15053
		2018	-0,01269	-0,11403	-0,052	-0,17872





10	WSBP	2016	-0,74432	-0,04669	0,11382	-0,67719
		2017	-0,21855	-0,06571	0,0773	-0,20696
		2018	0,05146	-0,01559	0,1079	0,14377
11	WTON	2016	-0,08777	-0,1536	0,1151	-0,12627
		2017	0,05086	-0,10158	0,12289	0,07217
		2018	0,01501	-0,11351	0,13061	0,03211
12	ADES	2016	0,09992	0,25403	-0,3781	-0,02415
		2017	-0,03105	0,20496	-0,26686	-0,09295
		2018	0,05883	0,06484	-0,16785	-0,04418
13	CEKA	2016	-0,13856	-0,44787	0,24949	-0,33694
		2017	-0,20861	-0,62926	0,29627	-0,5416
		2018	-0,22252	-0,68097	0,30044	-0,60305
14	CINT	2016	0,04034	-0,04222	0,02238	0,0205
		2017	0,02594	0,02156	-0,01415	0,03335
		2018	-0,09365	-0,12884	0,00202	-0,22047
15	DLTA	2016	0,17501	0,2455	-0,07743	0,34308
		2017	0,20436	0,25131	-0,04772	0,40795
		2018	0,18872	0,25658	-0,0439	0,4014
16	DVLA	2016	0,02472	0,0927	-0,25107	-0,13365
		2017	0,03547	0,09255	-0,26436	-0,13634
		2018	-0,10198	0,06732	-0,23038	-0,26504
17	HMSP	2016	0,07571	0,17418	0,10696	0,35685
		2017	0,07131	0,06959	0,11229	0,25319
		2018	0,18006	-0,03369	0,10866	0,25503
18	ICBP	2016	0,01536	-0,04816	-0,02488	-0,05768
		2017	0,01701	-0,05477	-0,00251	-0,04027
		2018	-0,00258	-0,03402	-0,01792	-0,05452
19	INDE	2016	-0,02419	-0,08285	0,02226	-0,08478
		2017	-0,03581	-0,06609	0,01726	-0,08464
		2018	-0,04647	-0,05696	0,01377	-0,08966
20	KINO	2016	-0,15152	0,04671	-0,16994	-0,27475
		2017	-0,08122	0,01839	-0,16148	-0,22431
		2018	-0,08803	0,12545	-0,25683	-0,21941
21	KLBF	2016	-0,01182	0,31842	-0,26265	0,04395
		2017	-0,03887	0,29616	-0,23008	0,02721





		2018	-0,00316	0,23106	-0,19604	0,03818
22	MLBI	2016	0,45139	0,39381	-0,15594	0,68926
		2017	0,4023	0,45159	-0,08006	0,77383
		2018	-0,39396	0,40919	-0,10414	0,69901
23	SIDO	2016	0,0674	0,04117	-0,0218	0,08677
		2017	0,09654	0,05084	-0,02101	0,12637
		2018	-0,16038	0,1031	-0,03397	0,22951
24	TCID	2016	-0,01048	0,1234	-0,16363	-0,05071
		2017	0,02116	0,0948	-0,15817	-0,04221
		2018	-0,07301	0,1037	-0,13159	-0,1009
25	UNVR	2016	0,13968	0,45858	-0,43575	0,16251
		2017	0,11206	0,44889	-0,38078	0,18017
		2018	0,132	0,35032	-0,31877	0,16355
26	WIIM	2016	-0,08302	0,36783	-0,05158	0,23323
		2017	-0,02945	0,22908	-0,07244	0,12719
		2018	-0,04223	0,28697	-0,10559	0,13915
27	BELL	2016	-0,1263	0,06355	0,09498	0,03223
		2017	-0,04522	0,00503	0,04803	0,00784
		2018	0,03699	0,08277	-0,00547	0,11429
28	BIMA	2016	0,03535	-0,16487	0,00376	-0,12576
		2017	0,06036	-0,09614	-0,04298	-0,07876
		2018	-0,01807	0,25832	-0,05144	0,18881
29	INDS	2016	-0,01621	-0,12466	0,08118	-0,05969
		2017	0,0498	-0,11536	0,06216	-0,0034
		2018	-0,03867	-0,15271	0,0635	-0,12788
30	SMSM	2016	0,09926	0,0812	0,07292	0,25338
		2017	0,04875	0,09552	0,06481	0,20908
		2018	-0,06478	0,14568	0,06686	0,27732
31	STAR	2016	-0,00087	-0,1421	0,12925	-0,01372
		2017	-0,10085	-0,20227	0,1144	0,01298
		2018	-0,04535	-0,17729	0,11331	-0,01863
32	TRIS	2016	-0,13908	0,00381	-0,03144	-0,16671
		2017	-0,11159	-0,04229	0,01747	-0,13641
		2018	-0,10359	0,0256	-0,0183	-0,09629
33	VOKS	2016	0,0183	-0,04173	0,07842	0,05499









