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EARNINGS MANAGEMENT TO MEET ANALYSTS' FORECASTS

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<td>Abstract</td>
<td>The object of this thesis is to investigate the tool of earnings management firms use to meet analysts’ forecasts and then provide evidence for setting slightly meet and slightly miss as indicator of earnings management. Managers have sort of incentives to meet analysts’ forecasts. In the prior literature, managers have more motivations to meet analysts’ forecasts through earnings management than real activities. I argue that managers will manipulate discretionary accruals in order to beat analysts’ forecasts. And I also argue that slightly meet and slightly miss could be an indicator of earnings management. In the empirical examination, I use discretionary accrual as proxy of earnings management and recalculate it using Jones (1991). Meet analysts’ forecasts are calculated as the difference between actual EPS and forecasts EPS. A frequency test of Meet is presented as well. The result show: (1) Frequency table gives a higher frequency in slightly beat analysts’ forecasts than other situations. (2) A significant positive correlation between slightly meet and miss and discretionary accrual, which capture that if firm try to get close to analysts’ forecast, the discretionary accruals will inceases. This significant correlation also gives strong support to set slightly meet and miss as an indicator of earnings management.</td>
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Wang Xin
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1 INTRODUCTION

1.1 Background

Financial reporting is always regarded as a tool and window for outside information users to get access to inside information. And earning is considered as an important component of financial reporting. Company’s own financial statements are the best sources for outside users getting access to the information about the firms’ wealth and health. Analysts and investors will make their decision based on all information provided by financial reporting. In this circumstance, earnings quality arises. However, although all the economic events associated with a company will be reflected on the financial statements, this information from financial statement can be manipulated by insider controllers in the company, which means the information is inaccurate.

As a consequence, earnings quality is not as well as predicted. Controllers and managers of the company will have their own incentives to maximize their own welfare regardless to others. This kind of conflicts between shareholders and managers is regarded as agency problem. Berle and Means (1932) pointed out that firms were becoming so large that the ownership and control was separated. In a company, shareholders own the company and managers control it. And agency problem comes from this kind of separation. Due to the asymmetric information between manager and shareholders, managers tend to have more private information than shareholders. This makes managers hide important information behind the shareholders or report biased accounting information to outside investors in order to gain benefits. Thus, they always play with the earnings numbers to reach their goals regardless of other consequences. And this causes the bad quality of earnings.

For the importance of financial reporting, Standard-setters published sort of standards to regulate the reliable of financial information. And IASB developed a globally accounting standard which is known as International Financial Reporting Standards (IFRS). In IFRS, accounting concepts is developed to improve the usefulness of financial reporting and the understanding of financial statements.
IFRS requires company to provide relevant and reliable financial information, which can properly reflect the current operation and future prospects of firms. This restriction from accounting standard can improve earnings quality in an extent.

Several proxies for earnings quality are examined by Dechow (2010), which can be concluded as properties of earnings, investor responsiveness to earnings and external indicators of earnings misstatement. Specifically, earnings management is considered as the most important aspect that will affect earnings quality. Earnings management is regarded as insiders report economic performance in order to mislead shareholders or outsider investors. Managers can engage in the earnings management which can help them to realize their own profit. For example, managers manipulate accruals to affect earnings quality to meet analysts’ forecasts and choose proper accounting policies. Additionally, more incentives given to managers, more possibility that they engage in earnings management.

As earnings management is the most important component that will affect earnings quality, prior studies provide evidences that managers will engage in the earnings management to increase or decrease earnings for different reasons. Managers are motivated to engage in the earnings management for several incentives, which are stock market purpose, contracting purpose and regulatory motivations. Firstly, managers intend to report highly unusual earnings that increase reported earnings relative to actual earnings in order to increase the stock price, which prove that managers manipulate earnings overstate reported earnings reported earnings to affect firm’s stock price (Teoh et al. 1998, Q Cheng and TD Warfield 2005). Except for the stock price, firm with income-increasing unexpected accruals are more likely to have equity offers than other firms (Teoh, Welch and Rao, 1998). And the time earnings management often occurs is before equity offers happens (Dechow et al.1996). Secondly, the most significant reason that why managers engage in the earnings management is contracting purpose. There are two aspects of contracting incentives which are management compensations and debt covenant. On one hand, managers take the risk to manipulate accounting numbers only at situation that the benefits meet their expectation and they consider how much bonus they will gain from this action.
priority. Management compensation contract induce manager to engage in earnings management. As a consequence, Kreps (1990) state that managers always treat earnings management as a means to help them get access to higher management compensations. On the other hand, for debt covenants, Watts and Zimmerman (1986) give a conclusion that ex-post managerial discretions are made to avoid debt covenant violations. The last incentive is political incentives. Previous studies discussed three types of regulatory motivation: earnings management to circumvent industry regulations, earnings management to reduce risk of investigation and intervention by anti-trust regulators and earnings management for tax planning purpose. Jones (2001) provide an evidence that manager engage in the earnings management during the import relief investigation. Similarly, Key (1997) emphasis on the industry regulations and provides results that the negative unexpected accruals are detected in the firms of the cable television industry when they are in face of government deregulation hearings. Except for those reasons, the job security also creates the incentive for manager to perform better in the current period than in the future in their own tenure (Fudenberg and Tirole 1995).

Four patterns of earnings management are introduced by Scott (2003) which are taking a bath, income minimization, income maximize and income smoothing. First pattern is taking a bath. This is a situation that managers will report a large loss when managers should report loss in the financial statement. It often happens when earnings of firms fall below budget and management tend to increase their expected future bonuses (Healy 1985). Second is income minimization. It is similar but not that extreme compared to taking a path. This will happen when firms are facing political issues. Some large firms tend to apply some accounting policies in order to minimize their net income. Third is income maximization, it is an opposite side of income minimizations. Managers have incentives to maximize reported earnings below the caps to reduce the risk of violating covenants. The last is income smoothing, which is to average earnings over accounting periods in order to reduce earnings' volatility. Healy (1985) indicate that managers have motivations to smooth earnings and maintain it within the range of bogey and cap to receive constant bonus and avoid the loss of bonus.
How managers manipulate accounting numbers? Net income are consistent of operating cash flow and accruals, which provides two means for managers which are real activities and accruals. As accruals is easy for manager to use and hard for investor to detect, managers usually use accruals as the tool in earnings management instead of real activities. Accounting policy changes as an opportunistic earnings management technique is not as preferable to managers as accruals (Healy 1985). FASB give the supportive evidence that accruals will improve the ability of earnings to measure firms’ performances. For example, Statement of Financial Accounting Concepts No. 1, paragraph 44 states: Information about enterprise earnings and its components measured by accrual accounting generally provides a better indication of enterprise performance than does information about current cash receipts and payments. This provides reasons that why managers frequently use accruals as tool to manage earnings. Several articles indicate that the accrual process is the result of a trade-off between relevance and reliability (Ball 1989, Watts and Zimmerman 1986, Statement of Financial Accounting Concepts No. 2, paragraph 90). Thus, sorts of models are created based on accruals.

There are several ways to detect earnings management, for example, aggregate accruals, specific accruals or cost allocation. As managers prefer to affect accruals to engage in earnings management, the frequently accepted by researchers are using accruals to detect earnings management. Studies decompose accruals into non-discretionary accruals and discretionary accrual. Scott (2003) argue that non-discretionary accruals always remains constant and discretionary accruals tend to be flexible. As a consequence, it is discretionary accruals that affect earnings management compared to non-discretionary accruals. Thus, several models are used to estimate discretionary accruals to detect earning management. There are sorts of prior earnings management literatures which use discretionary accruals as a proxy for earnings management (Pae 2007). This manner use models to estimate non-discretionary accruals and then calculate discretionary accruals using total accruals minus non-discretionary accruals. Basically, the popular models are Healy’s (1985) model, DeAngelo’s (1986) model, Industry model by Dechow and Sloan (1991), Jones’s (1991) model, Modified Jones model and cross-section
models. Frequently, researchers rely on Jones Model. She regresses on firms’ fixed assets and changes of sales to estimate non-discretionary accruals.

Analysts always give forecasts about firms’ performances and prospects such as earnings per share. Empirical studies indicate that the analyst’s forecasts are usually biased. To explain this, previous study concentrate on that the biases are caused by the irrational of the analysts and investors. (Elgers and Lo 1994, Abarbanell and Bernard, 1992). Other explanation is that analysts are driven by the incentives to issue positive forecasts to get access to the management. (Lim 2001, Das et al 1998, Ke and Yu, 2006). The recognition of unexpected shock in earnings follows the conditional conservative accounting rule, which creates more uncertainty in reported earnings for bad news firms than for good news firms (Beaver and Ryan 2005, etc.).

Analysts provide forecast based on the public information given by firms. Why analysts’ forecast is important for investors. First, investors always rely on the analysts especially financial advisors such as securities, brokers. Because analysts have more professional skills in gather and evaluate financial information. Second, analysts’ forecast can be a target for companies. And managers have incentives to beat the target for multiply reasons (Burgstahler 2006).

Based on the relationship between analysts’ forecasts and earnings management. Target beating is considered as a proxy for earnings management in prior studies. That makes managers have incentives to engage in earnings management to beat analysts’ forecasts (Beatty et al.2002).) Additionally, a positive market response is presented by meeting or beating analyst earnings forecasts (Kasznik and McNichols 2000, Lopez and Rees 2000). Furthermore, Burgstahler and Dichev also provide evidences that earnings are managed upward to meet or slightly beat analyst forecasts. And managers are motivated to beat analysts’ forecasts to obtain more benefits.
1.2 Research problem, methodology and structure of thesis

Firms have incentives to beat analysts’ forecasts for several reasons such as attracting investments from investors. In order to beat analysts’ forecasts, firms need to manipulate earnings by all means.

The study attempt to contribute on recent literatures that firms will engage in earnings management to get close to analysts’ forecasts. Furthermore, this study attempts to examine the findings on beating analysts’ forecasts by Burgstahler and Dichev (1997) as well. In this finding, firms have a higher frequency in slightly beat analysts’ forecasts than other situations. And a “kink” is also examined by extending study of Burgstahler and Dichev (1997).

I use discretional accruals as the proxy for earnings management. In order to estimate discretionary accrual, I apply the method mentioned in Jones (1991). To estimate the correlation of meet analysts’ forecasts and discretionay accruals, I create a liner regression model based on discretional accruals and other control variables. Variable leverage, stock price, market to book ratio are used in this model. $\beta 1$ is estimated as the degree of earnings management in firms that are close to analysts’ forecasts, which is suggested to be significant. A frequency table of meet analysts’ forecasts is illustrated as well and a higher frequency of slightly beating analysts’ forecasts is predicted.

