

**STOCK MARKET REACTION TO SHIFT IN AUDIT OPINION  
(COMPANIES LISTED IN IDX FROM 2012-2017)**

**UNDERGRADUATE THESIS**

**SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE BACHELOR DEGREE OF  
ACCOUNTANCY**

**DEPARTMENT OF ACCOUNTANCY  
ACCOUNTING STUDY PROGRAM**



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**SURABAYA**

**2019**

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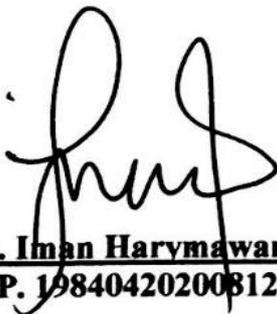
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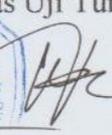
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## PREFACE

Praise to almighty God, Allah SWT, for His blessings, grace, and guidance He bestowed upon me have enabled me to complete this thesis. This thesis titled **“Stock Market Reaction to Shift in Audit Opinion (Companies Listed in IDX from 2012-2017)”** is prepared to obtain an accounting bachelor degree from Faculty of Economics and Business Universitas Airlangga and is expected to provide additional value to all the related parties as an effort to further improve our knowledge in economics.

Many parties have provided assistance and support, both morally and materially. As such, the author wishes to express his gratitude to the following:

1. Prof. Dr. Dian Agustia, SE., M.Si., Ak. As the Dean of Faculty of Economics and Business, Universitas Airlangga.
2. Drs. Agus Widodo Mardijuwono, M.Si., Ak. as the Head of Accounting Department, Faculty of Economics and Business, Universitas Airlangga.
3. Mr. Iman Harymawan, SE., MBA., Ph.D., as the Head of Undergraduate Accounting Program of Department of Accounting, Universitas Airlangga.
4. Dr. Sc. Damai Nasution, S.E., M.Si., Ak. CA., for the guidance, criticism, advice, and suggestion from beginning to end for the completion of this thesis.
5. All lecturers of Faculty of Economics and Business Universitas Airlangga, particularly from the Accounting Department.
6. Staffs of Faculty of Economics and Business who have provided me assistance in completing the whole administration process.
7. My parents and my family, for providing me both moral and financial support.

8. Mas Faishal, Singgih, Adnan, Rifqi, Haris, Matthew, Rere, Robi and Dika for being the ones who helped me bounce back and immediately recover from my recent predicament firsthand. I am forever indebted for your support.
9. Singgih, Barik, Diar, Gerry and Anita for accompanying me during my vacation in Bandung. Easily one of the most memorable moments of my life.
10. My closest friends in Accounting English Class batch 2015 for the unforgettable college experience.
11. Adhit for being the perfect company to fulfill my impulsive urges and Mintarum for being the perfect company to have a discussion with.
12. Meta, Almi, Eva, Citta, Asa, Sasha and Carissa for putting up with my annoying questions related to the preparation and completion of this thesis.
13. Kimmy for assisting me to tackle the turnitin obstacle in less than 10 minutes.
14. CrashCourse Philosophy for giving me a way more optimistic outlook on life.
15. Jocelyn, Pricil, Melina and Yuga for being a fun company to be with.
16. Ian Stithaprajna, for being a good friend and giving me strength during the bleak moments of my internship. Best of luck.

Lastly, this thesis is far from perfection. Feedbacks and constructive criticisms may be addressed and sent to [kdary07@gmail.com](mailto:kdary07@gmail.com).

Best Regards,

Kamal Dary

## ABSTRACT

This research aims to empirically investigate the relationship between shifts in audit opinion and its effects towards the reaction given by investors in the stock market as the result. By employing a shift in the audit opinion as the independent variable, it is expected that the attention is given to both a negative and positive shift in the audit opinion. This research uses a quantitative approach, with a total of 1,383 observations consisting of public companies listed in IDX from 2012-2017 as the object of this research. This research uses simple linear regression to obtain an understanding of how the stock market reacts to a shift in the audit opinion. The statistical results show that the stock market significantly reacts to positive shifts in the audit opinion, but not to negative shifts in the audit opinion. This is due to the fact that the existing negative shifts in the audit opinion are found to be neither pervasive nor material enough. This implies that the Indonesian stock market is in semi-strong-form of the efficient market hypothesis.

**Keywords:** Signaling theory, efficient market hypothesis, shift in audit opinion, stock market reaction

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## CHAPTER 1

### INTRODUCTION

#### 1.1. Research Background

Investing means distributing or allocating funds for additional benefits. Investments are done in hopes of generating cash in the future, which can be obtained through earning interest on what the funds are allocated to or by buying assets that may increase in value over time. Making an investment can also be seen as a form of saving, which Malkiel and Ellis (2013) argues that it enables investors to take advantage of future opportunities.

A lot of instruments can be used for investment activities (e.g. precious metals, real estate, mutual funds, stocks, bonds and so on). Most investors view stocks as very risky because their values fluctuate more frequently (Forbes, 2013). Stocks yield a higher return in the short-term window compared to other instruments, hence making it more attractive for some investors.

In the financial market, investors are provided with a variety of information both from inside and out of the financial statements, and these information aid investors in updating their expectations (Veronesi, 2000). Some information, that are of interest to the investors (e.g., net income, liabilities, earnings per share, dividend payouts), are significant as they may send positive or negative message that are representative of the firm's health and future prospects to the investors (Ross, 2016). Depending on the information provided, investors may react positively or negatively to them. Investors will sort and select some of this information which are relevant, reliable and accurate for their judgment. Because

of this, a reliable and accurate financial reporting is crucial so that the firm may not falsely represent itself with untruthful information.

To ensure such reliability and accuracy, an objective third party called auditor is expected to provide assurance that the information reported is accurate (Abad, Sánchez-Ballesta, & Yagüe, 2015). An auditor assesses the validity and reliability of financial information reported to the public and communicates it to the users of financial statements through the issuance of an audit opinion. In addition, auditors are responsible for considering the firm's ability to continue as a going concern based on the evidence gathered across the audit engagement (Stanwick & Jones, 1999). As such, an auditor functions as an information intermediary between a firm and its stakeholders, particularly investors, and is responsible to plan and perform the audit to verify the fairness of each item stated and whether the firm's accounting procedures comply with the applicable standards and regulations. Ultimately, investors use the available information to assess whether the company is undervalued or overvalued. Therefore, the issuance of audit opinion on a firm is believed to affect how investors react in the stock market as it expresses the fairness of the accounting information provided.

An audit opinion can prevent investors from being misled through the communication of existing misstatements by the auditor. As Healy and Palepu (2001, p. 415) stated, auditors are regarded by the capital providers as enhancing the credibility of the firm in which they invest. The audit opinion attests that the information presented in the financial statement is reliable or has been consistently prepared according to the generally accepted accounting principles (Wolk, Dodd,

& Tearney, 2003, p. 251). Investors can then use the audit opinion as a means to help them in analyzing the company. An audit opinion may alter investors' expectations which cause changes in the value of the stocks as perceived by the market. Hence, the provision of auditing services is imperative for investors to allow them further assess the firm's health and performance.

Since an audit is carried out by an independent third party, investors can expect that the result is objective. A company receiving a modified audit opinion might indicate that the company's financial report are not fairly presented or in accordance with the GAAP, or the company's assumption to operate as a going concern is jeopardized. This would affect investors' confidence on how management runs the company, hence causing a certain stock market reaction.

A number of measurements are available in measuring the stock market reaction. However, it typically involves the measurement of a stock's cumulative abnormal returns around the event of interest (Chen, Su, & Zhao, 2000; Czerkowski, Green, & Wang, 2010).

A number of prior research has been done to observe the impact of audit opinion on stock market reaction, each one conveying different conclusion from another. Chen et al. (2000) found that modified audit opinions are statistically significant and negatively correlated with cumulative abnormal returns, implying that the stock market reacts negatively to modified audit opinions. However, Czerkowski et al. (2010) obtained no evidence of significance in the presence of modified audit opinions, implying that they have no information content. Hence, conducting additional research to further observe the relationship between audit

opinions and how the stock market reacts to them is still worth pursuing in order to obtain a conclusive finding.

This study would like to bring a new perspective, precisely by employing any occurring shift in audit opinion as a signal to the stock market participant rather than only focusing on the effects of qualified audit opinion. A shift in the audit opinion of a firm from its prior year may occur through many causes. By employing the shift in audit opinion as a signal, focus is given towards any direction of the movement of in audit opinion, which can indicate an improvement or a deterioration in the firm's accounting procedure or the overall audit engagement. Just as an auditor is required to give modifications that represent the existing deviations on a firm's financial reporting, an auditor may also reduce the modifications that was given in the prior period. In such a case, it is believed that the firm has improved its accounting practice. A shift may also move in the opposite direction, or there may not be a shift at all.

This research aims to empirically investigate the relationship between a shift in audit opinion and its effect towards the reaction given by investors in the Indonesian stock market as the result. The shift in this research is differentiated into a negative and positive shift. The difference with prior research here is the focus on the occurring shift in audit opinion instead of mainly focusing qualified opinions.

## **1.2. Research Questions**

Based on the research background, two research questions are formulated:

1. Is there any significant effect of a negative shift in audit opinion on the stock market reaction?

2. Is there any significant effect of a positive shift in audit opinion on the stock market reaction?

### **1.3. Research Objectives**

Based on the research questions, the objectives of this research are:

1. To empirically identify the significant effect on stock market reaction after an occurring negative shift in audit opinion has been identified.
2. To empirically identify the significant effect on stock market reaction after an occurring positive shift in audit opinion has been identified.

### **1.4. Research Contribution**

The expected contributions from this research are:

#### **1. Theoretical Contribution**

Aside from being able to be utilized as a reference in the future, this research contributes additional knowledge to the accounting literature and academicians, particularly in the auditing and financial accounting field.

#### **2. Practical Contribution**

- a) Researcher – this research and its limitations may be used as a reference to encourage further studies in order to arrive at a more definitive conclusion.
- b) Management – by providing managers with empirical evidence about any possible causal relationship from shift in audit opinion to stock market reaction, this research is expected to enable the anticipation of market's reaction beforehand.

## 1.5. **Research Systematics**

This research is structured as follows:

### **CHAPTER 1 INTRODUCTION**

This chapter elaborates the main reason acting as a foundation to conduct the research. The research questions are formulated, and the objectives are defined to answer the pertaining questions. This chapter also outlines both the theoretical and practical expected benefits.

### **CHAPTER 2 LITERATURE REVIEW**

This chapter describes the relevant theories used as the research foundation and past literatures used as references. After summarizing a number of prior research, the hypotheses and research framework are drawn.

### **CHAPTER 3 RESEARCH METHODOLOGY**

This chapter explains methodology applied in the research. Additionally, this chapter identifies the variables needed and give operational definition to those variables, along with the data collection procedure and the techniques used to analyze the data in this study.

### **CHAPTER 4 RESULT AND DISCUSSION**

This chapter highlights the main content of the research. It discusses the results obtained after analyzing the data

collected. The findings are then corroborated with the proposed hypotheses, as well explaining the implications.

## **CHAPTER 5 CONCLUSION AND SUGGESTION**

This chapter restates the summary of the results obtained before finally arriving at the conclusion of the research. Lastly, the research limitations encountered are stated to provide suggestions for future studies.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Theoretical Basis

##### 2.1.1. Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) originated in the 1970s as a result of the work of Eugene F. Fama. It is an investment theory which states that stock prices in an efficient market “fully reflect” all information (Fama, 1970, p. 383). Intuitively, when stock prices are misspecified, an investor who knows the true value of the stock will exploit their knowledge by trading to his advantage against less-informed investors. However, the wording “fully reflect” consequently implies that no one will have the ability to out-profit anyone else by either selling or purchasing stocks because a stock’s price already incorporates and reflects all relevant information which may impact the stock, and thus it is always traded at fair value on the stock exchanges.

According to Fama (1970), the three levels are incorporated by EMH:

##### 1. Weak-form EMH

The weak-form of EMH implies that stock prices reflect historical data and stock information such as income level, trading volume, and other market information. This suggests that the current stock price does not possess any causal relationship with its historical price. The implication is that the movement of the price and the volume data of the stock itself does not convey information that enable the investors to generate additional return.