### Appendix 6 – Data Gathered in SPSS

No	Code	Year	The number of independent commissioner (X1)	Frequency of board commissioner meeting (X2)	frequency of audit committee meeting (X3)	Audit Quality (X4)	Real earnings management (Y)
1	AGII	2016	0,33	6	6	0	-0,02194
		2017	0,33	6	6	0	-0,01297
		2018	0,33	6	6	0	-0,00344
2	AKPI	2016	0,33	6	4	1	-0,07038
		2017	0,33	6	4	1	-0,14629
		2018	0,33	4	4	1	-0,1755
3	AMFG	2016	0,33	4	12	1	-0,01427
		2017	0,33	4	13	1	-0,05083
		2018	0,33	7	13	1	-0,05389
4	ARNA	2016	0,33	6	12	0	0,08677
		2017	0,33	6	11	1	0,12637
		2018	0,33	6	11	1	0,22951
5	CPIN	2016	0,50	6	31	1	-0,19932
		2017	0,33	6	32	1	-0,06088
		2018	0,33	6	38	1	-0,04002
6	FASW	2016	0,17	6	14	1	-0,02349
		2017	0,20	6	14	1	-0,21602
		2018	0,33	9	14	1	-0,06276
7	MAIN	2016	0,60	5	4	1	0,18491
		2017	0,60	4	4	1	-0,67719
		2018	0,60	4	4	1	0,05053





8	PICO	2016	0,33	4	4	1	0,19299
		2017	0,33	6	6	0	-0,19733
		2018	0,33	6	6	1	-0,2815
9	SPMA	2016	0,60	9	6	1	-0,22852
		2017	0,60	4	7	0	0,06931
		2018	0,60	5	7	0	0,00026
10	WSBP	2016	0,50	7	5	0	0,12655
		2017	0,50	10	28	0	-0,08209
		2018	0,60	24	24	0	-0,15053
11	WTON	2016	0,33	22	18	0	-0,17872
		2017	0,43	17	12	1	-0,20696
		2018	0,43	24	5	1	0,14377
12	ADES	2016	0,33	4	2	0	-0,12627
		2017	0,33	4	3	0	0,07217
		2018	0,33	6	4	0	0,03211
13	CEKA	2016	0,33	10	6	0	-0,02415
		2017	0,33	9	6	0	-0,09295
		2018	0,33	9	4	0	0,69901
14	CINT	2016	0,50	12	8	0	-0,04418
		2017	0,50	12	12	1	-0,33694
		2018	0,50	12	12	1	-0,5416
15	DLTA	2016	0,40	7	4	1	-0,60305
		2017	0,40	13	4	0	0,0205
		2018	0,40	12	4	0	0,03335
16	DVLA	2016	0,43	1	4	1	-0,22047
		2017	0,43	1	4	0	0,34308