The structure of my thesis is organized in 7 chapters. Chapter 1 is an introduction of basic background and prior study on earnings quality, earnings management and analysts’ forecast. Chapter 2 is based on earnings quality and introducing the definition about earnings quality and the proxy of earnings quality. In this chapter, the main point is on Dechow (2010). Chapter 3 is mainly based on earnings management and analysts’ forecasts. Definition about earnings management, patterns of earnings management, motivations and incentives for earnings management, techniques of earnings management and analysts forecast are involved in this chapter. Chapter 4 introduce the development of my hypothesis. Chapter 5 interpret the methodology of my test and perform testing model. Then
empirical results are presented in Chapter 6. Finally, conclusion and limitations are presented in Chapter 7.
2 EARNINGS QUALITY

2.1 Definition

Earnings of company is always reported on financial statements. Analysts and investors can make their accounting decisions based on the information provided by companies. As the consequence, the accuracy of these information become more and more important. “Quality of earnings” is used to mean the degree of which management’s choices of accounting estimates can affect reported income. In order to improve the quality of accounting information provided by the company, standards are published to regulate managers. For example, GAAP is used by regulators to help ensure high quality in financial statements. Similarly, IFRS develops sort of accounting concepts to improve the usefulness of financial reporting and the understanding of financial statements. IFRS requires company to provide relevant and reliable financial information, which can properly reflect the current operation and future prospects. According to this, Statement of Financial Accounting Concepts No.1 (SFAC No.1) gives an announcement that “Financial reporting should provide information about enterprise’s financial performance during a period.” Earnings quality can be referred as the ability of reported earnings (income) to predict a company's future earnings. According to this, Dechow (2010) gives a definition about earnings quality:

High quality earnings provide more information about the features of a firm’s financial performance that are relevant to specific decision made by a specific decision-makers.

However, accounting information environment is not as symmetric as desired. Outsiders require more accuracy information from insiders to help them make more rational decisions. Earnings quality are affected by other reasons. Firstly, because the separation of ownership and control, there exists agency problem. In this conflict, managers have incentives to act on their own benefit regardless of other stakeholders’ welfare. Secondly, earnings quality is usually associated with the use of conservative accounting policies. Accounting conservatism is defined
as the prudent reaction when facing uncertainty (FASB, 1980). To be brief, they require company anticipate losses immediately but not for profit. This can lead to a way for managers to manipulate on accounting numbers. Thus, earnings are not always reflecting company’s accounting performance accuracy. Several proxies that reflect the earnings quality are summarized by Dechow (2010).

2.2 Significant proxies

Manager have incentives to engage in earning management to play with the numbers that will affect earnings. According to this, there are several factors that will affect the earnings quality. Three categories of proxies of earnings quality are summarized in Dechow (2010), which are properties of earnings, investor responsiveness to earnings and external indicators of earnings misstatement.

2.2.1 Properties of earnings

The properties of earnings include most of the parts in earnings, for example, persistence of earnings, accruals, abnormal earnings, target beating, etc.

First is persistence of earnings. Evidence shows that a higher quality of earnings is related to higher persistence of earnings. According to that, researchers decompose net income into accruals and cash flow, Sloan (1996) examine the persistence of these two parts of earnings and find that cash flow of the earnings is more persistent than accrual part. This gives a way to increase the persistence of earnings by increase the persistence both of cash flow and accruals. Although cash flow is more persistence than accrual, accruals are still a hot topic for researchers to dig into. Application of accruals will be introduced in 3.4 in details. Collins and Kothari (1989) also examine that a high quality of earnings can lead to a higher equity market valuation such as a stronger stock price response. As a consequence, increasing the persistence of earnings can increase the earnings quality.
Second is abnormal accruals. It is also called discretionary accruals. Compared to the normal accruals, abnormal accruals are meant to capture distortions caused by earnings management. Prior studies examine several aspects of accruals. Xie (2001) studied the persistence of cash flows, normal accruals and abnormal accruals and finds that discretionary accruals have a significantly positive persistence coefficient. As more studies on abnormal accruals, investors and regulators are paying more attention on it. As a consequence, DeFond and Park (2001) finds that abnormal accruals component is not as reliable as normal accrual components. That makes abnormal accruals acts as a tool for managers engage in earnings management to affect earnings quality. Contrary to the positive effect on earnings, the abnormal accruals that are negative related to future stock returns and investors are always overreacting (Xie 2001). Furthermore, how will abnormal accruals affect earnings through earnings management and the model to estimate abnormal accruals are summarized in 3.4.

Third is earnings smoothness. Standard setters and regulator establish an accrual-based accounting system instead of cash-based system to make earnings more reliable. Earnings smoothness is preferred by managements. This kind of smoothness can improve the effective of decision making. More specifically, Tucker and Zarowin (2006) conclude that smoothness improves earnings informativeness.

Fourth is asymmetric timeliness and time loss recognition. This is also known as accounting conservatism. Ball et al. (2000) examine the accounting conservatism in common law countries and code law countries and find that the countries in common law countries are more conservative than countries in code law countries. For earnings conservatism. Basu (1997) defined condition conservatism as bad news will reflect more quickly on earnings than good news. This makes asymmetric timeliness and time loss recognition be a proxy for earnings quality.

The last is target beating. This topic is investigated by researchers for many aspects. Burgstahler and Dichev (1997) examine a phenomenon “kink” in their investigation. They prove that firms will engage in earnings management to avoid earnings decreases and losses. Distributions of earnings changes and earnings is
given by their research which shows the low frequencies of small decreases in earnings and small losses and unusually high frequencies of small increases in earnings and small positive income. That provided an evidence that managers engage in earnings management to avoid earnings decreases and losses. From this research, small profit and small loss are regarded as an indicator for earnings management. However, Dechow et al. (2003) examine the discretionary accruals in both the firms with small profit and small losses and find there is not much difference between these two types of firms. As discretionary accruals are regarded as the technique of earnings management, this finding makes this conclusion controversy. And new indicator such as analysts’ forecasts arise in this situation. Further information of this aspect will be discussed in the following study.

2.2.2 Investor responsiveness

In this aspect, earnings response coefficient (ERC) is highlighted. The definition of ERC is introduced in Collins and Kothari (1989). They argue why stock responses have difference between the firms that have similar magnitude of earnings surprise. Similarly, Ball and Brown (1968) indicate that stock prices react to accounting earnings announcements. There are factors that will affect ERC, which are interest rates, systematic risk, growth opportunities, earnings persistence and etc. Liu and Thomas (2000) provide more direct evidence on the ERC as a proxy for earnings quality. Prior literature shows that an informative accounting method has a positive correlation with the ERC. To prove this, researches examine various accounting method such as revenue recognition preversus post-SAB 101 (Altamuro et al. 2005); R&D capitalization versus expensing (Loudder and Behn 1995); foreign currency translation gains and losses under SFAS No. 52 (Collins and Salatka 1993) to prove it. Audit quality is also considered as the evidence of ERC. Teoh and Wong (1993) examine the ERC on firms with different audit firms and find that the firm with Big 8 auditor have higher ERC than other firms. Other factors such as firm fundamentals corporate governance and leverage also provide the indirect evidence for ERC as the proxy of earnings quality.
2.2.3 External indicators of earnings misstatement.

Dechow (2010) summarize three external indicators of earnings misstatement, which are SEC Accounting and Auditing Enforcement Release (AAERs), restatement and internal control procedure deficiencies reported under the Sarbanes Oxley Act. Dechow et al. (1996) and Beneish (1999) find no relationship between managerial compensation and accounting manipulations. And Dechow et al. (1996) find that manipulation firms have higher leverage ratios and higher ex ante external financing demand.

To sum up, earnings quality is affected by several proxies, and earnings management play an important role in this proxies such as accruals, target beating. Thus the knowledge about earnings management is becoming the core of learning earnings quality.
3 EARNINGS MANAGEMENT

3.1 Definition

Before the regulators paying attention to the earnings management, researchers and accountants have less knowledge about it. The chairman of SEC gives a speech about earnings management in order to improve quality of financial reporting in 1998. And the Blue Ribbon Committee suggest to include the quality of reported earnings into the auditor report on “accounting quality”.

Earnings management is regarded as insiders report economic performance in order to mislead shareholders or outsider investors. There are two views of earnings management, which are from financial reporting prospective and contracting perspective. From financial reporting perspective, earnings management are used by managers to make efforts to meet analyst forecasts and investors’ expectations. In this perspective, Managers may use earnings management to report a smooth and growing earnings. This gives an advantage for investors to get access to inside information which can be useful for them to make appropriate decisions. Form the contracting perspective, earnings management has a function of protecting firm’ welfare in case of making mistakes in contracts.

There is no clear definition regarding to earnings management from professional literatures. From these two perspectives, there are several popular definitions below by researchers of earnings management:

“Earning management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stake holders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting number. (Healy and Wahlen 1998).
Managing earnings is “the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings.” (Davidson, Stickney and Weil 1987).

Managing earnings is “a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process).” “A minor extension of this definition would encompass “real” earnings management, accomplished by timing investment or financing decisions to alter reported earnings or some subset of it.” (Schipper 1989, p. 92).

“Earnings management is the choice by a manager of accounting policies, or real actions, affecting earnings so as to achieve some specific reported earnings objectives.” (Scott 2003).

Speaking of choosing accounting policies, Scott (2003) divided these choices into two categories, which are choice of accounting policies per se and discretionary accruals. For example, choose straight-line rather than declining-balance assets depreciation accounting method in order to recording less depreciation in income statement as to report higher profit, choose FIFO accounting method for inventory valuation in deflation period or apply a revenue recognition that will benefit the firm. Similarity, for discretionary accruals, managers will choose provisions for credit losses, provisions of restricting and inventory values.

Furthermore, earnings management will be divided into two types, which are income increasing earnings management and income decreasing earnings management. Managers have both motivations to engage in this two types of earnings management.

The consequences of earnings management are complicated. Evidences show that earnings management have an influence on firms’ investment decisions (McNichols 2008). And this happens when earnings management leads to inefficient investment decisions by providing distorted information to decision makers. The earnings quality is associated with both over-investment and under-
investment (Verdi 2006). Moreover, the relationships between properties of accounting information and investment decisions are examined by recent studies such as Biddle and Hilary (2006), Verdi (2006), and Bushman et al. (2006). However, when managers apply earnings management inappropriate, it will lead to a financial fraud. There is not a clear boundary of earnings management and financial fraud. Because of inaccurate definitions according to earnings management, regulators at the SEC have a broader thought about it. They point out that when decision is made within the bounds of GAAP, then can be treated as earnings management other than fraud. Otherwise, it constitutes both financial fraud and earnings management (Dechow and Skinner 2000). This can be concluded that earnings management exists when the decision is not violating GAAP. Chairman Levitt states at the speech that: “Abuses such as earnings management occur when people exploit this pliancy. Trickery is employed to obscure actual financial volatility. This in turn, masks the true consequences of management’s decisions.” However, this type of earnings management has a tendency to make adverse consequences for managers and firms as financial frauds.