##### 2. Semi-strong-form EMH

The semi-strong-form of EMH suggests that the prices of stocks in the capital market reflect all publicly available information. The implication is that stocks quickly absorb new information, and investors react accordingly to it. Investors can then outperform the market by obtaining information that is not readily available to the other market participants.

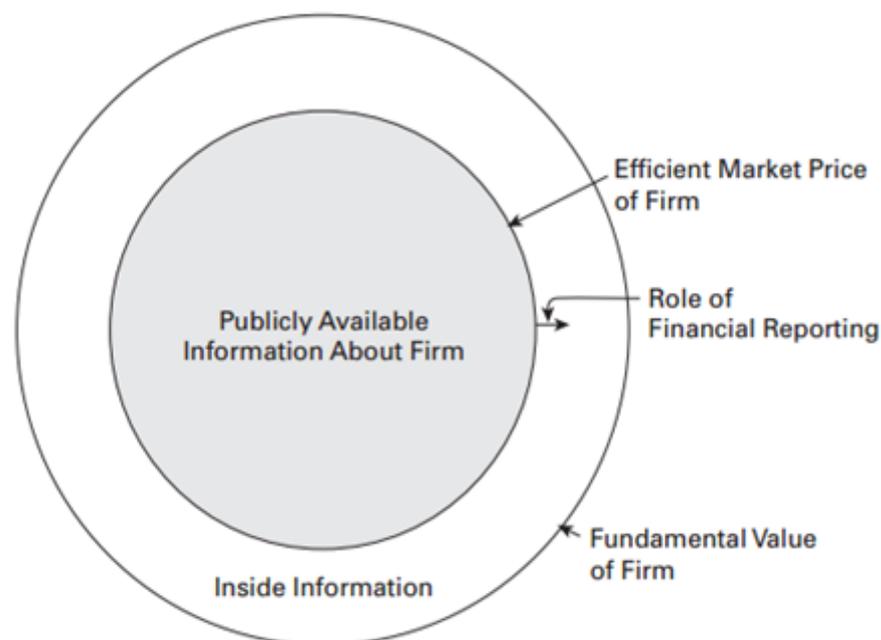
### 3. Strong-form EMH

The strong form of EMH suggests that the market is efficient as the prices of securities reflect all information, both public and private to the participants of the capital market. The implication is that no investor is able to profit on his or her securities as every bit of information will be reflected immediately on the price of the securities itself.

The EMH is related to the theory of information asymmetry; a theory stating that one party (the insider, namely the management) has more or better information than the other (the investor). It is the reason for market incompleteness, which creates a gap between a stock's market price and its fundamental value (the value if there's no inside information) (Scott, 2015, p. 140).

Firms disclose information mainly through financial reports which also serve as a device to decrease the level of information asymmetry by increasing the average quality of publicly available information. They may also engage in a voluntary disclosure, such as management forecasts, press releases, analysts' presentations, and so on. Maffett (2012) supports the notion that higher quality of financial reporting can benefit investors by reducing the level of information disadvantage. However, the extent to which managers engage in voluntary

disclosure is limited to how the disclosure will not give away their competitive advantage over outsiders (Scott, 2015, p. 131). Hence, securities markets are never fully efficient because the management will always have insider information, which in turn causes security prices to be partially informative. As Fama (1970, p. 415) stated in his study, the strong form of EMH is best viewed as a benchmark to which deviations from market efficiency can be concluded. Market efficiency is better viewed as a model and a relative concept rather than a particular form, and a fully efficient resource allocation may never be feasible.



Source: Scott (2015, p. 141)

### **Figure 2.1 Role of Financial Reporting in an Efficient Market**

An efficient resource allocation in the capital market is hindered because of information and incentive problems (Healy & Palepu, 2001, p. 407). An information problem persists because the management has better information than outsiders who want to make an investment, while an incentive problem persists

because investors may not want to play an active role in managing the firm which incentivized the management to expropriate the funds received. Both these problems respectively cause the two major types of information asymmetry, commonly known as adverse selection and moral hazard. Scott (2015, pp. 22-23) defines adverse selection as one type of information asymmetry whereby one party has an information advantage over other parties, whereas moral hazard is another in which one party may take actions that are unobservable to other parties. This imbalance highlights the importance of corporate disclosure and institutions built to facilitate credible disclosure as an effort to mitigate such problems.

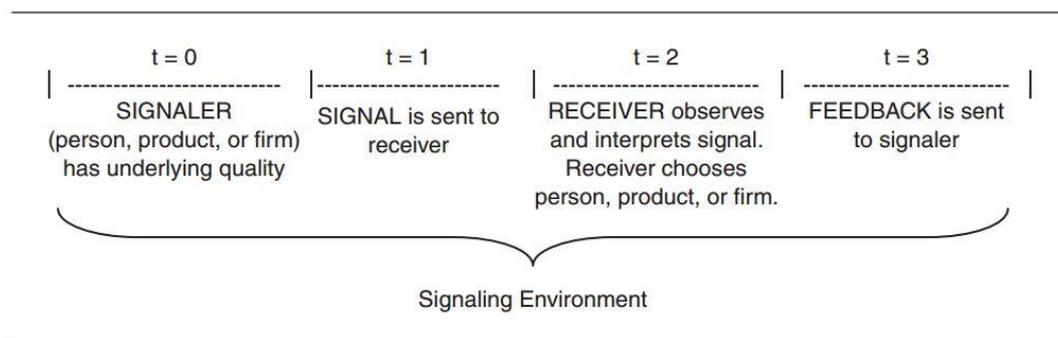
In summary, the EMH is closely related to corporate disclosure and information asymmetry in the capital markets. As management discloses more information, informed investors will immediately revise their expectations to capitalize on such disclosure. However, the extent to which information is reflected on stock prices will always remain partial as management will not give away their competitive advantage to outsiders over the information that they possess. The important implication here is that the market does not misinterpret the valuation of a stock, but rather puts a valuation upon them in an unbiased manner.

#### 2.1.2. Signaling Theory

The Signaling Theory was originally formulated by Spence (1973) which primarily had its focus on the job market. Spence (1973, p. 356) proposed that the hiring process is similar to making an investment under uncertainty; the employer is uncertain of the capabilities of an individual because they have less than perfect

information about applicants, the same way how applicants will be imperfectly informed about the qualities of the job and the surrounding working environment.

At its core, signaling theory is concerned with reducing the level of information asymmetry among two parties (Spence, 2002). The depth of signaling theory lies in attributing certain costs to the process of information acquisition to resolve informational asymmetry over a variety of economic and social phenomena. Connelly, Certo, Ireland, and Reutzel (2011) reviewed the essential elements of signaling theory in the form of a timeline as presented below:



*Note:* t = time.

Source: Connelly et al. (2011, p. 44)

### **Figure 2.2 Signaling Timeline**

Essentially, signalers are insiders who obtain or possess information on a particular individual, organization, or product which are unavailable to the outsiders. This information may be positive or negative and it provides private insights regarding the underlying quality of some aspects of the individual, organization, or product. Examples of this information include early stage research and development results, preliminary sales results by sales agents, pending lawsuits, union negotiations and so on.

Posterior to the receipt of both positive and negative information, the insiders must decide on which information they are willing to communicate them to the outsiders. Such information may become signals to the outsiders as they convey additional attributes which outsiders did not know beforehand. Signals, as stated by Taj (2016, p. 339), are informational cues sent by a party to another to influence their desired outcomes. However, as stated by Connelly et al. (2011, p. 45), insiders tend not to send negative signals to outsiders, and when they do it is often due to an unintended consequence arising from the insider's actions. The focus of the signaling theory is on purposely communicating positive qualities by the insiders to convey positive attributes, and avoid deliberately sending out negative information as it may hinder firms in reaching their desired objectives. This is because the negative effects caused by negative signals undermine the effect given by positive signals (Taj, 2016, p. 344).

The third element in the timeline is the receiver. Receivers are outsiders who lack information about the organization or firm but are willing to receive them. In order for the signaling process to take place, it should provide a strategic effect to the signaler. The signaler should receive some benefit from the receivers through the receivers' actions which they wouldn't do otherwise if not because of the signal. The essence is that the receivers stand to gain from the decisions they're making based on the information conveyed in the signals (Connelly et al., 2011, p. 45).

What Spence (1973) introduced originally in his study depicts that information asymmetry works both ways. Employers need information about possible applicants, and the candidates also require information about the firms

where they're applying themselves to. In other words, receivers desire information about signalers, but signalers also want information about receivers so that they know which kind of signals are regarded reliable and how receivers are interpreting them. This is where feedback comes in, namely the fourth element in the timeline. Feedbacks can be sent by the receivers in the form of countersignals, or how they respond to a particular signal, to facilitate a more efficient signaling process (Connelly et al., 2011, p. 55).

The signaling environment is the overall setting in which the signaling process takes place, including the medium. It can influence the extent to which signaling reduces the level of information asymmetry between the signalers and receivers. As stated by Sanders and Boivie (2004) in the context of a signaling process between organizations, different effects may arise from the influence across the institutional, task, and industry competitive environment. The problem persists when an environmental distortion occurs, that is when the medium for transmitting the signals reduces the signals' observability, which could result in the signals being interpreted in a manner that may not be accurate (McNamara, Haleblan, & Dykes, 2008). Being the underresearched aspect of signaling theory, it is rather difficult to solidly define what elements construct the signaling environment as a whole.

Ever since the signaling theory was introduced by Spence (1973), the concept has been applied multiple times to examine its presence and effect on many areas of study outside of the job market. Myers and Majluf (1984) stated in their study that the issuance of new shares by a firm is a form of negative signal because the general consideration is that executives issue equity whenever they believe that

the stock price of the firm is overvalued. Another study by Schneider (2015) examined the role of auditor switches towards investors in making investment decisions, which was found to be significant. The implication is that the companies who switch their auditors, have an increased investment risk as the amounts invested in them may be marginally lowered, conveying signals to the investors as receivers. Recently, Mande, Son, and Song (2017) employed auditor search periods (i.e. the time consumed for the dismissal or resignation of the old auditor to the appointment of the new auditor) as signals of engagement risk and found that delays in the periods are significantly associated with a negative stock market response. These findings suggest that a wide array of variables can be considered as a signal to the receiver as long as it is relevant to the receivers and their decision making process.

## **2.2. Constructs**

### **2.2.1. Audit Opinion**

Investors rely on the audit report to provide assurance on the firm's financial statements. It is important for investors to obtain an independent confirmation of a firm's books and records, and the audit report provides them with such confirmation. An audit report is essential to be made at the end of the audit engagement to communicate the auditor's findings. The audit report states the responsibilities of both the management and the auditor while also describing the scope of the audit work. The auditor then states their conclusions based on the accumulated findings in the opinion paragraph.

As stated in the International Standards on Auditing (ISA) 700, two objectives that an auditor has are to form an opinion on the financial statements based on an evaluation of the audit evidence obtained and to express it clearly in writing while also describing the basis for issuing such an opinion (IAASB, 2009a). Put it another way, it is a statement made by the auditor which verifies the fairness of a firm's financial statements based on the evidence gathered across the audit process to the users of financial statements. DeFond and Zhang (2014) put it as the only direct way for auditors to communicate with shareholders of the firm about the whole audit engagement and its outcome. This further confirms to the investors the credibility of the firm and the compliance on its accounting procedures with the applicable standards and regulations.

The auditor must conclude whether he/she has obtained reasonable assurance whether the financial statements are free from financial misstatements, due to fraud or error. Such a conclusion must consider (IAASB, 2009a):

1. Whether sufficient appropriate audit evidence has been obtained;
2. Whether existing misstatements are material in individual or in aggregate;
3. Whether the financial statements are prepared according to the applicable financial reporting framework; and
4. Whether the financial statements are prepared according to the fair presentation framework.

Concisely, the audit report is classified into five categories, each containing a different audit opinion and the extent of the modifications given (Messier, Glover, & Prawitt, 2016):



1. All statements (balance sheet, income statement, statement of changes in equity, and statement of cash flows) are included in the financial statements.
2. Sufficient appropriate evidence has been accumulated and the auditor has conducted the engagement in a manner that enables him or her to conclude that the audit was performed in accordance with auditing standards.
3. The financial statements are presented fairly in all material respects in accordance with the generally accepted accounting principles or other appropriate accounting framework.
4. There are no circumstances requiring the addition of an emphasis-of-matter paragraph or modification to auditor's opinion.