		2018	0,43	1	4	0	0,40795
17	HMSB	2016	0,40	7	5	1	0,4014
		2017	0,40	10	4	1	-0,13365
		2018	0,33	9	5	1	-0,13634
18	ICBP	2016	0,50	12	7	1	-0,08966
		2017	0,50	12	6	1	-0,26504
		2018	0,50	12	5	0	0,35685
19	INDF	2016	0,38	12	8	0	0,25319
		2017	0,38	12	7	1	0,25503
		2018	0,38	12	5	1	-0,05768
20	KINO	2016	0,50	4	4	1	-0,04027
		2017	0,50	8	4	0	0,68926
		2018	0,50	16	4	1	-0,05452
21	KLBF	2016	0,43	10	4	1	-0,27475
		2017	0,43	11	4	1	-0,22431
		2018	0,33	10	4	1	-0,21941
22	MLBI	2016	0,57	6	6	1	0,04395
		2017	0,67	6	5	1	0,02721
		2018	0,50	6	5	1	0,03818
23	SIDO	2016	0,33	9	5	1	-0,08478
		2017	0,33	10	4	0	0,77383
		2018	0,40	10	4	1	-0,05071
24	TCID	2016	0,40	10	13	1	-0,04221
		2017	0,50	14	12	1	-0,1009
		2018	0,40	10	13	1	0,16251
25	UNVR	2016	0,80	6	4	1	0,18017





		2017	0,80	6	4	1	-0,08464
		2018	0,60	6	4	1	0,16355
26	WIIM	2016	0,33	6	4	0	0,23323
		2017	0,33	7	4	0	0,12719
		2018	0,33	6	7	0	0,13915
27	BELL	2016	0,33	12	12	0	0,03223
		2017	0,33	12	1	0	0,00784
		2018	0,50	12	4	0	0,11429
28	BIMA	2016	0,67	4	8	0	-0,12576
		2017	0,67	4	8	0	-0,07876
		2018	0,67	4	8	0	0,18881
29	INDS	2016	0,33	10	4	0	-0,05969
		2017	0,33	10	4	0	-0,0034
		2018	0,33	10	4	0	-0,12788
30	SMSM	2016	0,33	11	5	1	0,25338
		2017	0,33	8	7	1	0,20908
		2018	0,50	12	5	1	0,27732
31	STAR	2016	0,50	9	4	0	-0,01372
		2017	0,50	9	4	0	-0,01863
		2018	0,50	9	4	0	-0,16671
32	TRIS	2016	0,33	12	12	0	0,01298
		2017	0,33	12	12	0	-0,13641
		2018	0,33	11	4	0	-0,09629
33	VOKS	2016	0,29	4	4	0	0,05499
		2017	0,33	18	4	0	0,09416
		2018	0,33	14	5	0	-0,07838





**Appendix 7 - Descriptive and Frequency Statistics**

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
INCOM	99	.17	.80	.4220	.11980
FMBOC	99	1.00	24.00	8.6061	4.33735
FMAUC	99	1.00	38.00	7.6667	6.39515
REM	99	-.68	.77	.0000	.22720
Valid N (listwise)	99				

<b>Frequency</b>					
<b>Audit Quality</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Big 4	47	47.5	47.5	47.5
	Non-big 4	52	52.5	52.5	100.0
	Total	99	100.0	100.0	





**Appendix 8 - Result of Multiple Regression**

Variables Entered/Removed <sup>a</sup>			
Model	Variables Entered	Variables Removed	Method
1	AQ FMBOC FMAUC INDCOM <sup>b</sup>		Enter
a. Dependent Variable: REM			
b. All requested variables entered.			

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.536 <sup>a</sup>	.288	.258	.19578	1.847
a. Predictors: (Constant), AQ, FMBOC, FMAUC, INDCOM					
b. Dependent Variable: REM					

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.456	4	.364	9.498	.000 <sup>b</sup>
	Residual	3.603	94	.038		
	Total	5.059	98			
a. Dependent Variable: REM						
b. Predictors: (Constant), AQ, FMBOC, FMAUC, INDCOM						



**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	.441	.081		5.437	.000		
	INDCOM	-.852	.172	-.449	-4.950	.000	.921	1.086
	FMBOC	.000	.005	-.008	-.084	.933	.949	1.054
	FMAUC	-.005	.003	-.150	-1.687	.095	.958	1.044
	AQ	-.071	.041	-.158	-1.730	.087	.913	1.096