Because of the existence of earnings management, analysts and regulators needs to study more on it to know more about the reported earnings of firms to make rational forecasts. Similarly, accountants should also have knowledge about earnings management in order to know more about net income. When firms are suffering distressed caused by earnings management, a sufficient knowledge about earnings management will help them avoid legal consequences from this distress. The earnings management gives managers the opportunity to choose accounting policy which can help them maximize fulfil their objectives. The choices can be affected by different aspects, such as market, contracts, etc.

3.2 Patterns of earnings management

There are four patterns of earnings management, which are taking a bath, income minimization, income maximize and income smoothing (Scott 2003, 425).
Taking a bath arises in the case of a company which is under organizational stress or restructuring. Managers intend to report a large amount of losses when they must report a loss in financial statements and “clear the decks.” And it will take place when earnings fall behind the analysts’ forecast (Healy 1985). The main reason for this action of managers is basically due to the bonus in the future. When managers must report losses in current period, they can manipulate earnings considering their future bonus. In order to take a bath, manager will manipulate with accounting method to keep earnings in the future such as write off assets or bad debts at one time and provide expected future costs. Taking a bath can also improve the possibility of future reported earnings through accrual reversal states.

Similar with taking a path, the second pattern of earnings management is income minimization. It is not that extreme compared to taking a path. This pattern will be adopted by manager when the firm are facing political issues when they have high profitability. The firms with high profitability will attract more attention from auditors or government. They suggest that firms write off capital assets and intangible assets rapidly to reduce earnings. Some large firms tend to apply some accounting policies in order to minimize their net income. In order to achieve this outcome, managers use accelerating depreciation method rather than straight line method, or using LIFO method for inventory, or expensing advertising and R&D expenditures rather than capitalizing them. Firms will benefit from this by reducing their political costs.

Third is income maximization, the opposite way of income minimization. When bonus of managers is linked with firms’ performance especially reported earnings, managers have incentives to maximize reported net income for their extra bonus. And some managers adopt it for the reason of avoiding violating covenants. Frequently, this kind of situation will happen when reported earnings are below the caps. That means firms which are close to debt covenant violations will have motivations to maximize their income.

The last pattern is income smoothing. Researchers treat this pattern as the most interesting earnings management pattern. Through reporting smooth net income can lead to a smooth covenant, which means the volatility of reported net income
has a positive association with covenant violation. The meaning of income smoothing is to average earnings over accounting periods in order to reduce earnings' volatility. Managers which are not willing to take risks prefer less variable bonus stream, so that they will report smooth earnings to receive constant compensation each time. Evidences from Healy (1985) indicate that managers have motivations to smooth earnings and maintain it within the range of bogey and cap to receive constant bonus and avoid the loss of bonus. From manager’s view, they are afraid to be fired when reporting low earnings. Thus, income smoothing help managers to reduce the possibility of reporting low earnings. From external reporting purposes, income smoothing gives a way for investors to get access to the inside information.

### 3.3 Incentives for earnings management

Earnings management are widely adopted as a tool to affect earnings quality by managers. Earnings cannot be managed in every case; it can only be manipulated when there are opportunities. Financial statements are required to be audited by external audit firms to verify the information to make sure they are complying with GAAP.

Prior literatures have summarized three incentives for earnings management, which are stock market purposes, contracting and regulatory motivations (Healy & Palepu 1999).

#### 3.3.1 Stock market purpose

There are two aspects of stock market which are stock price and equity offers. Firstly, earnings management will influence firm’s short term reporting number such as stock price through accruals. Dechow and Skinner (2000) highlight capital market incentives that encourages earnings management. Specifically, Issuers of initial public offerings (IPOs) can report earnings exclude cash flows by taking positive accruals. The information asymmetry between issuers and investors are existed during the time of offering. Dye (1988) shows that managers have motivation and ability to manipulate earnings to increase the stock price to benefit
the current shareholders. High reported earnings will reflect on a high offering price and the investors have no clear idea about the earnings management engaged in financial statements. Meanwhile, in the post IPO period, Teoh, Welch and Rao (1999) find a direct relationship between long-run post-IPO return underperformance and IPO firm’s earnings management, which shows firms with high discretionary accruals perform poor in stock return in following three years. On the contrast, though the offering price is high from issuing, managers still have incentives to maintain or even higher the market price to earn more profit. Researches indicate that managers have a tendency to manage earnings upwards as to increase firms' IPO price and a reversal unexpected accruals in the post IPO period as well (Teoh, et al.1998).

Secondly, previous studies indicate that earnings management has a relationship with manager’s stock-based compensations. Appropriate management incentives can lead to earnings management. One way to increase the level of managerial ownership is to offer manager options or shares of stock as award (Core and Guay 1999). This is because, more shares owned by managers, they are more likely considering interest of shareholders first. Specifically, Q Cheng and TD Warfield (2005) examine the relationship between equity incentives of manager and earnings management. They find out that managers with high equity incentives are more likely to sell shares in the future and this action motivates managers to engage in earnings management to increase the value of the shares to be sold. Burns and Kedia (2006) also provide evidence by studying on CEO compensation contracts and find out that stock options are relative to stronger incentives to misreport because CEO wealth introduced by stock options limits the downside risk on detection of the misreporting. That is why managers are always sensitive to the short-term stock price. Managers are expected to use their accounting discretion to manage earnings in order to keep the short-term stock price keep high (Stein 1989). Dechow et al. (1996) state that manager manage the earnings often occurs before equity offers happens. Usually, comparing two types of earnings management, firms with income-increasing unexpected accruals are more likely to have equity offers (Teoh, Welch and Rao 1999).
3.3.2 Contracting incentives

Except the incentives from stock market, firms still have powerful contracting incentives for earnings management. It seems that earnings management is likely to produce misleading financial statements which could affect resource allocation for contracting incentives (Healy & Wahlen 1999). As a consequence, this will lead compensation contracts and lending contracts firms to manage earnings to increase bonuses, improve job security, and mitigate potential violation of debt covenants. The main contracting incentives can be concluded as bonus contract and debt contract.

First, the relationship between bonus and earnings management can be concluded in two ways. First, this is a tool used by managers to show their power in the organizations by maximizing their own benefit towards shareholders’ welfare. Second, some contracts that allow earnings management maybe less costly than those without any earnings management in the view of efficient contracting perspective. Firms will give managers incentives rationally to manage earnings in the amount of compensations they offer.

For bonus contract, previous studies show that managers will decide managerial accounting decisions which will increase their compensations based on the earnings-based bonuses. The analysis of managerial opportunism regarding discretionary behavior against reported earnings that influences contractual outcomes and wealth transfers is first examined by Watts and Zimmerman (1978). Specifically, Kreps (1990) state that managers always treat earnings management as a means to help them get access to higher management compensations. This makes earnings-based bonus become a popular means of corporate executives used by firms. Most of the corporations apply bonus plan based on accounting-earnings to motivate managers in 1980 Fox (1980). Basically, shareholders believe that managers will manipulate net income to maximize their bonuses under their compensation plan, since managers has more inside information than shareholders. Healy (1985) tests this theory beyond the companies which set their compensation plans on reported earnings. And he finds that managers are more likely to choose income decreasing accruals when their bonus plan upper or lower
bounds are binding, and income-increasing accruals when they are not binding. Holthausen et al. (1995) continues to investigate earnings management based on earnings bonuses and find that managers decrease earnings when their bonuses reach upper bounds.

Except the incentives of earnings management on bonus contract, manager may also engage in earnings management for debt contracts incentives. Debt contracts arise from the moral hazard problem between managers and lenders. As a consequence, covenants are often added on long term debt contracts to prevent managers taking actions such as claim dividend, or borrow additional borrowings against the benefit of lenders. Accordingly, managers are more likely to increase current earnings through earnings management under the situation that firms are close to the violation of debt covenants. DeAngelo et al. (1994) examine a sample of troubled firms which have more than three consecutive losses and reduce dividend and find that most of the firms cut dividends because of the debt covenant constrains. It shows that when troubles are deep, earnings management will become the most useful strategy of firms for their survival.

Furthermore, evidence shows that firms use discretionary accruals to increase reported income in the period without convent violation (DeFond and Jiambalvo 1994). Sweeney (1994) examine the earnings management in debt covenant and find that there is a greater use of income-increasing accounting change in the firms that actually violate debt contracts than the firms that have defaulted on debt contracts. This is reflected by that the defaulting firms are more likely to make a change by adopting new accounting standards when firms tend to increase net income. And he also indicates that covenants are more frequently violated by firms when covenants regarding maintain a certain level of working capital and shareholders' equity in comparison to that of interest coverage ratio and debt to equity ratio. Watts and Zimmerman (1986) also give a conclusion that ex-post managerial discretions are made to avoid debt covenant violations. Kasanen et al. (1996) find strong evidence of earnings management in Finland, where Finnish managers tend to set earnings to satisfy the demand for dividends by keiretsu-like institutional investors and owners.
Another type of contract named relational contracts are also related to earnings management. The importance of rational contracts is highlighted during the event leading up to 2007-2008 market meltdowns. It is investigated by Bowen, DuCharme and shores (1995), he states that manager’s rational contracting reputation can be improved by high profit, which increase confidence of stakeholders toward managers. And he also points out that on the inventory method, FIFO are more likely to be chosen by firms with high level of continuing involvement with stakeholders than firms with lower level of continuing involvement.

3.3.3 Political Incentives

The last incentives for earnings management is political incentives. Previous studies discussed three types of regulatory motivation: earnings management to circumvent industry regulations, earnings management to reduce risk of investigation and intervention by anti-trust regulators and earnings management for tax planning purpose (Alexandra 2010).

It has been proved that regulatory considerations induce firms to manage earnings, especially for managing industry specific regulatory constraints. Some typical industry company such as oil and power company have a willing to make high profit, the pollution or other kind of damage will occur. Thus these kinds of company should bare more responsibility than other industry. Public media and government usually pay more attentions on firms with high profit. Firms in this situation will have more political costs. In order to offset the excess profit of these kinds of firms, politicians have motivations to raise new special taxation or add other stricter regulations on these highly profitable firms. In this situation, evidence shows that firms engaged in political costs have huge incentives to make earnings downward to reduce political cost.