There are conditions that require a departure from the standard unqualified opinion. An unqualified opinion with emphasis-of-matter paragraph is issued when an auditor believes that it is important for the users of financial statements to draw their attention on certain matters. Despite the fact that an emphasis-of-matter paragraph is seen as a modification from the standard unqualified opinion, it does not qualify the auditor's opinion as it is not pervasive (IAASB, 2009b). To add an emphasis-of-matter paragraph, one of the following conditions must be fulfilled:

1. Lack of consistent application of generally accepted accounting principles;
2. Substantial doubt about the client's going concern;
3. Auditor agrees with a departure from promulgated accounting principles;
4. Emphasis of other matters (such as material related party transactions, important events subsequent to the balance sheet date etc.); or

#### 5. Reports involving other auditors.

As mentioned in ISA 705 (IAASB, 2009a), there are three types of modification to the auditor's opinion; qualified opinion, adverse opinion, and disclaimer of opinion. The auditor must modify the opinion when he/she concludes that the financial statements are not free from material misstatement, or when sufficient appropriate audit evidence cannot be obtained to conclude that the financial statements are free from material misstatement.

A qualified opinion may result from a scope limitation of the audit engagement or client's failure to follow the generally accepted accounting principles, even though the financial statements are presented fairly by the client. The modification may take form of a modification of both the scope and the opinion or of the opinion alone. The issuance of scope modification states that the auditor's scope has been restricted by the client or other circumstances that prevent the auditor from running a thorough audit. The usage of opinion modification is restricted to circumstances in which the client's financial statements are not in accordance with the generally accepted accounting principles.

An adverse opinion is issued when the overall financial statements are materially misstated and they do not present the financial positions or results of operations and cash flows fairly. This opinion may arise when after the auditor has gathered sufficient appropriate evidence and conducted a thorough investigation, he/she discovers that the client does not conform to the generally accepted accounting principles. The difference between a qualified and adverse opinion is on the pervasiveness of the existing misstatements to the financial statements as a

whole (IAASB, 2009a). The level of misstatement portrayed in a qualified opinion is not pervasive to the financial statements, while misstatements in an adverse opinion is pervasive to the whole financial statements.

A disclaimer of opinion is necessary to be issued when there's a severe limitation on the scope of the audit engagement or a non-independent relationship between the auditor and the client, preventing the auditor from expressing an opinion on the financial statements as a whole. Both disclaimer and adverse opinion are used when the condition is highly material, the difference is that a disclaimer arises only from the auditor's lack of knowledge whereas in issuing an adverse opinion the auditor has knowledge that the client's financial statements are not fairly stated.

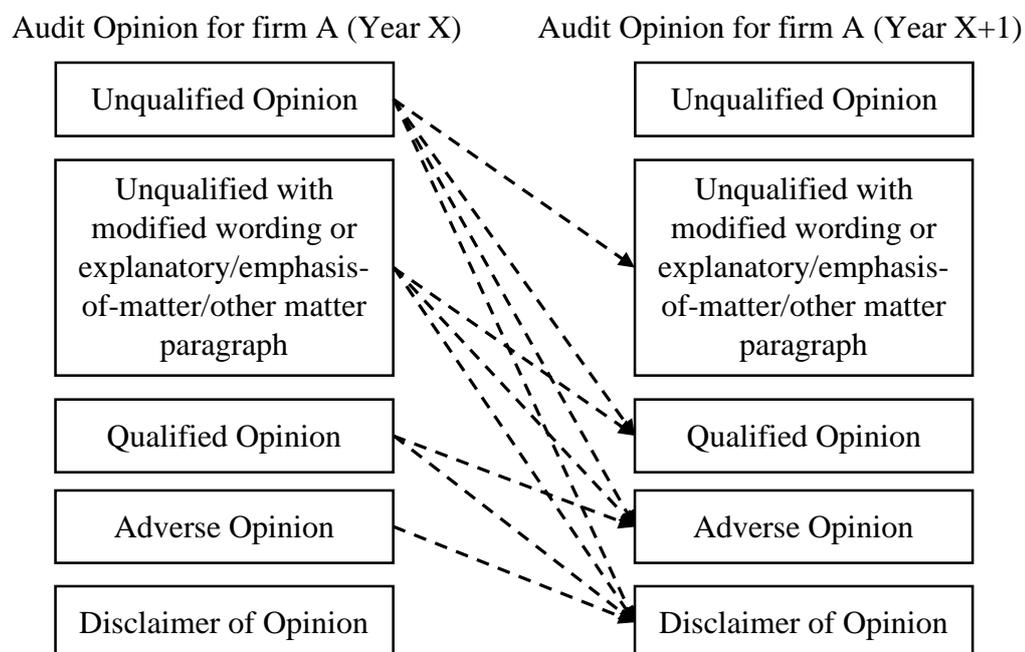
#### 2.2.1.1. Defining a Shift in Audit Opinion

An audit opinion states the auditor's conclusions based on the evidence gathered during the engagement. It is indisputable that there is a possibility for the auditor to issue a different opinion on a firm for the next period, depending on how the client conducts its financial reporting. The essential element in this research is in identifying any occurring shift in the audit opinion, as it is representative of how a client conducts its accounting practice. As such, it is assumed to serve as a signal to investors of the underlying firm, and it may be a positive or negative signal depending on the client's subsequent alterations in the accounting practice.

Conceptually, an auditor gives modifications to his/her opinion in respect with the accounting process of the client. As more deviations from the standard financial reporting are found, the auditor must express greater modifications in

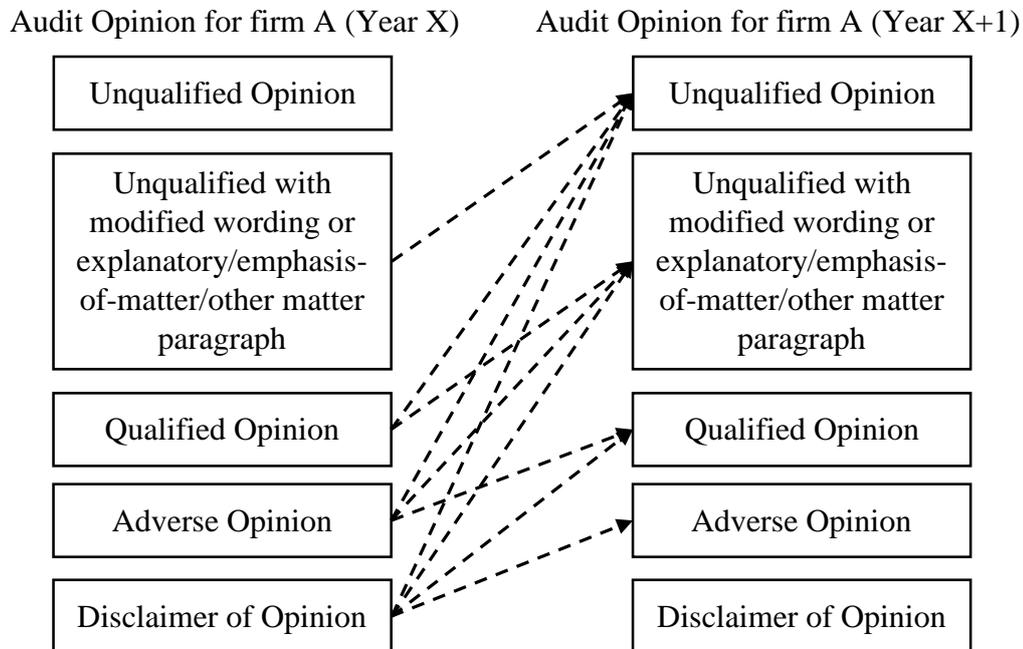
his/her opinion to reflect the accounting practice of their clients. For example, an auditor needs to issue a qualified opinion when the scope of the audit process is materially restricted, or an adverse opinion when he/she concludes that the client's financial statements are not stated fairly. The important implication is that the auditor's opinion depends on the client itself, who is also possible to improve/deteriorate its accounting practice in a period subsequent to the issuance of the audit opinion.

Inspired by Xie, Cai, and Ye (2010) and Cullinan, Wang, Yang, and Zhang (2012), this research employed a similar approach in identifying the shift in audit opinion and its direction. This research distinguished the shift in audit opinion into a negative and positive shift. This research defines a negative shift in the audit opinion if the shift is moving downwards, as depicted in the figure below:



**Figure 2.4 Negative Shift in Audit Opinion**

Similarly, this research defines a positive shift in the audit opinion if the shift is moving upward, as depicted in the figure below:



**Figure 2.5 Positive Shift in Audit Opinion**

A comparison in the audit opinion on a firm with the audit opinion for its previous period is necessary to identify a shift in the audit opinion. By incorporating this model, this study expects to bring attention towards both directions of any occurring shift in the audit opinion so that the effect of modifications in the audit opinion can be thoroughly examined.

#### 2.2.2. Stock Market Reaction

The concept of stock market reaction relates to how investors respond to various elements. Dopuch, Holthausen, and Leftwich (1986) studied how investors react to media disclosures of 'subject to' qualified audit opinions and documented a significant negative stock price reaction. Chen et al. (2000) conducted a similar study to observe how investors react to qualified audit opinions that firms receive

for the first time since their listing and found a significantly negative association between qualified audit opinions and cumulative abnormal returns. Nelson, Price, and Rountree (2008) observed negative stock returns in retrospect to the Enron scandal and found that the negative abnormal returns are instead attributable to confounding events affecting multiple business industries rather than as a result of Arthur Andersen's damaged reputation. Bergh and Gibbons (2011) examined the reaction of stock market to the hiring of management consultants and documented that, on average, the stock market responded positively to such engagements. The most common tool used to evaluate stock market reaction on certain events is by measuring the abnormal return of securities over the event window.

Concisely, the stock market reaction is generally associated with the price movement of securities. What the aforementioned research have in common is the incorporation of a particular variable or event that is believed to cause investors to alter their expectations on the value of securities. This is reflected in the variation of stock price which is examined and evaluated by cumulating the abnormal returns of securities.

### 2.2.3. Event Study

The event study methodology is one among many other research methods used assess the financial effect on a particular firm revolving a certain event of interest. It was pioneered by Dolley (1933), who studied the price effects of splitting common stocks by examining the nominal price changes on a sample of 95 stock splits from 1921 to 1931. Fama, Fisher, Jensen, and Roll (1969) conducted a similar

study and observed the adjustment of multiple stocks' price to a stock split, as it was commonly associated with a substantial increase in the amount of dividend.

MacKinlay (1997) later outlined the general procedure that is followed to conduct an event study analysis. The first step is to define the specific event of interest and identify the event window, which is the period over which the prices of stock are examined. After the event of interest is identified, the second step is to determine the selection criteria for the firms that are going to be observed in the study. The third step is collecting the required stock data of the underlying firms and measure the abnormal return attributable by calculating the difference between actual and "normal" returns, to confirm the predetermined hypotheses. Afterwards, abnormal returns for each stock are cumulated across the event window.

The calculation of the normal return necessitates the estimation window to be clearly defined (MacKinlay, 1997, p. 15). The normal return is also known as the expected return if the event of interest is absent. Two of the common models for calculating normal returns are the constant mean return model and the market adjusted model, with the former assuming that the mean return of a security is constant and the latter assuming a linear relation between the security return and the market return. This research employs the market model of measuring expected return.

The market model of measuring return, as stated by MacKinlay (1997, pp. 17-18), relates the return of the observed stock to the return of the market portfolio. This model is considered an improvement over the constant mean return model as

it may reduce the variance in the abnormal return. This leads to an increased ability for detecting the stock market reaction towards the event of interest.

### **2.3. Previous Research**

Al-Thuneibat, Khamees, and Al-Fayoumi (2008) conducted a study which aimed at investigating the effect of qualified auditors' opinion on stock prices and returns of the shareholding companies in Amman Stock Exchange (ASE) in Jordan. The focus on this study was to determine whether the audit opinion has information content and how the market would react to the opinion. This study used the event study methodology to observe the reaction of stock prices and returns as a consequence of the qualified audit opinion, employing seven days before and after the audit report date as the event window and one hundred days prior to the event window as the estimation window. Concentrating on a total of 92 companies with a qualified audit opinion from 2000 to 2005, where the data were further analyzed using a regression model, the results showed that there is no clear or significant effect of a qualified audit opinion on stock prices and returns.