a. Dependent Variable: REM

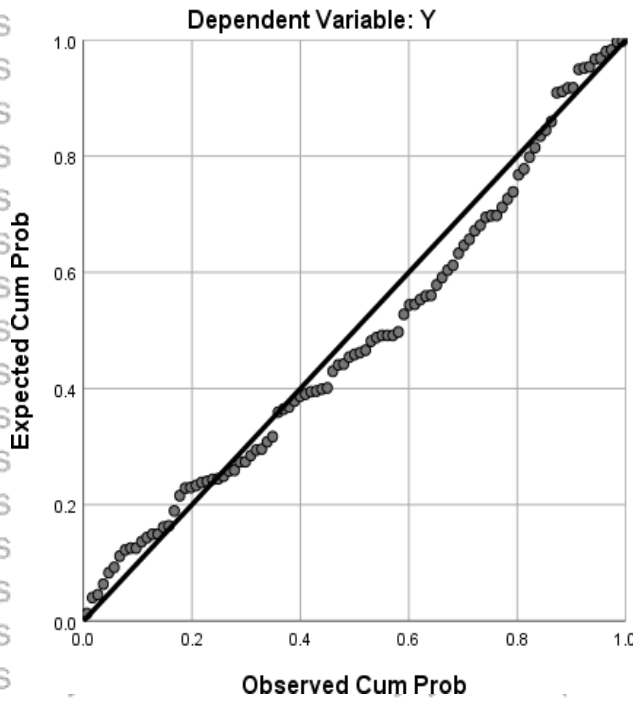




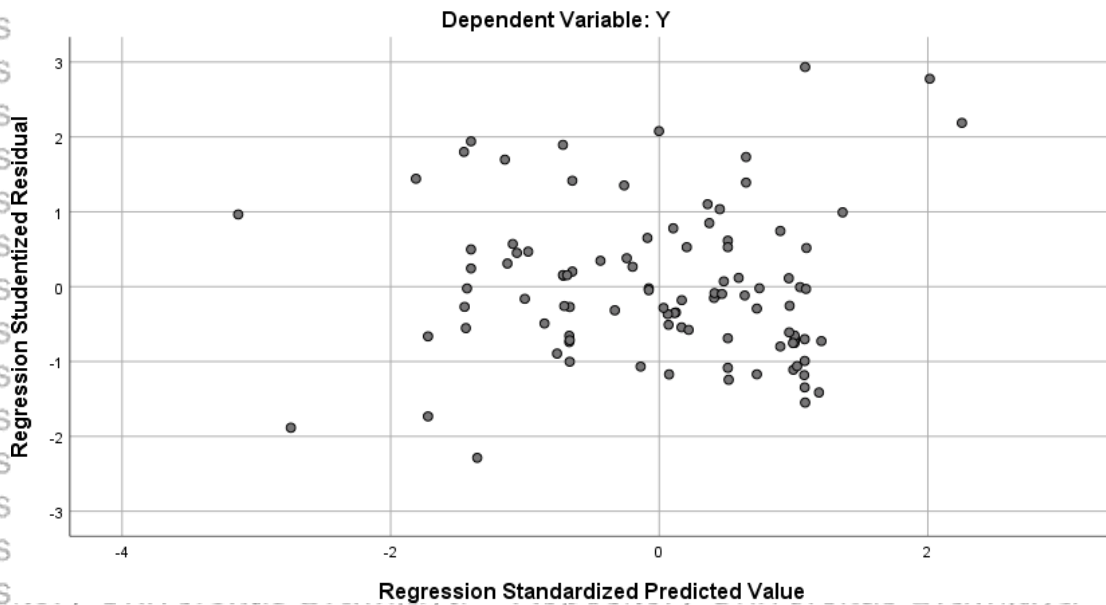




Normal P-P Plot of Regression Standardized Residual



Scatterplot







## Appendix 9 - Result of Linearity Test

Model Summary and Parameter Estimates							
Dependent Variable: REM							
Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.235	29.787	1	97	.000	.388	-.919
The independent variable is INDCOM.							

Model Summary and Parameter Estimates							
Dependent Variable: REM							
Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.006	.578	1	97	.449	.035	-.004
The independent variable is FMBOC.							

Model Summary and Parameter Estimates							
Dependent Variable: REM							
Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.029	2.881	1	97	.093	.046	-.006
The independent variable is FMAUC.							



**Model Summary and Parameter Estimates**

<b>Dependent Variable: REM</b>								
Model Summary						Parameter Estimates		
Equation	R Square	F	df1	df2	Sig.	Constant	b1	
Linear	.078	8.250	1	97	.005	.067	-.127	
<b>The independent variable is AQ.</b>								