Jones (2001) provide huge evidences that manager engage in the earnings management in the import relief investigation. She gives an evidence that during the import relief investigation, managers have motivations to make income
decreasing accruals than the period without import relief investigation. Despite this, Cahan (1992) find that firms under anti-trust investigation by US government have more earnings-decreasing abnormal accruals during the investigation years. Another reason is job security, which creates the incentive for manager to perform better in the current period than in the future (Fudenberg and Tirole 1995). Thus, it induces manager to make earnings high during their tenure to avoid the profit flow to others. According to the empirical study, political can be an important inventive for manager to engage in earnings management.

For tax purpose, Statement of Financial Accounting Standards No. 109 (SFAS No. 109) allows firms to use their discretion to set high valuation allowances against deferred tax assets. Visvanathan (1998) shows evidence that firms have incentives to manage earnings to minimize income tax. Specially, banks use the valuation allowance to smooth earnings toward the forecast and historical earnings per share (Schrand 2003).

According to all incentives above, there are reasons for earnings management in each purpose. Managers have both incentives from each aspect to increase or decrease earnings. Based on these different incentives, earnings management is divided into income increasing earnings management and income decreasing earnings management.

For income increasing earnings management, four types of incentives for firms that engaged in income increasing earnings management are discussed, which are contracts, compensations agreements, equity offerings and insider trading (MessodD 2001). For contracts incentives, lenders always add some restrictions on debt contracts to regulate firms to protect their own benefit. He assumes that debt contract provides incentives for manager to increase earnings to reduce the restrictions set by lenders and avoid the cost of violations. For compensation agreement, Healy (1985) examine the bonus hypothesis to provide the evidence that manages tend to increase earnings to obtain their own compensations. The outcomes show that attractive compensation scheme always induce managers to select an income increasing accounting procedures (Watts 1977). For equity offering, there are several prior study based on this aspect. Managers have
incentives to increase earnings for equity offerings (Teoh, Welch and Rao 1998a, Teoh, Welch and Wong 1998b). They study earnings management in the context of initial public offerings (IPO). Similarly, Rangan (1998) and Teoh, Welch and Wong (1998b) continue to examine in the context of seasoned equity offerings. The evidence presented suggests that estimates of at-issue earnings management are significantly negatively correlated with subsequent earnings and returns performance. The last incentive is insider trading. Insider trading is considered as an incentive to the set of potential antecedents to income increasing earnings management. However, this incentive is less pervasive by prior study. Jaffe (1974) and Seyhun (1986) indicate that managers always act as a role of informed traders, buying (selling) in advance of stock price increases (declines) and the difference between the prices is considered as a compensation for managers to provide their private information to investors on a timely basis (Carlton and Fischel 1983, Dye 1984, Noe 1997).

However, there are also incentives for managers to engage in income decreasing earnings management compared to managers engaged in income increasing earnings management. As firms’ earnings management is motivated by equity market considerations is pervasive. Except to manage earnings upwards, managers still have incentives to make earning downwards to report an understated earnings.

For capital market, managers usually take actions to influence buyout firms' stock price to go down by understating earnings to gain their own benefits. Accordingly, the discretionary accruals before a management buyout in buyout firms is predicted to be negative because the understatement of earnings by managers. DeAngelo (1986) provide incentives to decrease earnings in periods preceding management buyouts.

Except for this reason, Managers also have both incentives to take a bath when net income is low or adopt income minimization police when net income is high. Taking a bath is one of the four patterns for earnings management. The Pecking Order Theory gives a framework when managers have incentives to decrease earnings (Myers 1984). When firms are facing a loss, managers will engage in
earnings management to make the loss big enough for their future bonus (Degeorge et al. 1999). Healy (1985) states that taking a bath is likely took place and adopted by managers when earnings of firms fall below budget because it will increase their expected future bonuses.

For compensation agreement, comparing gain sufficient bonus in current period, managers still have strong motivations to decrease earnings considering their compensations in future. For example, Jarrell (1979) indicate that the outcome of lower reported earnings by managers tend to increase the likelihood that utilities can obtain rate increases. And this can also lead to reduce the likelihood of wealth transfers (Watts and Zimmerman 1978), and to obtain import relief (Jones 1991). And when firms are facing litigation cost or taxation problem, a lower earning will help them decrease litigation cost and tax. Nelson et al. (2000) suggests that income decreasing in earnings management in the form of “cookie jar”. Hanna (2002) also give evidence for "cookie jar reserves" used by manager to reduce earnings in current period.

Because R&D expenses are normally reduced in the financial statements in order to the verifiability of accounting numbers. However, when a firm is at a high level of institution ownership do not take R&D expenses as a way to increase earning and encourage managers do not reduce R&D expenses in the financial statements (Bushee 1998).

Whether to choose income increasing or income decreasing earnings management, managers will not choose the decision blindly. They are more likely to choose income-decreasing accruals when their bonus plan upper or lower bounds are tied up with earnings, and to choose income-increasing accruals when these bounds are not tied up with earnings (Healy 1985).

3.4 Earnings management as proxy for Earnings quality

As what discussed above in earnings quality, earnings management acts as the most important factor for earnings quality. Thus, the manners to detect earnings
management is important in prior studies, the ways are classified as aggregate accruals, specific accruals, cost allocation and etc. And the most frequently used are accruals. Whether the market reacts to earnings management is important for accountant. Subramanyam (1996) investigate in this kind of issue using Jones model. He points out that the stock market response positively related with discretionary accruals in current period without the effect of cash flow and non-discretionary accruals. This proves that earnings management will reflect inside information about future performance.

3.4.1 Aggregate or total accruals

Healy (1985) assume that manager use accruals to manage net income. Net income is consisted of operating cash flow and accruals, and prior study decompose accruals into non-discretionary accruals and discretionary accruals. Accruals is hard to defined, Richardson et al. (2005) provide a point that accrual is the change in net operating assets other than cash. Managers can manipulate accounting numbers through both components. On one hand, managers affect earnings through managing real transactions such as cutting R&D expenditures and increasing sales (Bruns and Merchant 1990, Graham et al. 2005). Roychowdhury (2006) provide two reasons why managers engage in real transactions. First reason is that auditors and regulators paying more attentions on accruals than real activities. Second is that some managers prefer manipulate real transactions to achieve their financial targets than on accruals.

However, managing earnings through accruals is more frequently accepted by managers. Instead of manipulating earnings through real activities, managers have more motivations to use accruals. Usually, manager will reduce the allowance for doubtful debts, capitalize costs than expense it. Basically, accruals can help managers either recognize earnings in future period to current future period or to defer earnings from current earnings to future period. Moreover, accruals tend to be reversal because of iron law, which reflect that the earnings are reduced in subsequent accounting period for current earnings-increasing accruals will reverse ultimately and the earnings-decreasing accruals will increase firms' future
earnings when it reverses (Meng 2012). The earnings will decline because of the reversal of accruals in the following period. As argued by Scott (2003), discretionals accruals component is considered more flexible to be manipulated by managers and hard to be detected by investors and other outside financial information users, which makes it frequently used by managers to influence firms' short-term reporting accounting. In practice, auditors and regulators even the board members of directors have difficulties for detecting the earnings management which is manipulated through accruals (Schipper 1989). Board members of directors cannot distinguish the changing are from normal accounting activities or from managers’ earnings management. This gives managers greater benefit to playing with accounting numbers through accruals comply with GAAP without being detected by auditors, regulators, investors, even board members. The greater the degree of discretion in an accrual, the greater the opportunity for earnings management.

Total accruals are consisted of depreciations and the change in working capital and are decomposed into discretionary accruals and non-discretionary accruals. Non-discretionary accruals always remain constant while discretionary accruals changes in accounting period. The non-discretionary accruals will be larger in a firm which are growing faster and this kind of firm should vary in response to changes in economic conditions due to the nature of the accruals accounting process (Kaplan 1985). And Discretionary accruals are the accruals that managers have some flexibilities and can exert certain discretions to influence the amounts.

Then comes the model of accruals to detect earnings management. Total accruals used as a proxy for non-discretionary accruals in the model to detect earnings management are first applied by Healy (1985) and DeAngelo (1986). After their investigation of earnings management through accruals, then comes several different model of estimating non-discretionary accruals to detect earnings management. Discretionary accruals are frequently used by researchers as a proxy for earnings management (e, g Lara et al. 2005, Pae 2007). After estimating non-discretionary accruals, the discretionary accruals can be calculated by total accrual subtract part of non-discretionary accrual. Before the statement of cash flow
coming out, total accruals are calculated using a balance sheet approach which is applied by most of the model. The equation of total accruals is:

\[ TA_t = \Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta DCL_t - DEP_t \]  

(1)

The total accruals are calculated from the differences between reported accounting earnings and cash flows from operations. In this equation, \( \Delta CA_t \) represents the change in current assets in year \( t \), \( \Delta Cash_t \) is the change in cash and cash equivalents in year \( t \), \( \Delta CL_t \) is the change in current liabilities in year \( t \), \( \Delta DCL_t \) is the change in debt included in current liabilities in year \( t \), and \( DEP_t \) is depreciation and amortization expense in year \( t \).

However, with the statement of cash flow exists, another way to calculate total accruals using cash flow statement becomes popular (Collins and Hribar 2002). The measure is computed as follow:

\[ TACC_{cf} = EBXI - CFO_{cf} \]  

(2)

In this equation, \( TACC_{cf} \) represents total accrual adjustments provided on the cash flow statement under the indirect method; \( EBXI \) is earnings before extraordinary items and discontinued operations; And \( CFO_{cf} \) is operating cash flows (from continuing operations) taken directly from the statement of cash flows.

There are several models used to estimate non-discretionary accruals.

First model is put forward by Healy’s (1985). He uses this kind of model based on his bonuses hypothesis. This model can be described as the mean total accruals (scaled by lagged total assets) from the estimation period represent the measure of non-discretionary. And the non-discretionary model is shown as an equation:

\[ NDA_{it} = \frac{\sum_{\tau=t}^{T} TACC_{\tau} / A_{\tau-1}}{T} \]  

(3)
In Healy’s model, \( t \) represents for years in the estimated period and denotes for years in the event, NDA is non-discretionary accruals in year \( t \) scaled by lagged total assets period; TACC represent total accruals. A is total assets at the end of the previous fiscal year. \( t \) is a year subscript for years included in the estimation period.

Second model is DeAngelo (1986) Model, it is considered as an improvement model of Healy’s (1985) model. It measures non-discretionary accruals using total accruals in last period scaled by lagged total assets, which is presented as an equation below:

\[
NDA_t = \frac{TACC_{t-1}}{A_{t-2}}
\]  

(4)

The same as model Healy’s model, in DeAngelo (1986) Model, NDA is non-discretionary accruals in year \( t \) scaled by lagged total assets period, TACC is total accruals and A is total assets. These two model looks similar, but they are quite different from each other. DeAngelo Model has a restriction by previous year’s observations and assume that NDA follow a random walk process, while Healy Model assumes that NDA follow a mean reverting process.