Chen, Srinidhi, and Su (2014) conducted a study to investigate the effect of the auditing process, whether there is a difference between firms that are audited or non-audited in terms of their variability in stock returns and trading volume after the announcement of semi-annual reports. They hypothesized whether audited firms exhibit significantly lower variability in stock returns and trading volume when compared with non-audited firms. The sample were firms in China from 1997 to 2000, both audited and non-audited. The stock-return variability was measured using a regression model of the firm's risk-adjusted abnormal daily returns after

semi-annual audit, and the trading volume variability was measured similarly for calculating the average daily trading volume after semi-annual announcements. The results concluded that auditing decreases information asymmetry as measured by reduced variability in the stock return and trading volume, of which the reduction was found to be material and significant. The implication is that investors put weight on audited information than on non-audited ones.

Ianniello and Galloppo (2015) observed investor reactions to auditor opinions which contain modifications or an emphasis of matter paragraph. This research focused on the analysis of abnormal returns around the date of the audit reports. The event study methodology was employed to determine the presence of an immediate market reaction to the date of the audit report on 11-day event window. The sample contained companies which had modifications or an emphasis of matter paragraph in their opinion that were listed on the Italian Stock Exchange (ISE) from 2007 to 2010. The results concluded that modifications expressed in the audit opinion have a negative effect on stock prices and an unqualified opinion with emphasis of matter paragraph has a positive effect on stock prices.

Chang, Cheng, and Reichelt (2010) studied how the market would react to auditor switches. They focused on auditor switching from Big 4 to small, medium, and other big 4 accounting firms during 2002 to 2006. The event study methodology was employed using a 5-day event window, with 1.121 observations from firms in America as the research sample. Two separate sample periods were employed, before (Period 1) and after (Period 2) August 23, 2004. The results concluded that the stock market reacted in a positive way to auditor switches from a Big 4 to

smaller accounting firms along Period 2, implying that investors are becoming more receptive towards smaller accounting firms.

Hossain, Mitra, and Rezaee (2014) examined the market reaction to information disclosure regarding auditor switches when followed by red-flag and non-red flag issues. They employed the event study methodology using 3-day, 7-day, and 11-day event windows. The study was conducted over a total of 3.355 observations in which firms switched auditors starting from 2004 until 2010. The results showed that firms are more unlikely to disclose information regarding auditor changes when followed by red-flag issues. Such changes cause negative reaction in the stock market as reflected in the stock price around the event window.

Bergh and Gibbons (2011) examined the market reaction to the hiring of management consultants. Two main observed indicators were the financial performance of the underlying firms and the brand-reputation of the engaged consultant. The event study methodology was employed using 11-day event window, with 118 firms across America as the research sample. Overall, the results showed that the market reacts positively to the hiring of management consultants where firms have high profitability levels. The market did not exhibit different reaction towards firms engaging with reputable consultants compared to those engaging with other consultants.

Chen et al. (2000) observed the market reaction to initially modified audit opinions (MAOs). They additionally observed modifications that are non-GAAP and GAAP related. The event study methodology was employed using 3-day event window, with 844 observations from companies listed in Shanghai Stock Exchange

from 1995 until 1997. The results showed that the market reacts negatively to MAOs, with no significant difference observed when comparing the results of non-GAAP and GAAP related violations.

Czernkowski et al. (2010) studied the market reaction to different types of modified audit opinions. They examined the market response to modified audit opinions in the Chinese context. The event study methodology was employed using 3-day event window, with a total of 3,128 observations from 1999-2003. The results of their research did not provide evidence that modified audit opinions matter to the market, implying that there is no consistent market reaction to audit modifications.

Menon and Williams (2010) studied the market reaction to disclosures of going concern audit report. The event study methodology was employed using 5-day event window, with a total of 1,194 observations in the American context. The results show mixed evidence, with the implication that investors may react positively or negatively depending on the reason of the going concern opinion.

This research would like to bring a new perspective by employing a shift in the audit opinion as the particular event of interest and examining the response given by the stock market as proxied by the cumulative abnormal return. Previous research are summarized in Table 2.1.

**Table 2.1**  
**Summary of Previous Research**

No.	Year	Author(s)	Title	Research Variables	Results
1.	2008	Ali A. Al-Thuneibat, Basheer Ahmad Khamees, Nedal A. Al-Fayoumi	The effect of qualified auditors' opinions on share prices: evidence from Jordan	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = stock prices and returns</li> <li>• <b>Independent variable</b> = qualified audit opinion</li> </ul>	<ul style="list-style-type: none"> <li>• This study aims at investigating the effect of the qualified audit opinion on stock prices and returns of the shareholding companies in Amman Stock Exchange (ASE) in Jordan.</li> <li>• Using an event study methodology conducted on companies in Jordan during the period 2000-2005, where the data is further analyzed using a regression model, the results show that there is no clear or significant effect of a qualified audit opinion on stock prices and returns.</li> </ul>
2.	2014	Charles J.P. Chen, Bin Srinidhi, Xijia Su	Effect of auditing: Evidence from variability of stock returns and trading volume	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = variability of stock returns and trading volume</li> </ul>	<ul style="list-style-type: none"> <li>• The study investigates whether there is a difference between firms that are audited or non-audited in terms of their variability in stock returns and trading volume after the announcement of semi-annual reports.</li> </ul>

				<ul style="list-style-type: none"> <li>• <b>Independent variable</b> = auditing process</li> </ul>	<ul style="list-style-type: none"> <li>• The results provide evidence that auditing decreases information divergence across investors measured by statistically significant and economically material reduction in stock return variability and trading volume, which suggests that investors rely more on audited financial information.</li> </ul>
3.	2015	Giuseppe Ianniello, Giuseppe Galloppo	Stock market reaction to auditor opinions – Italian evidence	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = cumulative abnormal returns</li> <li>• <b>Independent variable</b> = qualified opinions and unqualified opinion with an emphasis of matter paragraph</li> </ul>	<ul style="list-style-type: none"> <li>• The study examines investor reactions to auditor opinions containing modifications or an emphasis of matter paragraph.</li> <li>• Using event study methodology for focusing on a short event window, the analysis shows that audit reports have informational content for investment decisions. <ol style="list-style-type: none"> <li>1. Modifications expressed in the audit report have a negative effect on stock prices.</li> <li>2. Results showed that an unqualified opinion with an emphasis of matter paragraph regarding going</li> </ol> </li> </ul>

					concern uncertainty or financial distress has a positive effect on stock prices.
4.	2010	Hsihui Chang, C. S. Agnes Cheng, Kenneth J. Reichelt	Market Reaction to Auditor Switching from Big 4 to Third-Tier Small Accounting Firms	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = cumulative abnormal returns</li> <li>• <b>Independent variable</b> = big 4 to small, big 4 to medium 2, and big 4 to big 4 (dummy variables)</li> </ul>	<ul style="list-style-type: none"> <li>• The study analyzes market responses to auditor switching from Big 4 to smaller accounting firms. Two sample periods are used: Period 1 (prior to August 23, 2004) and Period 2 (post-August 23, 2004).</li> <li>• The results show that the market responded non-negatively to BtS, BtM, and BtB switches, implying that the market are more receptive and more confident towards small audit firms. The stock market reacted in a relatively positive way to switches from Big 4 firms to third-tier auditors in Period 2.</li> </ul>
5.	2014	Mahmud Hossain, Santanu Mitra,	Voluntary disclosures of reasons for auditor changes	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = cumulative abnormal returns</li> </ul>	<ul style="list-style-type: none"> <li>• The study analyzes the market reaction to information disclosure regarding red-flag issues (auditor changes, high level of discretionary accruals, restatement of financial statements, going-concern</li> </ul>

		Zabihollah Rezaee	and the capital market reaction to information disclosure	<ul style="list-style-type: none"> <li>• <b>Independent variable</b> = red-flag issues, non-red-flag issues, and auditor changes (dummy variables)</li> </ul>	<p>audit opinions, auditor-initiated change, SEC investigations, bankruptcy) and non-red-flag issues (merger &amp; acquisition, high-litigation risk).</p> <ul style="list-style-type: none"> <li>• Using event study, the results show that auditor changes following red-flag issues are viewed negatively by the market.</li> </ul>
6.	2011	Donald D. Bergh, Patrick Gibbons	The Stock Market Reaction to the Hiring of Management Consultants: A Signalling Theory Approach	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = cumulative abnormal returns</li> <li>• <b>Independent variable</b> = return on assets, Tobin's <math>q</math>, and reputation dummy</li> </ul>	<ul style="list-style-type: none"> <li>• The study observes how the market reacts to the announcement of the hiring of management consultants based on the firm's financial performance and brand-reputation of the consultant.</li> <li>• The results show that CARs are positively and significantly related to the firm's financial performance, but not significantly related to the consultant's brand-reputation.</li> </ul>
7.	2000	Charles J. P. Chen,	An Emerging Market's Reaction	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> =</li> </ul>	<ul style="list-style-type: none"> <li>• The study examines how the market reacts to modified audit opinions (include qualified opinions</li> </ul>

		Xijia Su, Ronald Zhao	to Initial Modified Audit Opinions: Evidence from the Shanghai Stock Exchange	<p>cumulative abnormal returns</p> <ul style="list-style-type: none"> <li>• <b>Independent variable</b> = modified audit opinion, GAAP-violation-related MAOs, and noninitial MAO dummies</li> </ul>	<p>and unqualified opinions with explanatory notes) and the categories of each modification.</p> <ul style="list-style-type: none"> <li>• The results show that MAOs are statistically significant and negatively correlated with cumulative abnormal returns, implying that the market reacts negatively to MAOs. There is no significant difference between non-GAAP and GAAP-violation-related MAOs.</li> </ul>
8.	2010	Robert Czernkowski, Wendy Green, Yi Wang	The value of audit qualifications in China	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = cumulative abnormal returns</li> <li>• <b>Independent variable</b> = MAO dummies</li> </ul>	<ul style="list-style-type: none"> <li>• The study is aimed to determine whether different types of modified audit opinions have information content in China.</li> <li>• The results show that there is no evidence of significance in modified audit opinions, implying that there is no information value. There is no consistent market reaction to modified audit opinions.</li> </ul>

9.	2010	Krishnago pal Menon, David D. Williams	Investor Reaction to Going Concern Audit Reports	<ul style="list-style-type: none"> <li>• <b>Dependent variable</b> = cumulative abnormal returns</li> <li>• <b>Independent variable</b> = market capitalization, earnings before interest and taxes, change in net income, cash flow from operations, Z-score</li> </ul>	<ul style="list-style-type: none"> <li>• The study is aimed to determine how the stock market reacts to disclosure of going concern audit reports.</li> <li>• The results show mixed evidence on whether investors find modified audit opinion to be useful, particularly regarding going concern. The informativeness of the audit opinion depends on the reason behind the going concern opinion, and the investors may react positively or negatively.</li> </ul>
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## 2.4. Hypothesis Development

### 2.4.1. The Effect of Shift in Audit Opinion on Stock Market Reaction

Prior literatures have found that modified audit opinions have information content to the stock market (Chen et al., 2000; Ianniello & Galloppo, 2015). This is because an audit opinion that undergoes such a negative shift convey information that is considered as bad news, hence the market reacts negatively to the additional modifications as shown in the cumulative abnormal returns. Despite the common finding in prior literatures of the negative reaction, some studies point out that there is no clear pattern or lack of evidence of the stock market reaction to modified audit opinions (Al-Thuneibat et al., 2008; Czernkowski et al., 2010). Because of the inconclusive results, a hypothesis is developed that a negative shift in audit opinion is significant towards the stock market reaction, without restricting the relationship to a certain direction, or stated alternatively as follows:

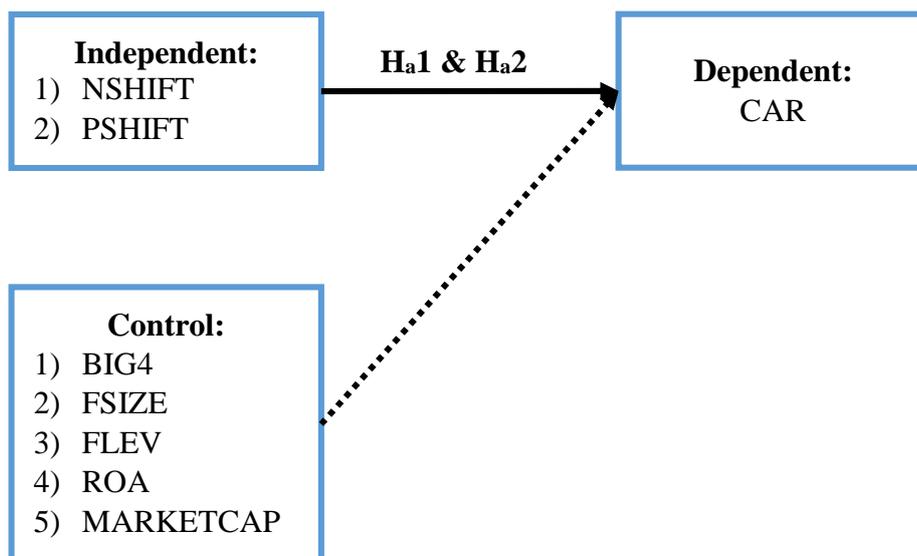
**H<sub>a1</sub>:** *A negative shift in audit opinion significantly affects the stock market reaction*

Conversely, a positive shift in a company's audit opinion can be considered as good news. The upward direction in the audit opinion of a company compared to its previous period may send a positive signal to investors. With this approach, it is expected that getting a better opinion than the previous period results in a certain reaction in the stock market as shown in the cumulative abnormal returns. These arguments lead to the development of hypothesis that a positive shift in audit opinion is significant towards the stock market reaction, without restricting the relationship to a certain direction, or stated alternatively as follows:

**H<sub>a2</sub>:** *A positive shift in audit opinion significantly affects the stock market reaction*

## 2.5. Research Framework

Conceptual framework is a model which shows the correlation of the variables employed in this research. This research aims to examine the possible relationship between shifts in the audit opinion towards the stock market reaction. In this research, a shift in the audit opinion is used as the independent variable. To identify the shift, an audit opinion for a firm is compared to the audit opinion that firm received in the prior period. As this research wants to examine the financial effects of such a shift, stock liquidity and stock market reaction are employed as the dependent variables.



**Figure 2.6 Research Conceptual Framework**

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1. Research Method**

This research employs a quantitative approach in attempt to solve the formulated research problems. Sugiyono (2014) described that the quantitative method is used to examine a sample from a particular population by collecting data through the usage of research instruments and analyzing data through the usage of statistical techniques in order to test the proposed hypotheses by the researcher. The emphasis of a quantitative study is on developing hypotheses that are based on existing theories, facts, or prior findings relevant to the research. The predetermined hypotheses will be tested based on certain measurements of observed variables to obtain a generalized conclusion.

The particular form of quantitative study employed in this research is the event study, which aims to examine the stock market reaction around the date of the audit opinion after an occurring shift has been identified. This research employs a short event window as the author would like to examine the immediate effects of a shift in the audit opinion on the stock market reaction.

#### **3.2. Variable Identification**

This research attempts to explain the variance in one dependent variable through the presence of two independent variables. The variables employed for this research are further grouped as follows:

1. The independent variables in this research are negative shift in audit opinion (NSHIFT) and positive shift in audit opinion (PSHIFT).

2. The dependent variable in this research is the stock market reaction (CAR).
3. The control variables in this research are big 4 auditors (BIG4), firm size (FSIZE), firm leverage (FLEV), return on assets (ROA), and market capitalization (MARKETCAP).

### **3.3. Operational Definition of Variables**

#### **3.3.1. Shift in Audit Opinion**

In observing the effects of audit modifications, Chen et al. (2000) observed the effects of first-time and repeated modifications. This research uses a similar approach as Xie et al. (2010) in identifying the shift in audit opinion.

As described in the previous chapter, a shift in the audit opinion is considered to occur when a firm receives a different opinion for the year compared to its prior year. This research employs two dummy variables which will be differentiated into a negative shift (*NSHIFT*) and a positive shift (*PSHIFT*). The *NSHIFT* dummy variable will have a value of 1 if a firm received a negative shift in the audit opinion and 0 otherwise, and the *PSHIFT* dummy variable will have a value of 1 if a firm received a positive shift in the audit opinion and 0 otherwise. A value of 0 in both *NSHIFT* and *PSHIFT* indicates that the firm is not undergoing any shift in the audit opinion.

#### **3.3.2. Stock Market Reaction**

As MacKinlay (1997) stated, a measurement of an event's impact towards the firm requires a measure of abnormal returns. The abnormal return is then cumulated for each separate stock to draw the possible effect caused by the event

of interest. The abnormal return is the difference between actual return and expected return. The first component, which is actual return, is computed as

$$R_{jt} = \frac{(P_{jt} - P_{jt-1})}{P_{jt-1}}$$

where  $P_{jt}$  is the price of stock  $j$  on day  $t$ . To calculate the expected return, a calculation of the market return is required. The market return is calculated using the formula

$$R_{Mt} = \frac{(IHS G_t - IHS G_{t-1})}{IHS G_{t-1}}$$

where  $IHS G_t$  is the price of index on day  $t$ . This research uses IHS G (also known as JKSE) for the benchmark of calculating the market return. After having obtained the amount of market return, the expected return can be calculated. The formula for calculating expected return is

$$ER_{jt} = \alpha_j + \beta_j R_{Mt} + \varepsilon_j$$

where  $\alpha_j$  is the OLS estimate of the intercept for stock  $j$ ,  $\beta_j$  is the OLS estimate of the slope stock  $j$ ,  $R_{Mt}$  is the return on market index on day  $t$ , and  $\varepsilon_j$  is the error term. After calculating both the actual and expected return, the amount of abnormal return can be determined. The formula to calculate the abnormal return is

$$AR_{jt} = R_{jt} - ER_{jt}$$

where  $R_{jt}$  is the actual return of stock  $j$  on day  $t$ , and  $ER_{jt}$  is the expected return of stock  $j$  on day  $t$ . Finally, the calculated abnormal return is cumulated for each separate stock using the formula

$$CAR_j(t1, t2) = \sum_{t=t1}^{t2} AR_{jt}$$

where  $t1$  is the start of the event window or 5 days before the audit report date,  $t2$  is the end of the event window or 5 days after the audit report date, and  $AR_{jt}$  is the abnormal return for stock  $j$  on day  $t$ .

### 3.3.3. Big 4 Auditor

This research considers the presence of audit opinions issued by the Big 4 accounting firm, similar to Menon and Williams (2010). Big 4-issued audit opinions are deemed as more credible and accurate than those issued by smaller audit firms. As such, there is a probability that investors react differently to a Big 4-issued audit opinion for having more credence than the ones issued by other audit firms. The variable *BIG4* is a dummy variable, 1 if the firm received an audit opinion by one of the Big 4 auditors and 0 otherwise.

### 3.3.4. Firm Size

This research employed firm size as one of the control variables, similar to past studies (Chang et al., 2010; Czernkowski et al., 2010). Firm size refers to the amount of total assets owned by a firm, with a higher amount implying an increased scale and complexity of the firm's operations. The variable *FSIZE* is measured using natural logarithm of a firm's total assets at year-end. The written formula is as follows:

$$FSIZE = \ln Total Asset$$

### 3.3.5. Firm Leverage

This research employs firm leverage as one of the control variables, similar to Chen et al. (2014). Leverage describes the risk of debt insolvency, and a firm is considered as undergoing a financial distress if the value is greater than one. This

is because it is calculated using a ratio of total debt to total assets, and a value greater than one implies that a firm is insolvent. As such, it also represents the health of the firm and it may alter the expectations of its investors. The written formula for *FLEV* is as follows:

$$FLEV = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

### 3.3.6. Return on Assets

Return on assets (ROA) is used as a proxy for profitability and financial performance in this research. It provides information regarding a firm's return on its total investment. Prior studies calculate *ROA* as net income divided by total assets (Bergh & Gibbons, 2011; Chang et al., 2010; Hossain et al., 2014). The written formula is as follows:

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$$

### 3.3.7. Market Capitalization

Market capitalization (also known as market value of equity) is the value of a company on the open market. It is calculated by multiplying the stock price and total outstanding shares of a firm. Prior studies use the natural logarithm of market capitalization (Ianniello & Galloppo, 2015; Menon & Williams, 2010), which is available in a firm's annual report. The written formula is as follows:

$$MARKETCAP = \ln \text{Market Capitalization}$$

**Table 3.1**  
**Variable Definition**

	<b>Variable</b>	<b>Definition</b>
<b>Dependent:</b> Stock Market Reaction	CAR	Cumulated amount of abnormal return around the event date (t0)
<b>Independent:</b> Negative Shift in Audit Opinion	NSHIFT	Dummy variable, 1 if the audit opinion of the company shifts downward than its prior year and 0 otherwise
Positive Shift in Audit Opinion	PSHIFT	Dummy variable, 1 if the audit opinion of the company shifts upward than its prior year and 0 otherwise
<b>Control:</b> Big 4 Auditors	BIG4	Dummy variable, 1 if the firm received opinion by the Big 4 and 0 otherwise
Firm Size	FSIZE	Natural logarithm of the total year-end assets
Firm Leverage	FLEV	Ratio of total liabilities to total assets
Return on Assets	ROA	Ratio of net income to total assets
Market Capitalization	MARKETCAP	Natural logarithm of the total year-end market capitalization

### 3.4. Data Source

This research relies on secondary data retrieved from Indonesian Stock Exchange and Yahoo Finance for the year 2012-2017. Below is the description for each source of data:

1. Indonesian Stock Exchange (IDX) is accessible at <http://www.idx.co.id/> and <http://web.idx.id/> with the data collected in form of published consolidated financial statements and annual reports, which the author uses to identify the independent variable by observing the audit opinion of each firm and determining any occurring shift in the opinion for the next period. The financial statements and annual reports are also used to obtain information of the control variables.

2. Yahoo Finance is accessible at <https://finance.yahoo.com/> with the data collected in form of excel spreadsheets. The spreadsheets contain the firm's stock price and the market index price, which are the elements the author uses to measure the dependent variable.

### **3.5. Data Collection Technique**

The procedures to collect the required data in this research are:

1. Documentation

The documentation procedure is done by retrieving various data accordingly with the needs of this research from multiple sources, namely Indonesian Stock Exchange (IDX) and Yahoo Finance.

2. Literature Study

The literature study procedure is performed to find and study relevant prior studies in the form of journal articles, books, and online news articles. The author studies and cites multiple electronic documents that are correlated with this research.

### **3.6. Population and Sample**

The data population for this research is public companies listed in IDX for the period 2012-2017. The year 2012-2017 is selected for this research because the researcher aims to incorporate the most up to date data available and to derive a solid and generalizable conclusion through conducting the observation revolving a particular event across multiple years. Additionally, to determine if there is any occurring shift in year 2012, the year 2011 is used as the base year.

The sampling method used in this research is a purposive sampling which decides a number of sample based on certain criteria. The sampling criteria for this research are:

1. It is a public company listed in IDX, and has an occurring shift in the current audit opinion for the company when compared to its prior period.
2. Financial institutions (companies with SIC 6) are excluded from the observation.
3. The stock price data of the observed company is readily accessible through Yahoo Finance.