Third is industry model promoted by Dechow et al. (1995, p. 199). The Industry Model assumes that the variation in the determinants of nondiscretionary accruals are common across firms in the same industry, which means that non-discretionary accruals might be examined by other firms in the same industry. The equation of this model is defined below:

\[
NDA_i = \beta_1 + \beta_2 (\text{Industry Median } TA_i / A_i - 1)
\]  

(5)

These are used to forecast non-discretionary accruals in prediction period. The firm-specific parameters \( \beta_1 \) and \( \beta_2 \) are estimated using OLS on the observations in the estimation period.
Forth is Jone’s (1991) model. Jones (1991), which use change in total accruals instead of total accruals as a proxy for expected non-discretionary accruals. In this model, accrual process (working capital accruals and depreciation) as a function of sales growth and PPE and changes in the economic circumstance of the firm is controlled by expectation model for total accruals. The model of is:

\[ TA_{it} / A_{it-1} = \alpha_1(1 / A_{it-1}) + \alpha_2(\Delta REV_{it} / A_{it-1}) + \alpha_3(PPE_{it} / A_{it-1}) + \epsilon_{it} \]  

(6)

In this model, TA\(_{it}\) refers to the total accruals in year \(t\) for firm \(i\), \(\Delta REV_{it}\) refers to differences between the revenue in \(t\) and revenue in \(t-1\), PPE refers to gross property, plant, and equipment in year \(t\) for firm \(I\), \(A_{it-1}\) refers to total assets in year \(t-1\) for firm \(i\). \(\Delta REV_{it}\) is considered to control for non-discretionary accrual of changes in working capital. \(\alpha_1, \alpha_2, \alpha_3\) are firm-specific parameters. And the parameters are obtained by using ordinary least squares which is presented below:

\[ TA_{it} / A_{i-1} = a_1(1/A_{i-1}) + a_2(\Delta REV_{i} / A_{i-1}) + a_3(PPE_{i} / A_{i-1}) + \epsilon_{t} \]  

(7)

Where in this model, \(a_1, a_2,\) and \(a_3\) denote the OLS estimates of \(\alpha_1, \alpha_2,\) and \(\alpha_3\), and \(TA_i\) is total accruals in year \(t\). \(\epsilon_t\) is the residual, which represents the firm-specific discretionary portion of total accruals.

After Jones (1991) model, a modified Jones model then derived by Dechow et al. (1995). The modified model eliminates the conjectured tendency of Jones model to measure discretionary accruals with error when discretion is exercised over revenue. They release the implicit assumption that revenues are non-discretionary in Jones model. Equation below shows the modified model of Jones.

\[ NDA_{i} = \alpha_1(1/A_{i-1}) + \alpha_2(\Delta REV_{i} - \Delta REC_{i}) / A_{i-1} + \alpha_3(PPE_{i} / A_{i-1}) \]  

(8)

\(\Delta REC_{it}\) is net receivables in year \(t\) less net receivables in year \(t - 1\), and other variables are the same with the variables in Jones model. It is highlighted that the parameter of \(\alpha_1, \alpha_2,\) and \(\alpha_3\) are obtained from the Jones model. The only adjustment is changes in revenues is adjusted by changes of receivable in the
estimated period. The modified model implicates that all changes in credit sales which present in the change of receivables will lead to earnings management.

The last is the cross-sectional models introduced by DeFond and Jiambalvo (1994). This kind of model is similar with the model Jones and modified Jones model. The only different is that Jones model and modified Jones model are based on the time-series data, but the cross-sectional model are based on the cross-sectional data. That makes the parameter of cross-sectional model are industry and year specific rather than firm specific by using data from firms matched on years and two-digit SIC industry grouping.

Other models are based on Jones Model, such as performance matched model is introduced by Kothari et al. (2005), he pointed out that the firms’ accrual can be estimated by the firms from the same industry and closet ROA.

3.4.2 Specific accruals

Detecting earnings management through specific accruals are more likely used in specific industries or specific accounting standard. The specific accruals are used for equity offerings, management buyouts and firms avoiding decreases (Marquardt and Wiedman 2004). Examples of specific accruals are tax expenses, restricting charges, allowance for lease and loan losses and etc.

Dhaliwal et al. (2004) investigating whether tax expense can be used to detect earnings management and find substantial evidence that firms use reported taxes to manage earnings if managing non-tax sources are insufficient to achieve targets.

Except for tax expense, another example of specific accruals is restructuring charges. Moehrle (2002) indicate that firms will increase net income through reversing parts of restructuring charges. This action happens when this kind of reversal will help to beat analysts’ forecast. For this reason, restructuring charges can be used as a specific accrual to detect earnings management.
Speaking of allowance for lease and loan losses, Gray and Clarke (2004) considered it as a potential way to manage earnings. Specifically, Schrand and Wong (2003) find that in banking industry, firms tend to manage earnings by applying the provision in the SFAF 109 to value deferred tax instead of valuation allowance. So that in banking industry, allowance for lease and loan losses are often used to detected earnings management than accruals.

Fair-value estimates can be another specific accrual used to detect earnings management. Ramanna and Watts (2008) state that managers could exploit unverifiable fair-value based discretion provided in SFAS 142 to avoid timely goodwill write-offs. Furthermore, Dietrich et al. (2000), investigating the reliability of mandatory annual ‘fair value estimates’ for UK investment property, find that managers choose the accounting method which can report higher earnings or report smooth earnings change.

3.4.3 Cost allocation and cost shifting

Some researchers show that earnings management can affect cost allocation. And find earnings management can be detected through cost allocation and cost shifting. Managers will overuse their powers in cost shifting or cost allocation in earnings management.

McVay (2006) investigating EM finds evidence that managers opportunistically shift expenses from core expenses to special items that does not change bottom-line earnings, rather overstates core earnings. Investors are mainly concerned with core financial data and special items tend to be excluded from both pro-forma and analyst earnings definitions and managers are trying to meet analyst forecast.

Each of the models have their own advantages and disadvantages, but the most frequently used by prior literatures and researchers are Jones Model and some of the other models are based on it. Thus I will follow Jones models to estimate discretionary accruals.
3.5 ANALYSTS’ FORECASTS

3.5.1 Reasons for analysts’ forecast

As the topic of proxy of target beating above, the small profit and small losses is less pervasive to be used as the proxy, thus analysts’ forecast exists.

From the view of investors, the major responsibility of analysts is to make earnings forecasts so that to help them make decisions. Investors, especially equity investors want to know how much the firm really worth in order to decide whether to invest it or not. The value of equity securities such as common stock and preferred stock are the main factors that influence their decision making. There exists some professional financial advisor such as securities, brokers which have adequate information that individual investors do not have. As a consequence, they can provide more reliable analysis about firms.

From the view of executives, managers are monitored by investors, directors and suppliers. And managers have strong incentives to manage earnings. However, when manager report earnings, there are several point that should be considered. First is to report positive earnings; Second is to sustain recent performance; Third is to meet analysts’ expectation, especially the analysts’ consensus earnings forecast (Patel 1999).

There is a situation that the forecast is unbiased if the information of the company is transparent. The purpose of analysts forecasting a company’s performance and future prospect is to help people who use this information to make more rational decisions and earn profit from that. In this situation, most of the investors make decisions based on the analysts’ suggestions. And that relies more on accuracy of analysts’ forecast.

Prior study indicate that analysts’ forecasts of corporate earnings has a great influence on stock market activity and returns to investors. Analysts’ forecast can influence earnings announcements (Imhoff & Lobo 1992). Except for earnings, study of analysts’ forecast shows that it is even related to monthly or annual stock
returns (Ang & Ciccone 2001, Diether, Malloy & Scherbina 2002, Dische 2002). Thus the analysts’ forecasts on earnings is considered as the target for managers.

Because of the burden based on the reliable of analysts’ forecast, the accuracy can be distorted by several factors. Jacob (1999) point out three possible reasons that will affect the accuracy, which are basic skills of analysts, knowledge of the company’s operation situation, working relationship with corporate management, and rational treat past forecast error. He indicates that the accuracy of analysts’ forecasts has a negative relationship with forecasting horizon. Furthermore, Kross (1990) examine the relationship about the accuracy about analysts’ forecast with firm characteristics as well and point out that the analysts’ advantage to forecast an increase of earnings has an association with earnings variability and level of The Wall Street Journal coverage.

3.5.2 Analysts Forecast and Earnings Management

Target beating is considered as a proxy for earnings management and whether firms’ performance beat the target is important in the earnings management.

In the world of profit, managers have great pressure and often thought to play an “earnings game”. Frequently, manipulating reported earnings to gain maximize of various benefits such as increased stock prices, favorable publicity, and bonuses are manger by managers (Vickers 1999). Consequently, Barth, Kasznik and McNichols (2001) and Lopez and Rees (2000) present evidence of meeting or beating analyst earnings forecasts will lead a positive market response. And Degeorge et al. (1999) mention several reasons why managers manage earnings, such as to increase job security, increased bonuses, and bolstered investor interest.

For firms that set target, Burgstahler and Dichev (1997) describe the “kink” in their investigations and find out that the amount of firms with small profit is more than firms with small losses. This indicates that firms either engage in the earnings management to make their earnings positive or achieve a big loss to take a bath. This outcome provides evidence of making small profit and small loss as a proxy of earnings management. However, Dechow et al. (2003) point out that
discretionary accruals are no different for small profit versus small loss firms, the small profit and small losses act as the proxy of earnings quality is less pervasive. As the incentives discussed above, analysts’ forecast could be used as a new proxy of earnings management because managers have incentive to beat analysts’ forecast for several reason. On one hand, investors rely mostly on the analysts’ forecasts for making investment decisions. In order to receive more capital from investors, managers will make no effort to beat analysts’ forecast. Stock price is considered as a direct information of the value of the firm. As the capital market is one of the incentives for earnings management, the managers also has that incentives to meet analysts’ forecast (Beatty et al.2002). Evidence shows that the share price will increase when report earnings are greater than analysts’ expectations. Conversely, share price will decrease when analysts predict a negative earnings surprise. As a result, managers have strong incentives to manage earnings upwards to meet the analysts’ expectations to implement their stock-related compensations. On the other hand, if the performance of the firm is linked with the bonus of managers, and the criteria of the performance is whether the earnings meet the analysts’ forecast or not, managers will have incentives to engage in earnings management as well. Specifically, firms which meet analysts’ forecasts for the period will gain rewards from market and firms which fail to meet analysts’ forecast will be penalized (Bartov et al. 2002). And Rees (2000) finds that firms meeting analysts’ forecasts have higher earnings response coefficients than firms that do not meet analysts’ earnings expectations. Because management has strong incentives to engage in earnings management to avoid missing analyst’ forecast.