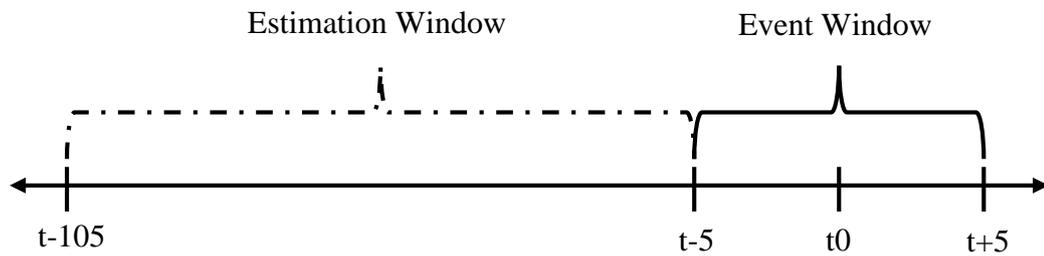
**Table 3.2**  
**Purposive Sampling Criteria**

Description	Amount
Total observation as research population	1,895 observations
Excluded:	
Financial institutions	480 observations
Unavailable data	32 observations
Total observation as research sample	1,383 observations

Source: Processed Data, 2019

### **3.7. Data Analysis Technique**

This research incorporates the event study method. The event study method allows the measurement of the impact of a particular event on the cumulative abnormal return by using data available in the financial market (MacKinlay, 1997). The event of interest in this research is the occurring shift in audit opinion. Following Al-Thuneibat et al. (2008), the estimation window for the event study is 100 days before the event window. The impact is measured in a short term event window around the event date, as depicted below:



**Figure 3.1 Research Period**

where  $t_0$  is the event date, namely the date when the audit opinion is issued. After a shift in the audit opinion is identified by comparing a firm's current audit opinion with its audit opinion in the previous year, additional data regarding the firms' stock price 5 days before the audit opinion date and 5 days after is collected. The reason for employing such a short term of event window is so that this research solely observes the immediate market reaction of the event of interest and isolates the possibility of any other economic events. The data for the firms' stock activities include daily stock prices and trading volume and are accessed through Yahoo Finance. The data is analyzed using STATA 14 software.

### 3.7.1. Descriptive Analytics

Descriptive analytics provides an overview of the data that has been obtained. This technique is utilized to look at the characteristics of the accumulated data. Sugiyono (2014) stated that descriptive statistics is used to analyze data by describing them with no intention to apply any general conclusions.

The process involves data collection activities, data grouping, determining value and statistical functions. The data in descriptive analytics are presented in tables containing frequency, mean, median, mode, and standard deviation.

### 3.7.2. Pearson Correlation

Acock (2014) defines Pearson Correlation as a technique to measure the strength and direction of the relationship of the variables being observed. Pearson Correlation is ranged between -1 and 1. -1 indicates a negative relationship and 1 indicates a positive relationship between the observed variables. A value of 0 indicates that there is no significant relationship between the variables. This research uses the Pearson Correlation technique to determine the strength and direction of relationship between a negative shift and a positive shift in audit opinion towards the stock market reaction.

### 3.7.3. Normality Test

This test is conducted to check whether the dataset used in this research is distributed normally along with its residuals in the regression model. Ghozali (2011) stated that to check the normality of the distribution, it can be done through graphic analysis and statistical testing.

The graphic analysis is conducted for this research. This research uses the Shapiro-Wilk W test for testing the normality assumption. Conclusions on whether the data is distributed normally is based on the following notions:

1. If the data is spread along the diagonal line, then it fulfills the normality assumption.
2. If the data is spread too far from the diagonal line, then it doesn't fulfill the normality assumption.

#### 3.7.4. Multicollinearity Test

This test is conducted to check the presence of multicollinearity problem between the independent variables employed in this research. If a high level of correlation exists between the independent variables, it can cause the relationship towards the dependent variable to be misspecified and inaccurately interpreted.

To detect whether the independent variables are multicollinear against one another, the value of variance inflation factor (VIF) of the regression results is seen. If  $VIF > 10$ , then multicollinearity problem exists between the independent variables. This test is done using the syntax “estat vif” after running the regression.

#### 3.7.5. Heteroscedasticity Test

This test is done to describe statistical variations or error variance for all observations in the linear regression model. A good regression model is a homoscedastic one, where variances from one observation to another are equal. If the variance is not homogenous, then heteroscedasticity problem exists. The presence of heteroscedasticity requires robust regression to eliminate the problem. This test is done by using the syntax “estat hettest” after the linear regression.

#### 3.7.6. Linear Regression Analysis

This research uses a regression model with *CAR* as the dependent variable, similar to several past studies (Chen et al., 2000; Czernkowski et al., 2010). This research employs one model of regression technique to test the hypothesis regarding stock market reaction. The written regression equation is as follows:

$$\begin{aligned}
 CAR_{j,t} = & \beta_0 + \beta_1 NSHIFT_{j,t} + \beta_2 PSHIFT_{j,t} + \beta_3 BIG4_{j,t} + \beta_4 FSIZE_{j,t} \\
 & + \beta_5 FLEV_{j,t} + \beta_6 ROA_{j,t} + \beta_7 MARKETCAP_{j,t} + \varepsilon_{j,t}
 \end{aligned}$$

where:

$\beta_0$  = Constant

$\beta_1 - \beta_7$  = Regression Coefficient

NSHIFT = Negative Shift in the Audit Opinion

PSHIFT = Positive Shift in the Audit Opinion

BIG4 = Auditor Type

FSIZE = Natural Logarithm of Total Assets

FLEV = Financial Leverage

ROA = Return on Assets

MARKETCAP = Natural Logarithm of Market Capitalization

$\varepsilon$  = Error

## CHAPTER 4

### RESULT AND DISCUSSION

#### 4.1. Overview of Research Object and Subject

The object for this research is all public companies (excluding SIC 6) listed in the IDX within the year 2012-2017. This research has a total of 1,383 observations. Purposive sampling is done accordingly with the predetermined criteria as shown in the table below:

**Table 4.1**  
**Description of Research Object**

No.	Criteria	Year						Total
		2012	2013	2014	2015	2016	2017	
1.	Public company, with any occurring shift for the year	285	303	315	328	333	331	1,895
Less:								
2.	Financial institutions	72	73	77	85	87	86	480
3.	Unavailable data	2	1	2	5	2	20	32
Number of observation		211	229	236	238	244	225	1,383

Source: Processed Data, 2019

Below is the table listing the sample distribution for every year:

**Table 4.2**  
**Sample Distribution**

Year	Positive Shift		Negative Shift		No Shift		Total	
	n	Percent	n	Percent	n	Percent	N	Percent
2012	36	17%	26	12%	149	71%	211	100%
2013	107	47%	24	10%	98	43%	229	100%
2014	37	16%	30	13%	169	72%	236	100%
2015	16	7%	87	37%	135	57%	238	100%
2016	86	35%	18	7%	140	57%	244	100%
2017	27	12%	25	11%	173	77%	225	100%
Total	309	22%	210	15%	864	62%	1,383	100%

Source: Processed Data, 2019

Below is the table listing the distribution of audit opinion in the dataset:

**Table 4.3**  
**Audit Opinion Distribution**

Type of Opinion	Year						Total	
	2012	2013	2014	2015	2016	2017	N	Percent
Unqualified	65	151	164	94	160	155	789	57%
Unqualified (explanatory paragraph)	142	73	67	140	82	69	573	41%
Qualified	4	5	5	4	2	1	21	2%
Adverse	0	0	0	0	0	0	0	0%
Disclaimer	0	0	0	0	0	0	0	0%
Total	211	229	236	238	244	225	1,383	100%

Source: Processed Data, 2019

Below is the table listing the distribution of the occurring 519 shifts in the audit opinion in the dataset:

**Table 4.4**  
**Shift in Audit Opinion Distribution**

To Category:	Positive Shift		Negative Shift	
	n	Percent	n	Percent
Unqualified	301	97.41%	0	0.00%
Unqualified (explanatory paragraph)	7	2.27%	202	96.19%
Qualified	1	0.32%	8	3.81%
Adverse	0	0.00%	0	0.00%
Disclaimer	0	0.00%	0	0.00%
Total	309	100.00%	210	100.00%

Source: Processed Data, 2019

Winsorizing is done prior to performing analyses on the data. The objective is to reduce the possibility of bias and normality problem that may be present because of existing outliers.

#### 4.2. Description of Research Result

Descriptive statistics is used to provide general information of the variables used in this research, which are shift in audit opinion, including positive

shift in audit opinion (PSHIFT) and negative shift in audit opinion (NSHIFT), big 4 auditors (BIG4), firm size (FSIZE), firm leverage (FLEV), return on assets (ROA), and market capitalization (MARKETCAP). The descriptive statistics for the mentioned variables after they have been winsorized are listed below:

**Table 4.5**  
**Descriptive Statistics**

<b>Variable</b>	<b>Mean</b>	<b>Median</b>	<b>Minimum</b>	<b>Maximum</b>
CAR	0.003	-0.002	-0.312	0.439
NSHIFT	0.152	0.000	0.000	1.000
PSHIFT	0.223	0.000	0.000	1.000
BIG4	0.403	0.000	0.000	1.000
FSIZE	29.109	28.955	22.292	35.995
FLEV	0.510	0.501	0.030	1.641
ROA	3.706	2.938	-27.145	39.163
MARKETCAP	28.068	28.191	17.141	33.124

Source: Processed Data, 2019

The results of descriptive statistics can be further explained as follows:

1. CAR is a variable used to measure the stock market reaction before and after the event date. In this research, CAR is calculated by summing the amount of abnormal return along the event window for each year. CAR has a highest value of 0.439, a lowest value of -0.312, a median of -0.002, and an average of 0.003.
2. NSHIFT is a dummy variable where a value of 1 indicates that the company has a negative shift in its audit opinion compared to its prior year while a value of 0 indicates that the company doesn't have a negative shift in its audit opinion compared to its prior year. NSHIFT has a highest value of 1, a lowest value of 0, a median of 0, and an average of 0.152.

3. PSHIFT is a dummy variable where a value of 1 indicates that the company has a positive shift in its audit opinion compared to its prior year while a value of 0 indicates that the company doesn't have a positive shift in its audit opinion compared to its prior year. PSHIFT has a highest value of 1, a lowest value of 0, a median of 0, and an average of 0.223.
4. BIG4 is a dummy variable where a value of 1 indicates that the company hires a big 4 accounting firm as its auditor while a value of 0 indicates that the company hires a non-big 4 accounting firm as its auditor. BIG4 has a highest value of 1, a lowest value of 0, a median of 0, and an average of 0.403.
5. FSIZE is a variable measured using natural logarithm of total assets. FSIZE has a highest value of 35.995, a lowest value of 22.292, a median of 28.955, and an average of 29.109.
6. FLEV is a variable measured as a ratio of total liabilities to total assets. FLEV has a highest value of 1.641, a lowest value of 0.030, a median of 0.501, and an average of 0.510.
7. ROA is a variable measured as a ratio of net income to total assets. ROA has a highest value of 39.163, a lowest value of -27.145, a median 2.938, and an average of 3.706.
8. MARKETCAP is a variable measured using natural logarithm of market capitalization. MARKETCAP has a highest value of 33.124, a lowest value of 17.141, a median of 28.191, and an average of 28.068.