Regardless of the influence on share price and bonus when earnings do not meet investor’s earnings expectations, there exists an indirect factor of meeting analysts’ forecast, managers’ reputation. If a company has a good performance either reflect on stock price or somewhere else, the first people that make great effort is executives, because the performance of a company is always linked as the ability of executives That is why managers have strong incentives to show their ability by increase earnings to meet analysts’ forecast. In the tenure of managers, they are willing to perform well especially in the last few years of their tenure. These consists of the incentives for managers to engage in earnings management. From
all of the reasons provided above, managers will make no effort to seize opportunities to engage in earnings management to meet analysts’ forecast.

Previous studies support the avoidance of small negative earnings surprises. In the study of earnings surprise, positive earnings surprises are more frequently than negative earnings surprises (Dreman and Berry 1995). Studies among the discretionary accruals between the firms with positive surprise and negative surprise are often discussed by researchers. Discretional accruals are positive when premanaged earnings is less than analysts’ forecast, while discretionary accruals are negative on the opposite side (Payne and Robb 2000). Furthermore, evidence that greater tendency of positive discretionary accruals for firms to meet analysts’ forecasts are provided by Matsumoto (2002). Consistently, higher discretionary accruals are discovered in firms meeting or just beating analysts’ forecasts than firms just miss analysts’ forecasts. And Dechow et al. (2000) find that discretionary accruals are greater in zero earnings surprises than for non-zero surprise.

There are several ways to beat analysts’ forecast. Prior study shows that managers are always manage earnings to beat analysts’ forecast through changing accounting choice that will produce earnings. Appreciate accounting choice always generates more earnings. For example, Dhaliwal et al. (2004) examine the effect that the tax expense on earnings to choose an accounting standard. Similarly, accounting method such as what kind of appreciation method is used can also affect earnings. Additional, firms can beat analysts’ forecast through accrual as well. Phillips et al. (2003) investigate whether firms use discretionary accruals to beat analysts’ forecasts of earnings. Consistently, after the study of the Phillips et al. (2003), Ayers et al. (2006) find more evidences consistent with an association between discretionary accruals and meeting or beating analyst forecasts. She finds out that firms have strong incentives to increase discretionary in order to make earning upwards. Burgstahler and Dichev (1997) also provide evidences that earnings are managed upward to meet or slightly beat analyst forecasts.
Another way for manager to meet analysts’ forecast is downward management of forecast. Matsumoto (2002) finds an evidence of firms managing analysts’ forecasts to achieve positive earnings surprise. She constructs a measure of expected earnings based on previous earnings change and prior returns, and finds a greater frequency of firms less than this expectation that meet the consensus forecasts than for firms that do not. There are two types of forecast management provide by Burgstahler (2006), first is analysis of the shift in frequencies of small positive and small negative earnings surprises across forecast horizon and second is analysis of two alternative forecast management proxies across level of earnings surprises. He present evidence for downward forecast management to meet analysts’ forecast.

Accordingly, managers have strong incentives to meet analysts’ forecast through earnings management for sort of reasons. There exists a relationship between earnings management and analysts’ forecasts.
4 HYPOTHESIS DEVELOPMENT

As previous studies discussed above, Burgstahler and Dichev (1997) describe that a high frequency in small profit firms and a low frequency in small loss firms, which indicates that small profit and small loss can be regarded as an indicator of earnings management. However, there is no huge difference between these two types of firms by examining the discretional accruals, which is considered as a proxy of earnings management. This finding shows using small profit and small losses as proxy of earnings management less pervasive. Then researchers pay attention to another target: analysts’ forecasts. Firms always set analysts’ forecasts as a target and indicator of the performance of manager. In that way, managers’ compensation is also tied with whether they beat target or not. Consequently, managers will have incentives to beat analysts’ forecasts in order to gain extra bonus and maintain their reputations. This incentive gives a reason for analysts’ forecasts act as an indicator of earnings management. Furthermore, previous study also indicate that managers have more incentives to slightly beat analysts’ forecasts. In the same way of small profit and small losses act as the indicator of earnings management, slightly beat or slight fail could also be an indicator of earnings management. Similar with the “kink” Burgstahler and Dichev (1997), I assume that meet analysts’ forecast which is differences between actual EPS and forecasts EPS may follow the same trends. Then I propose my first hypothesis:

H1: Firms have higher frequencies in slightly beat analysts’ forecast than slightly miss analysts’ forecast.

As managers have sorts of incentives to manipulate numbers to beat analysts’ forecasts and get close to analysts’ forecasts, but what method can they use to achieve such goals. Previous studies have shown that earnings are decomposed into cash flow and accruals. And accruals equals to the sum of discretional accruals and non-discretional accruals. It is discretional accruals that managers can manipulate since non-discretional accruals are constant. In this situation, managers have two choices to manipulate numbers in order to beat analysts’ forecasts, first is through real activities and second is through earnings
management. From the prior studies discussed before, managers have more advantages using accruals than real activities. Manipulating with accruals is hard to be detected by regulators, auditors, even shareholders. Furthermore, after small profit and small loss as indicators of earnings management is less pervasive, slightly meat and slightly miss is considered as a new indicator of earnings management. And Phillips et al. (2003) investigate whether firms use discretionary accruals to beat analysts’ forecasts of earnings.

According to all the previous studies and basic knowledge of earnings management and analysts’ forecasts above.

I propose my hypothesis as follow:

**H2:** Firms manipulate earnings through discretionional accruals to get close to analysts’ forecasts.

**H3:** Slightly meat and slightly miss analysts’ forecasts are indicators of earnings management.
5 METHODOLOGY AND RESEARCH DESIGN

5.1 Proxy of earnings management

Following prior literatures, I used non-discretionary accrual as a proxy of earnings management to control earnings management.

Discretionary accruals are estimated by total accruals subtract non-discretionary accruals. Based on the studies above, I applied Jones (1991) model to estimate non-discretionarial accruals in order to get an estimation of discretionary accruals.

According to Collin and Kribar (2002) and Jone (1991), total accruals are calculated as equation (2) in 3.4.1:

\[ TACC_{cf} = EBXI - CFO_{cf} \]  

(2)

Where:

\[ TACC_{cf} \] = Total accruals

\[ EBXI \] = Earnings before interests and taxes

\[ CFO_{cf} \] = Cash flow from operation activities

Discretionary accruals are calculated using Jones (1991) model which presented in equation (6) in 3.4.1 before:

\[ TA_{it} / A_{it-1} = \alpha_1 (1 / A_{it-1}) + \alpha_2 (\Delta REV_{it} / A_{it-1}) + \alpha_3 (PPE_{it} / A_{it-1}) + \varepsilon_{it} \]  

(6)

In this model, \( TA_{it} \) refers to the total accruals in year t for firm i, \( \Delta REV_{it} \) refers to difference between the revenue in t and revenue in t-1, \( PPE_{it} \) refers to gross property, plant, and equipment in year t for firm i, \( A_{it-1} \) refers to lagged total
assets, which is total assets in year t-1 for firm i. \( \Delta \text{REVit} \) is considered to control for non-discretionary accruals of changes in working capital. \( \alpha_1, \alpha_2, \alpha_3 \) are firm-specific parameters. And the parameters are obtained by using ordinary least squares which is presented below:

\[
\frac{\text{TA}_t}{\text{TA}_{t-1}} = \alpha_1(1/\text{TA}_{t-1}) + \alpha_2(\Delta \text{REV}_t / \text{TA}_{t-1}) + \alpha_3(\text{PPE}_t / \text{TA}_{t-1}) + \varepsilon_t \quad (7)
\]

After calculating total accruals and non-discretionary accruals, discretionary accruals are calculated as the differences between them.

### 5.2 Testing model

I tend to use a regression model to test my hypotheses. Considering sort of factors that will affect discretionary accruals, I create a new regression model below:

\[
\text{MEET ANALYSTS' FORECASTS}_i = \alpha_1 + \beta_1 \text{ABSDA} + \beta_2 \text{LEVERAGE}_i + \beta_3 \text{MARKET-BOOK RATIO}_i + \beta_4 \text{PRCC} + \beta_5 \text{SIZE}_i + \beta_6 \text{GROWTH}_i + \varepsilon_i \quad (9)
\]

Where:

\[
\text{MEET ANALYSTS' FORECASTS} = \text{Difference between actual EPS and forecasts EPS}
\]

\[
\text{ABSDA} = \text{ABSOLUTE Discretionary accruals calculated by Equation (7)}
\]

\[
\text{PRCC} = \text{Stock price at current period}
\]

\[
\text{LEVERAGE} = \text{The ratio of long term debt to total assets}
\]

\[
\text{MARKET-BOOK RATIO} = \text{Market price to book value}
\]

\[
\text{SIZE} = \text{Natural Log value of total assets}
\]
In this new model, ABSDA is considered as the main variable that will be examined in my test to support my hypotheses.

LEVERAGE, M-B ratio, PRCC are considered as other main proxies that will influence earnings management so to affect managers’ action. Leverage (LEV) equals to total long-term debt divided by average total assets. Previous studies indicate that LEV helps to control debt structure of the company. Furthermore, Press and Weintrop (1990) shows a direct relationship between high leverage and debt covenant violations. Also, debt covenant violation has a close association with discretionary accruals choice (DeFond and Jiambalvo 1994). Thus, an income increasing earnings management is usually chosen by managers to avoid debt covenant violation in highly leverage firms. Similarly, MARKET-BOOK RATIO and PRCC are also main factors that will influence earnings management. M-B ratio equals to the ratio of market price to book value. Managers has incentives to increase current stock price by managing earnings upwards. (Dye 1988). Firms can attract investments through this action to increase current stock price. Compared to the M-B ratio, stock price is considered as a more direct proxy that will affect earnings management. Managers could engage in earnings management to either increase or decrease stock price for different purpose.

To reduce the potential effects of the omitted variable leverage, Firm size and Growth are considered as control variables in this model. Firm size is measured by the natural logarithm of firm’s total assets. To be more specifically, firm size has an indirect effect on earnings management. Managers in large firm has more difficulties to engage in earning managers because they are regulated by regulators, auditors and board members. Lang & Lundholm (1993) states that small companies have more incentives to manipulate earnings to avoid litigation costs. However, large firms have more incentives to engage in earnings management because of attracting investments. GROWTH is also related with earnings management. If a company is a startup, they have more incentives to
manage earnings upwards in order to attract more investments (Gaver & Gaver 1993). GROWTH equals to ration of market value if equity over book values of assets.