### **4.3. Model Analysis and Hypothesis Testing**

#### **4.3.1. Pearson Correlation**

The Pearson Correlation technique is used to examine the strength of a linear relationship between variables, determine its level of significance, and identify its direction. The correlation between each variable is tested using significance levels of 10%, 5%, and 1% as shown in the table below:

**Table 4.6**  
**Pearson Correlation Model**

	<b>CAR</b>	<b>NSHIFT</b>	<b>PSHIFT</b>	<b>BIG4</b>	<b>FSIZE</b>	<b>FLEV</b>	<b>ROA</b>	<b>MARKETCAP</b>
<b>CAR</b>	1.000							
<b>NSHIFT</b>	0.034 (0.212)	1.000						
<b>PSHIFT</b>	0.054** (0.046)	-0.227*** (0.000)	1.000					
<b>BIG4</b>	-0.025 (0.355)	-0.085*** (0.002)	-0.027 (0.313)	1.000				
<b>FSIZE</b>	0.000 (0.997)	-0.038 (0.162)	0.010 (0.711)	0.233*** (0.000)	1.000			
<b>FLEV</b>	0.005 (0.859)	0.039 (0.151)	-0.001 (0.960)	-0.055** (0.042)	-0.054** (0.044)	1.000		
<b>ROA</b>	0.057** (0.034)	-0.059** (0.028)	0.042 (0.121)	0.153*** (0.000)	0.034 (0.208)	-0.131*** (0.000)	1.000	
<b>MARKETCAP</b>	-0.046* (0.090)	-0.028 (0.292)	0.011 (0.675)	0.376*** (0.000)	0.469*** (0.000)	-0.094*** (0.000)	0.265*** (0.000)	1.000

*p*-values in parentheses. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

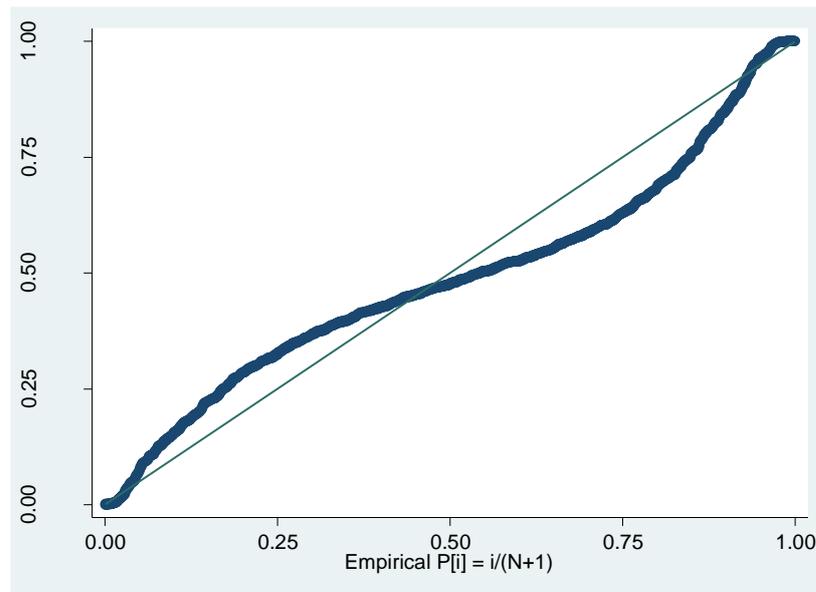
Source: Processed Data, 2019

The correlation of each variable towards the stock market reaction can be further described as follows:

1. Negative shift in audit opinion (NSHIFT) is positively correlated with stock market reaction (CAR) with a coefficient of 0.034 and is not significant.
2. Positive shift in audit opinion (PSHIFT) is positively correlated with stock market reaction (CAR) with a coefficient of 0.054 and significant at 5%. This indicates that the market reacts positively when there's a positive shift in the audit opinion.
3. Big 4 auditors (BIG4) is negatively correlated with stock market reaction (CAR) with a coefficient of -0.025 and is not significant.
4. Firm size (FSIZE) is positively correlated with stock market reaction (CAR) with a coefficient of 0.000 and is not significant.
5. Firm leverage (FLEV) is positively correlated with stock market reaction (CAR) with a coefficient of 0.005 and is not significant.
6. Return on assets (ROA) is positively correlated with stock market reaction (CAR) with a coefficient of 0.057 and is significant at 5%. This indicates that the market reacts positively when a company has a higher return on assets.
7. Market capitalization (MARKETCAP) is negatively related with stock market reaction (CAR) with a coefficient of -0.046 and significant at 10%. This implies an inverse relationship between the two variables, that firms with higher market capitalization will have lower stock market reaction.

#### 4.3.2. Normality Test

Normality test is conducted to test whether dataset used in this research is distributed normally along with its residuals in the regression model. This research uses the Shapiro-Wilk  $W$  test for normal data, with the graph shown as follows:



Source: Processed Data, 2019

**Figure 4.1 Normality Test**

Based on the graph above, it can be inferred that the data does not fulfill the normality assumption. This is because the blue line, which represents the data used in the regression model, is spread too far from the diagonal line.

#### 4.3.3. Multicollinearity Test

Multicollinearity test is performed to ensure whether there's a correlation between the independent variables used in the regression model. The test is done through the assessment of Variance Inflation Factor (VIF). Multicollinearity problem does not exist if the value of VIF is less than 10, and vice versa.

**Table 4.7**  
**Multicollinearity Test**

<b>Variable</b>	<b>VIF</b>	<b>1/VIF</b>
NSHIFT	1.14	0.879126
PSHIFT	1.18	0.848798
BIG4	1.24	0.807325
FSIZE	1.33	0.754128
FLEV	1.06	0.943916
ROA	1.20	0.830379
MARKETCAP	2.24	0.446249
Mean VIF	1.54	

Source: Processed Data, 2019

According to the results as shown in table 4.6, every variable scored less than 10 in their VIF. The mean value of VIF is 1.54, and is still within the acceptable level (less than 10). Therefore, there is no multicollinearity problem in the regression model used for this research.

#### 4.3.4. Heteroscedasticity Test

Heteroscedasticity test is done to test whether there is inequality in variances of the regression model from one observation to another. This research uses the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity as follows:

**Table 4.8**  
**Heteroscedasticity Test**

Ho: Constant variance	
Variables: fitted values of CAR	
Chi <sup>2</sup> (1)	36.87
Prob > Chi <sup>2</sup>	0.0000

Source: Processed Data, 2019

Based on the table above, the p-value of Chi<sup>2</sup> is 0.0000. This implies that the data in this model is not homoscedastic, and thus the robust linear regression needs to be conducted to eliminate the heteroscedasticity.

#### 4.3.5. Linear Regression Analysis

The regression model employed in this research is the Ordinary Least Square (OLS) regression performed using STATA 14.0. The model for the linear regression is as follows:

$$CAR_{j,t} = \beta_0 + \beta_1 NSHIFT_{j,t} + \beta_2 PSHIFT_{j,t} + \beta_3 BIG4_{j,t} + \beta_4 FSIZE_{j,t} + \beta_5 FLEV_{j,t} + \beta_6 ROA_{j,t} + \beta_7 MARKETCAP_{j,t} + \varepsilon_{j,t}$$

The regression is performed twice, first is OLS and second is OLS robust. The OLS robust is done because normality and heteroscedasticity problem exist in the data. The robust regression is done by adding “vce(robust)” syntax at the end.

**Table 4.9**  
**Result of Regression**

Variable	Expected Sign	CAR (OLS)		CAR (Robust)	
		Coef. & <i>t</i>	P  <i>t</i>	Coef. & <i>t</i>	P  <i>t</i>
NSHIFT	+	0.010 (1.10)	0.270	0.010 (1.05)	0.293
PSHIFT	+	0.021*** (2.78)	0.005	0.021*** (2.64)	0.008
BIG4	-	-0.002 (-0.29)	0.774	-0.002 (-0.28)	0.776
FSIZE	+	0.002 (1.28)	0.201	0.002 (1.23)	0.221
FLEV	+	0.002 (0.15)	0.879	0.002 (0.14)	0.887
ROA	+	0.001*** (3.24)	0.001	0.001*** (3.00)	0.003
MARKETCAP	-	-0.005** (-2.56)	0.011	-0.005*** (-2.79)	0.005
<i>Year dummy</i>		<i>Included</i>		<i>Included</i>	
<i>Industry dummy</i>		<i>Included</i>		<i>Included</i>	
r <sup>2</sup>		0.028		0.028	
F-value		2.147		1.923	
P(F)		0.0035***		0.0113**	
N		1,383		1,383	

*t-values* in parentheses. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Processed Data, 2019

#### 4.3.5.1. Negative Shift in Audit Opinion

For NSHIFT, the coefficient in the CAR column using OLS is 0.010 with a t-value of 1.10 and it is not significantly correlated. This means that for every 1 point of increase in NSHIFT then the CAR will also increase by 0.010. Similar results on the coefficient and significance are also generated when using OLS robust, with a difference only in the t-value of 1.05. Using both OLS and OLS robust provide the same implication for NSHIFT, that for every 1 point of increase in NSHIFT then the CAR will also increase by 0.010.

#### 4.3.5.2. Positive Shift in Audit Opinion

For PSHIFT, the coefficient in the CAR column using OLS is 0.021 with a t-value of 2.78 and it is significantly correlated at 1%. This means that for every 1 point of increase in PSHIFT then the CAR will also increase by 0.021. Similar results on the coefficient and significance are also generated when using OLS robust, with a difference only in the t-value of 2.64. Using both OLS and OLS robust provide the same implication for PSHIFT, that for every 1 point of increase in PSHIFT then the CAR will also increase by 0.021.

#### 4.3.5.3. Control Variables

For BIG4, the coefficient in the CAR column using OLS is -0.002 with a t-value of -0.29 and it is not significantly correlated. This means that for every 1 point of increase in BIG4 then the CAR will decrease by 0.002. When using OLS robust, the coefficient of BIG4 is -0.002 with a t-value of -0.28 and it is not significantly correlated. Similar to the results in OLS, this means that every 1 point of increase in BIG4 will decrease the CAR by 0.002.

For FSIZE, the coefficient in the CAR column using OLS is 0.002 with a t-value of 1.28 and it is not significantly correlated. This means that for every 1 point of increase in FSIZE then the CAR will also increase by 0.002. When using OLS robust, the coefficient of FSIZE is 0.002 with a t-value of 1.23 and it is not significantly correlated. Similar to the results in OLS, this means that every 1 point of increase in FSIZE will increase the CAR by 0.002.

For FLEV, the coefficient in the CAR column using OLS is 0.002 with a t-value of 0.15 and it is not significantly correlated. This means that for every 1 point of increase in FLEV then the CAR will also increase by 0.002. When using OLS robust, the coefficient of FLEV is 0.002 with a t-value of 0.14 and it is not significantly correlated. Similar to the results in OLS, this means that every 1 point of increase in FLEV will increase the CAR by 0.002.

For ROA, the coefficient in the CAR column using OLS is 0.001 with a t-value of 3.24 and it is significantly correlated at 1%. This means that for every 1 point of increase in ROA then the CAR will also increase by 0.001. When using OLS robust, the coefficient of ROA is 0.001 with a t-value of 3.00 and it is significantly correlated at 1%. Similar to the results in OLS, this means that every 1 point of increase in ROA will increase the CAR by 0.001.

For MARKETCAP, the coefficient in the CAR column using OLS is -0.005 with a t-value of -2.56 and it is significantly correlated at 5%. This means that for every 1 point of increase in MARKETCAP then the CAR will decrease by 0.005. When using OLS robust, the coefficient of MARKETCAP is -0.005 with a t-value of -2.79 and it is significantly correlated at 1%. Similar to the results in OLS,

this means that every 1 point of increase in MARKETCAP will decrease the CAR by 0.005.

#### **4.4. Discussion**

The amount of  $R^2$  resulting from both regressions is 0.028 or 2.8%. This indicates that the variables used in the model explain 2.8% of the variability in the dependent variable. However, this low value of  $R^2$  is common across similar studies in the past. Chen et al. (2014) in one of their models analyzed the effect of audit on stock-return variability in China and resulted in an  $R^2$  of 0.059 or 5.9%. Hossain et al. (2014) studied stock market reaction to auditor changes followed by red-flag and non-red flag issues in a 11-day return interval (-5, 0, +5) and resulted in an  $R^2$  of 0.026 or 2.6%. Menon and Williams (2010) studied investor reaction to the issuance of going concern audit reports and resulted in an  $R^2$  of 0.048 or 4.8%. What this implies is that despite the low amount of  $R^2$ , the significant coefficients still depict the mean change in the dependent variable for one unit of change in the significant variables while holding other predictors in the model constant. This means that the low amount of  $R^2$  is not unique to the Indonesian setting as similar studies of stock market reaction have resulted in similar amount of  $R^2$ .

The F-value of both regressions is computed to test the overall significance of the model in this research. It is an indicator on whether the variables used in this research reliably predict the dependent variable. As stated in Table 4.7, the p-value of F for OLS and OLS robust is 0.0035 and 0.0113 respectively. This indicates that the model used for OLS is significant at 1% and OLS robust is significant at 5%, implying that there is a high degree of validity to the model.

#### 4.4.1. Stock Market Reaction to Negative Shift in Audit Opinion

The results obtained in this research show that a negative shift in audit opinion (NSHIFT) is positively related to the stock market reaction (CAR), but it is not significant. This is different to the first proposed hypothesis, hence  $H_{a1}$  is rejected. This means that a negative shift in audit opinion does not significantly affect the stock market reaction.

Contradictory to what Chen et al. (2000) found, the results obtained in this research suggest insignificance of the negative shift in audit opinion towards the stock market reaction and even a different direction of their relationship. This suggests that the occurring negative shift in audit opinion is considered good news, albeit not that significant.