The test is organized based on the firms that close to analysts’ forecasts which include firms slightly beat and slight fair to beat. β1 is regarded as the main coefficient that represent the relationship between discrecional accruals and Meet analysts’ forecasts. According to my hypothesis, β1 will be positive and significantly related to Meet analysts’ forecasts to prove that firms engage in earnings management to get close to analysts’ forecasts. And also prove that slightly beat and slightly miss could act as indicators of earnings management.
6  EMPIRICAL RESULTS

6.1  Sample selection

Our financial statements data are selected from Compustat (U.S data base) for the fiscal year between 2010 and 2013 to calculate the variables in testing model. These financial data include Operating activities/Net Cash Flow, Income before extraordinary items, Total Assets, Sales/ turnover, property, plant and equipment (PPE), Total receivable, Common equity, Common share outstanding, price close (Annual), Total Long-term debt, SIC code and Company name. The data of Analysts’ forecast and actual EPS are derived from I/B/E/S. The sample is selected according to the difference between actual EPS and forecasts EPS, which includes all the data of this difference between -1 and 1 to define slight beat analysts’ forecasts and slightly fail to beat analysts’ forecasts. Total accruals are calculated by earnings before interests and tax (EBIT) minus cash flow from operation activities. And non-discretionary accrual is estimated using variables of changes in revenue (ΔREV), lagged total assets (TA), and PPE.

In testing model, whether firm beat or miss analysts’ forecasts is evaluated as the difference between actual EPS and forecast of EPS. And the slightly meet and miss is considered as an interval of the difference between actual EPS and forecast EPS from -1 to 1. ABSDA is considered as the absolute value of discretionary accruals. Leverage is the ratio of long-term debt to total assets. Market-book ratio is the ratio of market value to book value. Market value is presented by the close price of the firm and book value is common equity divide by common share outstanding.

For control variables, FIRM and SIZE equals to the natural log value of assets and GROWTH equals to the ratio of market value of equity over book values of assets. Market value of equity can be calculated as common share outstanding multiply close price.
6.2 Estimate Discretionary Accrual

In order to calculate discretionary accrual, we apply the model in Jones (1991) to estimate non-discretionary accrual. The parameters of the model are estimated by equation (7):

\[
TA_t / A_{t - 1} = a_1(1/A_{t - 1}) + a_2(ΔREV_t / A_{t - 1}) + a_3(PPE_t / A_{t - 1}) + ε_t
\]  

I perform this test on 27,984 observations of firm-year from 2010 to 2013, which obtain all necessary data from Compustat and delete missing data. In this regression, i refers to the firm and t refers to year.

The regression result for parameter is shown in Table 1 below, where ATtm1Inverse ChgREVdATtm1 and PPEdATtm1 indicate the parameter of 1/At – 1, (ΔREVit / Ait - 1) and (PPEit / Ait - 1) respectively.

Table 1: Regression result of Jones (1991) Model

| Variable            | Parameter Estimate | Standard Error | t Value | Pr > |t| |
|---------------------|--------------------|----------------|---------|-------|---|
| ATtm1Inverse        | 0.56930            | 0.01740        | 32.72   | <.0001|   |
| ChgREVdATtm1        | -0.29268           | 0.02349        | -12.46  | <.0001|   |
| PPEdATtm1           | 0.09014            | 0.01359        | 6.63    | <.0001|   |

After estimating parameters of Jones (1991) regression model, non-discretionary accruals of firms can be recalculated using this model and discretionary accruals can be calculated using total accruals minus non-discretionary accruals. And absolute values of discretionary accruals are calculated as well.
6.3 Regression result of main model

6.3.1 Descriptive Statistic and Pearson Correlation Coefficient

Firstly, descriptive statistic of all variables applied in the pooled regression and explained above are show in the Table 2 below. The table presents the result of two-tailed t-tests of differences in means between observations belonging slightly meet slightly miss and whole observations. As provided in in table 2, the mean ABSDA for the total sample is 9.3% of the total assets at the beginning of the financial year. The mean ABSDA for slightly meet and miss observations is 10.04% of the total assets at the beginning of the financial year.

As expectation, the t-test differences in mean shows ABSDA is significantly differently between slightly beat and slight miss analysts’ forecasts and whole observations, which represents that firms have more discretional accruals in sample of slightly beat and miss analysts’ forecasts. Leverage and stock price present the same trend as ABSDA as well. In addition, Market-book ratio does not show any difference. The t-test shows significant difference of GROWTH and SIZE, which is consistent with the expectation that high growth has more incentives to engage in earnings management to slightly beat analysts’ forecast.
Table 2. Descriptive statistics for all variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Std Dev</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Mean</th>
<th>Median</th>
<th>T test of difference (Slightly Meet and Miss vs All) Mean p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAdATtm1</td>
<td>0.1191396</td>
<td>0.0621888</td>
<td>0.0508981</td>
<td>0.1217233</td>
<td>0.0641447</td>
<td>0.0526338</td>
<td>0.5156</td>
</tr>
<tr>
<td>NDCAJones1991</td>
<td>0.0801630</td>
<td>0.0215785</td>
<td>0.0191581</td>
<td>0.0810768</td>
<td>0.0181529</td>
<td>0.0159713</td>
<td>0.0875</td>
</tr>
<tr>
<td>DCAJones1991</td>
<td>0.1401763</td>
<td>0.0413687</td>
<td>0.0244374</td>
<td>0.1452813</td>
<td>0.0467590</td>
<td>0.0303981</td>
<td>0.1334</td>
</tr>
<tr>
<td>Meet</td>
<td>0.1737220</td>
<td>0.0050053</td>
<td>0.0100000</td>
<td>0.0061414</td>
<td>0.000954274</td>
<td>0</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>ABSDA</td>
<td>0.1262106</td>
<td>0.0929623</td>
<td>0.0538375</td>
<td>0.1309022</td>
<td>0.1004169</td>
<td>0.0592281</td>
<td>0.0213</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.2006025</td>
<td>0.1894716</td>
<td>0.1410118</td>
<td>0.1972900</td>
<td>0.1616573</td>
<td>0.0861018</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>GROWTH</td>
<td>1.5516250</td>
<td>1.4998767</td>
<td>0.9929929</td>
<td>4.7658047</td>
<td>3.1684664</td>
<td>2.2032581</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>MB</td>
<td>4.7402480</td>
<td>2.9362734</td>
<td>2.0443912</td>
<td>1.9362242</td>
<td>6.4498260</td>
<td>6.1910349</td>
<td>0.0488</td>
</tr>
<tr>
<td>SIZE</td>
<td>1.9258685</td>
<td>6.9861859</td>
<td>6.9180046</td>
<td>1.6943817</td>
<td>1.7632397</td>
<td>1.1976240</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>
We also reexamine “kink” which is came up by Burgstahler and Dichev (1997). All observations exclude outliers are formed by a distribution in Figure 1 below:

![Histogram](image)

**Figure 1, Empirical distribution of EPS provided by Burgstahler and Dichev (1997)**

The “kink” can be easily discovered by this distribution, which proves that firms have incentives to engage in earnings management to avoid losses. And low frequencies of small decreases in earnings and small losses and unusually high frequencies of small increases in earnings and small positive income is also illustrate on it. However, an abnormal higher frequency of small losses is detected in the observations than in the test of Burgstahler and Dichev (1997). The reason of this situatiuion is due to the properties of the companies during observation period. On one hand, maybe this is because a declining market during the period 2010 to 2013. For example, book stores, music stores are facing a changing of technology nowadays. On the other hand, maybe there are high percentage of startups in the observations which are suffering a small loseese.
Furthermore, the correlation between variables are important. Pearson correlation coefficients of all variables are illustrated in Table 3 below.
Table 3: Person Correlation Coefficients

Pearson Correlation Coefficients, N = 7669
Prob > |r| under H0: Rho=0

<table>
<thead>
<tr>
<th></th>
<th>Meet</th>
<th>ABSDA</th>
<th>LEVERAGE</th>
<th>PRCC</th>
<th>MB</th>
<th>SIZE</th>
<th>GROWTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEET</td>
<td>1.00000</td>
<td>-0.00036</td>
<td>0.06901</td>
<td>0.23039</td>
<td>-0.05542</td>
<td>0.13715</td>
<td>-0.13086</td>
</tr>
<tr>
<td></td>
<td>0.9747</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>ABSDA</td>
<td>-0.00036</td>
<td>1.00000</td>
<td>-0.10956</td>
<td>-0.08413</td>
<td>0.14056</td>
<td>-0.29408</td>
<td>0.31647</td>
</tr>
<tr>
<td></td>
<td>0.9747</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.06901</td>
<td>-0.10956</td>
<td>1.00000</td>
<td>0.01798</td>
<td>-0.05331</td>
<td>0.32043</td>
<td>-0.26922</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>0.1155</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>PRCC</td>
<td>0.23039</td>
<td>-0.08413</td>
<td>0.01798</td>
<td>1.00000</td>
<td>0.12635</td>
<td>0.35326</td>
<td>0.15907</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>0.1155</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>MB</td>
<td>-0.05542</td>
<td>0.14056</td>
<td>-0.05331</td>
<td>0.12635</td>
<td>1.00000</td>
<td>-0.07605</td>
<td>0.46695</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.13715</td>
<td>-0.29408</td>
<td>0.32043</td>
<td>0.35326</td>
<td>-0.07605</td>
<td>1.00000</td>
<td>-0.33942</td>
</tr>
<tr>
<td></td>
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<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-0.13086</td>
<td>0.31647</td>
<td>-0.26922</td>
<td>0.15907</td>
<td>0.46695</td>
<td>-0.33942</td>
<td>1.00000</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>
From this correlation table, we can see positive relationship between $MEET$ and $ABSDA$, which indicates our prediction that when firms try to get close to analysts’ forecasts, the discretionary accruals will increase. Similarly, a positive relationship is also detected between $LEVERAGE$ and $MEET$. It implies that if the firms slightly beat analysts’ forecasts or slightly miss analysts’ forecasts, the leverage of firms will increase as well. From the correlation coefficient table above, a significant negative relationship is detected between $LEVERAGE$, $PRCC$ and $ABSDA$, which shows that firms will use discretionary accruals to control debt construction and influence stock price discussed in prior studies. This is consistent with expectations that large firm size will have more difficulties to manipulate discretionary accruals. Conversely, negative relationship of $MB$, $SIZE$ and $ABSDA$ are also detected in this table.