Similar to Czernkowski et al. (2010), this research found that there is no significant market effect when modifications are given in the audit opinion. Despite the statistical insignificance, certain implications can be inferred from the positive relationship. As depicted in Table 4.3, the amount of qualified opinion is greatly lower than the amount of unqualified opinion with explanatory paragraph (21 against 573). The unqualified opinion with explanatory paragraph category substantially represents of the modified audit opinions observed, while the qualified opinion only represents a small fraction. From Table 4.4 we can see that 202 out of 210 occurring negative shifts in audit opinion fall to the unqualified opinion with explanatory paragraph category, and only 8 negative shifts fall to the qualified opinion category. We can imply that the occurring negative shifts in audit opinion are not significant enough to cause a negative stock market reaction as almost all of

the modifications given are to the extent of the unqualified opinion with explanatory paragraph category.

Since 202 out of the 210 occurring negative shifts in audit opinion fall to the unqualified opinion with explanatory paragraph, we can conclude that the occurring negative shifts in audit opinion from 2012-2017 are not severe enough. The implication is that even though a company is undergoing an unfavorable condition, it is neither pervasive nor material enough that the auditors do not need to issue a more severe form of qualified audit opinion. This causes the stock market to positively evaluate the presence of unqualified opinion with explanatory paragraph, and it is seen as a possibility for recovery in the future.

Overall, these results do not suggest that negative shifts in the audit opinion are not useful. As previously explained, the occurring negative shifts in audit opinion substantially fall on the unqualified opinion with explanatory paragraph category and are not severe enough. The statistically insignificant relationship between negative shift in audit opinion and stock market reaction means that the occurring negative shift in audit opinion in this research is not necessarily a signal to the investors. This does not cause a feedback in the stock market as reflected in the cumulative abnormal return. This suggests that the Indonesian stock market is in the semi-strong-form category of efficient market hypothesis as they can process the severity of the negative shift in audit opinion. The implication is that investors react accordingly to the negative shift in audit opinion in the stock market.

#### 4.4.2. Stock Market Reaction to Positive Shift in Audit Opinion

The results obtained in this research show that a positive shift in audit opinion (PSHIFT) is positively related to the stock market reaction (CAR) and it is statistically significant. This supports the second proposed hypothesis, hence  $H_{a2}$  is accepted. This means that a positive shift in audit opinion significantly affects the stock market reaction.

This result is similar to the general findings obtained about stock market reaction towards audit opinion in prior literatures (Chen et al., 2000; Ianniello & Galloppo, 2015), only that the interpretation is reversed. In past studies, it has been found that investors in the stock market reacts negatively to modifications in audit opinion as they are perceived to convey bad news. Additional modifications in the audit opinion imply that the company is not conducting its accounting practice in accordance with the applicable accounting framework.

When the similar assumption from previous findings is applied, it is logical for a positive relationship to exist. As observed in this research, the relationship between a positive shift in the audit opinion and the stock market reaction has a positive coefficient, implying that the stock market reacts positively to a positive shift in the audit opinion. We can see from Table 4.4 that 301 out of 309 occurring positive shifts in audit opinion fall to the unqualified opinion category. Only 7 positive shifts fall to the unqualified opinion with explanatory paragraph category and 1 positive shifts fall to the qualified opinion category. This implies that the occurring positive shifts in audit opinion are significant enough to cause a positive

stock market reaction as almost all of the positive shift in audit opinion fall to the unqualified opinion category.

When an auditor issues an unqualified opinion, it means that the financial statements are fairly stated and in accordance with the applicable financial reporting standards. A positive shift in audit opinion that falls to this category can be seen as a measure of good news because the company has improved its accounting practices is becoming more compliant to the financial reporting standards than the previous period. This causes the auditor to reduce the modifications given in the audit opinion and further enhances the credibility of the company as well as its overall condition for the period.

Overall, the results suggest that positive shifts in audit opinion are useful. The occurring positive shift in audit opinion means that there is an improvement in the company's accounting practices and its overall credibility and condition. This is considered as a relevant signal by the investors and they react positively to it. This suggests that the Indonesian stock market is in the semi-strong-form category of efficient market hypothesis as they appreciate the value of this favorable signal and provide a feedback that is reflected in the cumulative abnormal return.

#### 4.4.3. Control Variables

Two control variables found to be significant to the stock market reaction (CAR) in this research. The first is return on assets (ROA) and it is measured using a ratio of net income to total assets. This research found that ROA is positively related to CAR and it is statistically significant. This finding is consistent with the results found in prior studies (Bergh & Gibbons, 2011; Hossain et al., 2014). This

implies that the stock market will react more positively when the company's financial performance is higher. It can also be inferred that an increase in ROA will signal a favorable condition to the stock market, hence investors revise their expectations about the company in an upward direction.

The second control variable is market capitalization (MARKETCAP) and it is measured using natural logarithm of the total year-end market capitalization as commonly stated in the annual report. This research found that MARKETCAP is negatively related to CAR and it is statistically significant. This finding is different to what Menon and Williams (2010) found. The negative coefficient implies that the stock market will react more negatively when the company's market capitalization is higher. Alternatively, when the company's market capitalization is lower, the stock market will have an increasingly positive reaction. Companies with high market capitalization are relatively big and well-established for a prolonged period of time, hence they have a lower potential for growth when compared to the smaller companies. Big companies are deemed more consistent, therefore investors' expectations to their stocks are more stable.

#### **4.5. Research Limitations**

The researcher found several limitations in this research, as listed below:

1. More accurate results can be obtained if the event date ( $t_0$ ) is the date when the financial statements are announced to the public. Such information is not available in IDX, hence the  $t_0$  in this research relies on the audit opinion date in the independent auditor's report which corresponds to the date disclosed in the notes to the financial statements.

## CHAPTER 5

### CONCLUSION AND SUGGESTION

#### 5.1. Conclusion

This study takes a new angle in observing how the stock market reacts to shift in audit opinions. Instead of focusing on the each category of audit opinion as the output, this study emphasizes the effect of the existing shift and its direction. The independent variables used in this research are positive and negative shifts in the audit opinion, while the control variables are opinions issued by the Big 4 accounting firm, firm size, firm leverage, return on assets, and market capitalization.

Overall, the results show that there is a positive and statistically significant relationship between positive shifts in the audit opinion to the stock market reaction. This implies that investors see positive shifts in the audit opinion as a favorable condition, hence causing them to react in a positive direction as a result of such positive shifts. However, a positive yet not significant relationship is found between negative shifts in the audit opinion towards the stock market reaction. This is due to the fact that most of the modifications given in the audit opinion are neither severe nor material. This is positively evaluated by the market and is seen as a possibility for recovery.

Finally, the findings in this research depict that the Indonesian stock market is in the semi-strong-form category of efficient market hypothesis. This is because the stock market reacts accordingly to the signals given to them through the occurring negative and positive shift in the audit opinion.

## **5.2. Suggestion**

Following the research limitations stated in the previous chapter, suggestions for future research are proposed as follows:

1. This research uses the audit opinion date stated in the audit report as the event date, which corresponds to the date stated in the notes to financial statements. More accurate results can be obtained if the event date is exactly when the audit report is announced and made available to the public. By doing so, a clearer interpretation about how the stock market values a shift in the audit opinion can be inferred.

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**APPENDICES**

**A. Regression Results**

. regress CAR55 NSHIFT PSHIFT BIG4 FSIZE FLEV ROA MARKETCAP i.INDUSTRY i.YEAR

Source	SS	df	MS	Number of obs	=	1,383
Model	.448199606	18	.024899978	F(18, 1364)	=	2.15
Residual	15.822392	1,364	.011599994	Prob > F	=	0.0035
				R-squared	=	0.0275
				Adj R-squared	=	0.0147
Total	16.2705916	1,382	.011773221	Root MSE	=	.1077

CAR55	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
NSHIFT	.0095	.0086071	1.10	0.270	-.0073845	.0263846
PSHIFT	.0210046	.0075467	2.78	0.005	.0062002	.0358089
BIG4	-.0018889	.0065701	-0.29	0.774	-.0147775	.0109997
FSIZE	.0017096	.0013371	1.28	0.201	-.0009134	.0043325
FLEV	.0017321	.0113696	0.15	0.879	-.0205717	.0240358
ROA	.001159	.0003573	3.24	0.001	.0004582	.0018599
MARKETCAP	-.0048183	.0018819	-2.56	0.011	-.0085101	-.0011266
INDUSTRY						
2	-.0124716	.0086462	-1.44	0.149	-.0294328	.0044896
3	.0003921	.0094797	0.04	0.967	-.0182043	.0189886
4	-.0098948	.0099195	-1.00	0.319	-.0293539	.0095643
5	-.0052713	.0117534	-0.45	0.654	-.028328	.0177853
7	-.0210169	.0127177	-1.65	0.099	-.0459653	.0039315
8	-.0268812	.0336393	-0.80	0.424	-.0928716	.0391091
YEAR						
2013	-.0134857	.0105217	-1.28	0.200	-.0341262	.0071547
2014	-.0025347	.010226	-0.25	0.804	-.022595	.0175256
2015	.0246663	.0104481	2.36	0.018	.0041703	.0451624
2016	.0061509	.0102731	0.60	0.549	-.0140019	.0263037
2017	.0020036	.0103751	0.19	0.847	-.0183494	.0223566
_cons	.082248	.0554179	1.48	0.138	-.0264657	.1909616

**B. Normality Test**

. predict res, r

. swilk res

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
res	1,383	0.91116	75.292	10.841	0.00000

**C. Multicollinearity Test**

```
. estat vif
```

Variable	VIF	1/VIF
NSHIFT	1.14	0.879126
PSHIFT	1.18	0.848798
BIG4	1.24	0.807325
FSIZE	1.33	0.754128
FLEV	1.06	0.943916
ROA	1.20	0.830379
MARKETCAP	2.24	0.446249
INDUSTRY		
2	1.80	0.555878
3	1.62	0.616902
4	1.50	0.667115
5	1.37	0.728051
7	1.33	0.752341
8	1.73	0.577007
YEAR		
2013	1.82	0.548362
2014	1.76	0.566757
2015	1.85	0.539293
2016	1.83	0.546971
2017	1.75	0.572006
Mean VIF	1.54	

**D. Heteroscedasticity Test**

```
. estat hettest
```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of CAR55

chi2(1) = 36.87

Prob > chi2 = 0.0000

**E. Regression Results (Robust)**

```
. regress CAR55 NSHIFT PSHIFT BIG4 FSIZE FLEV ROA MARKETCAP i.INDUSTRY i.YEAR , vce(robust)
```

```
Linear regression                Number of obs    =    1,383
                                F(18, 1364)      =    1.92
                                Prob > F              =    0.0113
                                R-squared             =    0.0275
                                Root MSE         =    .1077
```

CAR55	Robust		t	P> t	[95% Conf. Interval]	
	Coef.	Std. Err.				
NSHIFT	.0095	.0090267	1.05	0.293	-.0082076	.0272077
PSHIFT	.0210046	.0079598	2.64	0.008	.0053897	.0366194
BIG4	-.0018889	.0066383	-0.28	0.776	-.0149114	.0111335
FSIZE	.0017096	.0013949	1.23	0.221	-.0010267	.0044459
FLEV	.0017321	.0121819	0.14	0.887	-.0221652	.0256293
ROA	.001159	.0003861	3.00	0.003	.0004017	.0019164
MARKETCAP	-.0048183	.00173	-2.79	0.005	-.008212	-.0014246
INDUSTRY						
2	-.0124716	.0084882	-1.47	0.142	-.0291229	.0041796
3	.0003921	.0096139	0.04	0.967	-.0184675	.0192517
4	-.0098948	.0096775	-1.02	0.307	-.0288791	.0090896
5	-.0052713	.0123805	-0.43	0.670	-.0295583	.0190156
7	-.0210169	.0133309	-1.58	0.115	-.0471682	.0051343
8	-.0268812	.034651	-0.78	0.438	-.0948563	.0410939
YEAR						
2013	-.0134857	.0099291	-1.36	0.175	-.0329638	.0059923
2014	-.0025347	.0098421	-0.26	0.797	-.021842	.0167726
2015	.0246663	.0113761	2.17	0.030	.0023497	.0469829
2016	.0061509	.0107417	0.57	0.567	-.0149212	.027223
2017	.0020036	.0100326	0.20	0.842	-.0176774	.0216846
_cons	.082248	.0585503	1.40	0.160	-.0326104	.1971063



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