We also find that there are no significant correlations between variables that used in regression model. Furthermore, related to control variables of $SIZE$ and $GROWTH$ with other factors, the highest correlation equals 0.46695. Given this, violation in the use of multivariate regression model is insignificant.
6.3.2 Regression result

Firstly, a frequency table for the difference between firms’ actual $EPS$ and analysts’ forecasts $EPS$ is presented in Figure 2. The data is from all the observations exclude significant outliers.

![Histogram](image)

**Figure 2 Frequency of Meeting Analysts’ forecast**

From this graph, we can easily find a higher frequency of the data that slightly beat analysts’ forecast than other situations. In this test, a “kink” is also existed based on whether firms meet analysts’ forecast or not. There is a higher frequency in firms that slightly beat analysts’ forecasts than firms slightly fail. This provides an evidence to support my $H1$ that a higher frequency of firms will slightly beat analysts’ forecast. Additionally, this finding is consistent with Burgstahler and Dichev (1997). And it makes setting slightly beat and slightly miss analysts’ forecasts as a proxy of earnings management instead of small profit or small loss more pervasive. It indicates that managers can manage earnings that close to analysts’ forecasts for sever reasons such as avoid risk being detected by
regulators or investors, attract capital or remain their reputations. Interestingly, this table shows an abnormal trend of firms just fail to beat analysts’ forecasts, it tends to a higher frequency than normal trends. The main reason for this abnormal is due to the attribute of the observations during 2010 to 2013. The reason for this phenomenon has same reasons indicated for Figure 1 which are declining market and high percentage of startups.

Secondly, a regression test is examined according to the regression model, the results are presented on Table 4 below. The relationship between MEET and all variables are examined. And standard error, t-value and p-value is also presented as well.

**Table 4. Pooled regression of slightly meet and miss analysts’ forecasts**

| Variable  | Label | Parameter Estimate | Standard Error | t Value | Pr > |t| |
|-----------|-------|--------------------|----------------|---------|------|----|
| Intercept | α1    | 0.07074            | 0.00644        | 10.98   | <.0001 |
| ABSDA     | β1    | 0.08583            | 0.01186        | 7.24*** | <.0001 |
| LEVERAGE  | β2    | 0.01451            | 0.00724        | 2.00**  | 0.0451 |
| MB        | β3    | -0.00029433        | 0.00031935     | -0.92   | 0.3567 |
| PRCC      | β4    | 0.00074881         | 0.00033999     | 22.03***| <.0001 |
| SIZE      | β5    | -0.00045517        | 0.00084633     | -0.54   | 0.5907 |
| GROWTH    | β6    | -0.01482           | 0.00110        | -13.51***| <.0001 |

*Significance at <0.1, **Significance at < 0.05, *** Significance at <0.01
The regression results mainly indicate that firms use accruals to get close to analysts’ forecasts. To examine the effect of discretionary accruals, a positive coefficient of $ABSDA$ is detected ($\beta_1 = 0.08583$, p value < 0.001), which gives a strong support for my hypothesis $H_2$ and $H_3$. This result indicates that the discretionary accruals are significant positively related to Meet analysts’ forecasts in the firms’ slight beat analysts’ forecasts and slight miss. This positive correlation support that, there are more discretionary accruals in the firms slightly meet and slight miss analysts’ forecasts. And it points out that firms have more tendency to manage earnings upwards in order to slightly beat analysts’ forecast. When firms get close to analysts’ forecasts, the discretionary accruals will increase at the same time. Consistently, it gives strongly support that slightly meet and slightly miss analysts’ forecasts could be an indicator of earnings management. Furthermore, this result suggests that firms could manipulate discretionary accruals in order to get close to analysts’ forecasts. And because of this result, investors will pay more attention on discretionary accruals. As a result, managers should seek other way to get close to analysts’ forecasts avoid being detected.

Furthermore, the regression results also give evidence with regard to the factors that affect firms to meet analysts’ forecasts, the regression results indicate that $LEVERAGE$, have a significant correlation with $MEET$ (p value = 0.0451). This finding indicates that when firms use discretionary accruals to meet analysts’ forecasts, the leverage of firms will also be influenced positively. It is consistent with DeFond and Jiambalvo (1994), which indicate that firms with high leverage can manipulate in discretionary accruals in order to control debt structure. And an income increasing earnings management is also adopted. As a consequence, this may lead to an increase in earnings to beat analysts’ forecasts. Additionally, considering about the stock price ($PRCC$), it shows a positive tendency, with a coefficient of 0.00074881. This indicates that when firms use discretionary accruals to meet analysts’ forecasts, the stock price will arise as well. This is consistent with Beatty et al. (2002) that managers will increase earnings to increase stock price and beat analysts’ forecasts in order to attract more investments. Interestingly, the control variable $GROWTH$ tends to a significant
negative association with \textit{MEET}. It is contrary to the expectation that high growth firms will have more incentives to meet analysts’ forecasts. Finally, the study fails to find significant relationship between \textit{Market-to-Book} ratio and \textit{MEET}.

As stated above, the results of regression support all of my hypothesis $H_1$ and $H_2$ and $H_3$. 
7 CONCLUSION AND LIMITATIONS

Investors and analysts are paying more attentions to earnings quality because of the inaccurate of financial information than before. And investors rely on analysts’ forecast to make their investment decisions, which makes analysts’ forecasts much more significant. Consequently, shareholders and managers frequently set analysts’ forecasts as the target for earnings, this gives an incentive for manager to engage in earning management to increase earnings to beat analysts’ forecasts. Studies on earnings management and analysts’ forecast provide evidence that support the use of analysts’ forecasts as an indicator of earnings quality. Specifically, Managers will manage earnings upwards to beat analysts’ forecasts when they are suffering a loss or almost beat analysts’ forecasts. And an increase in earnings will affect the stock price to make it upward. Consequently, managers will choose two manners to manipulate earnings which are real activities and accruals. Prior evidences show that managers have more incentives to engage in earnings management to affect earnings according to the attribute of earnings management. Some researchers use small profit and small loss as an indicator of earnings management, however it is proved to be less pervasive.

The purpose of this study is to examine that US firms during 2010 to 2013 engage in earnings management to get close to analysts’ forecasts which includes slightly beat and slightly miss. And gives a reason for using slight beat and slight miss as an indicator of earnings management. Firstly, this study examined a frequency graph of difference between actual EPS and analysts’ forecasts on EPS. Secondly, this study examined main factors that will affect the difference between actual earnings and forecasts. Thirdly and importantly, this study investigates the degree of earnings management in firms slightly beat analysts’ forecasts and slightly fail to beat analysts’ forecasts.

This study is performed by following steps. Firstly, the study recalculated non-discretionary models using Jones (1991) model, which the determinants are changes of revenue and PPE lagged by total assets. After examining a regression model of Jones, the parameter of each determinant are estimated. Then non-
discretional accruals can be recalculated using these parameters, and discretional accruals can be estimated as residual of total accrual minus non-discretional accruals as well. Secondly, a frequency test on the variable of meet or not meet analysts’ forecasts is performed. Thirdly, a regression test related to the Meet analysts’ forecasts and the determinants of Meet analysts’ forecasts is presented.

The key findings of this study is related to earnings management against analysts’ forecast. Firstly, the study finds a higher frequency of slightly beat analysts’ forecasts than other situations. As stated in prior literature, managers have incentives to achieve small profit and slightly beat analysts’ forecasts. This finding indicates that firms during 2010 to 2013 have more incentives to slightly beat analysts’ forecasts. It makes slight beat and slightly miss analysts’ forecasts as a proxy of earnings management more pervasive. This finding also gives a suggestion that managers better to slightly beat analysts’ forecast. However, there is an abnormal higher frequency in slight fail to beat analysts’ forecasts. This may be caused by other reasons in the period of samples.

Secondly, the study examines a relationship between leverage, stock price and difference between actual EPS and forecasts EPS. It proves that a high leverage firm will manipulate earnings upward to control debt structures. It is consistent with prior literature that debt covenant violation has a close relationship with discretionary accruals choice. It suggests high leverage firms can choose income increasing earnings management to avoid debt covenant violation as to control debt structures. More importantly, a positive association between stock price and MEET is detected. This finding indicates that if manager use discretionary to meet analysts’ forecasts, the stock price will increase. And this finding suggest managers engage in earnings management through discretional accruals to increase earnings and increase stock price.

Most importantly, in the firms from 2010 to 2013 based on whether they slightly beat or slightly miss analysts’ forecasts. A high positive correlation of discretionary accruals and MEET is detected in this result. As stated in prior forecasts and the test of frequency of beating analysts’ forecasts, firms have more incentives to get close to analysts’ forecasts by engaging in earnings management.
The discretionary accruals are larger in the firms that slightly beat and slightly miss. This proves that firms manipulate discretionary accruals to get close to analysts’ forecasts. This finding suggests that firms can get close to analysts’ forecasts through other ways instead of accruals because investors are paying more attention on accruals nowadays. Furthermore, this finding also provides strong support of making slightly beat and slightly miss analysts’ forecasts as an indicator of earnings management. The reason why firms tend to use accruals is mainly because it is hard to be detected by regulators, auditors, even shareholders. Additionally, accruals are flexible to help managers either recognize earnings in future period to current future period or to defer earnings from current earnings to future period. This finding suggests managers could engage in earnings management through accruals to get close to analysts’ forecasts than real activities.

As predicted, the results of study support all of my hypotheses. Firstly, it shows a more frequency on slightly beating analysts’ forecasts than other situations. Secondly, it indicates firms engage in earnings management to get close to analysts’ forecast. Thirdly, it gives evidence for making slightly meet and slightly miss analysts’ forecasts as indicator of earnings management. The outcome suggests investors should think twice when making investments on firms that beat analysts’ forecasts. And when evaluate a firms, slightly beat and slightly miss can act as the indicator of earnings management which makes detecting earnings management easier. Because of the significant relation between MEET and ABSDA and the more attention on accruals nowadays, managers can find other way to beat analysts’ forecasts.

However, the study is subject to several limitations.

Firstly, I choose the analysts’ forecasts of 4th quarter as the examining number, which makes the findings not that precisely. For instance, there are numbers of firms that beat analysts’ forecasts in the 1st, 2nd and 3rd quarters but just fail to beat the forecast in the 4th quarter. I may falsely classify these kinds of firms into fail
to meet analysts’ forecasts. This limitation is also applied in the testing frequency of meeting analysts’ forecasts.

Secondly, when deciding slightly meet and miss, an interval between -1 and 1 is selected. More interval should be chosen to test the association between discretionary accruals and slightly meet and slight miss analysts’ forecasts to make result more precisely.

Thirdly, only three of the factors that affect firms beat analysts’ forecasts are taken into considerations. Other factors which will affect earnings such as litigation cost, tax purpose could be considered in future.
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